Studies in Social Economics

Léon Walras

Translated by

Jan van Daal and Donald A. Walker

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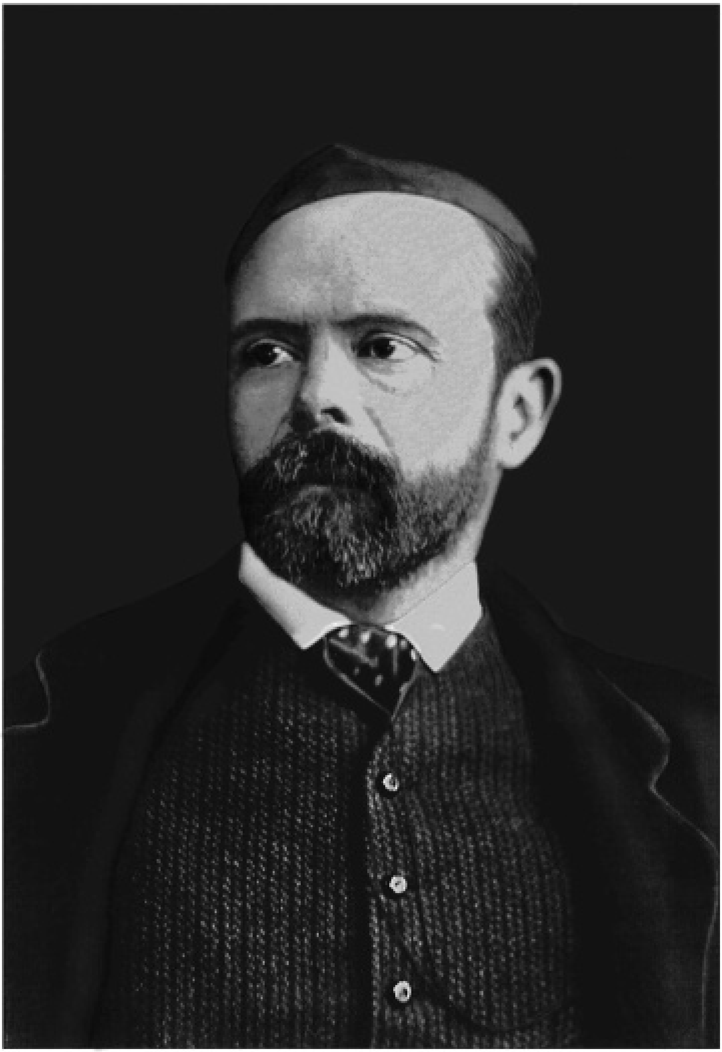

un peu noir et de travers Léon Walras (1878/9)

To the memory of the great economic theorist Léon Walras, who, in this book, revealed himself to have also been a great thinker on human nature, justice, mores, and the structure of scientific inquiry and knowledge.

Contents

Abbreviations and notes on the text

Abbreviations of the titles of Walras's writings

Correspondence: *Correspondence of Léon Walras and Related Papers*
ÉÉPA: *Études d'économie politique appliquée*
ÉÉS: *Études d'économie sociale*
Éléments: *Éléments d'économie politique pure*
EPE: *Elements of Pure Economics*
ŒÉC: Auguste et Léon Walras, Œuvres économiques complètes
SAE: *Studies in Applied Economics*
SSE: *Studies in Social Economics*

Editorial treatment of the *SSE*

Additions to the text, such as the first name of an author cited by Walras, appear between brackets.

The footnotes with Arab numbers in the main text are Walras's.

The notes at the end of each chapter, with Roman numbers, are our editorial notes. The addition of the letter D before the number of a note indicates that it is a translation of a note by Pierre Dockès in his edition of the *Études d'économie sociale* (*ŒÉC*, vol. IX), or that it contains material borrowed from such a note. The additional bibliographical data in Walras's notes are also borrowed from that source. Furthermore, we have included our translation of Dockès's very useful biographical index of persons cited by Walras in his *ÉÉS*. We are grateful to Pierre Dockès, and to Jean Pavlevski, director of the publishing house *É*conomica, Paris, for their kind and generous permission to use this material.

The numbers within bold brackets in the text of the translation indicate the pagination of the second edition (1936) of the *Études d'économie politique appliquée*. Editions 1 and 2 are largely identical; the text and notes indicate where, how, and why the pagination of edition 2 is at variance with that of edition 1.

We have introduced chapter numbers. We have also adapted, or inserted, the numbering of formulas, graphs, and tables, where appropriate.

To provide an additional basis for a good, overall understanding of the book, the chronological order of the essays should be indicated. We have therefore noted when each chapter was written, and when it was published for the first time if this date differs appreciably from the date of writing. The bibliographical details of the publications can be found below in the references to this introduction. It can be seen that some of the writings were already rather old when the first edition of *ÉÉS* was published; the oldest one dates from about 35 years before that event.

In the translation, we have preserved the order of the text adopted by Walras, although, while maintaining his four parts of the book, we have divided the *Recherche de l'idéal social*, in the first part of the book, into three chapters in an appropriate way.

Walras presented his graphs on separate plates immediately after the pages on which he discussed them. In *ÉÉS* there are three such plates. In the translation, we have made them an integral part of the text in the places to which they refer. We have presented reproductions of the original figures, drawn by Léon Walras himself. These reproductions have been taken from a copy of the second edition of *ÉÉS*.

Translators' introduction

1 Aims of the translation

Léon Walras (1834–1910) is one of the four or five most important economists in the history of the science. His objective in *Études d'économie sociale* was to present an economic blueprint for a social ideal in which poverty and other evils, such as economic injustice, would be banished. In other words, he wanted to solve what was then called the *Social Question*. He believed that his ideal and the policies to establish it were based on his knowledge of humanity and society, and on his understanding of the real economy achieved through sound positive economic theorizing, in contrast to what he called empiricism. The essays in his book therefore express an essential part of his system of thought, namely his normative ideas and much related applied analysis of economic behaviour. Consequently, in the absence of an English translation of the book, there has been an enormous gap in Anglophone scholars' knowledge of Walras's work. That has adversely affected an understanding not only of his normative ideas, but also of the place in his system of his pure theory and his applied economics. Our translation achieves the aim of eliminating that gap.

Another of our aims is to improve the comprehensibility of the book. Walras originally intended to write a comprehensive treatise on social economics, but his lack of time and bad health made that plan impossible to achieve. Instead, he presented a collection of his main publications on the subject. The book is consequently less well-organized and self-explanatory than a treatise, and a good deal of editing, lacking in the original edition, is required for its clear and ready understanding. In our translation, the necessary editorial aids are provided. An important part of our editorial work (16,000 words) appears in the 230 Roman-numbered notes placed at the end of the chapters.[i] These notes refer mostly to particular passages of the text. Together with our remarks of a more general nature in this introduction and its two appendixes (nearly 12,000 words), these notes make the book more or less self-contained. In section 2 of this introduction we present a short introduction to Walras's ideas on science in general and on social science in particular in order to elucidate the place of *SSE* within the framework of his work. We refer the reader who wants more detailed information on this matter to the translator's introduction to *SAE*. Finally, we want to enable the reader to obtain an overall impression of the book's style and its contents. So, in section 3, we deal with stylistic features of Walras's original text, and how we treated them in *SSE*. Then, in section 4, we describe the contents of the book in order to enable the reader to decide which chapter to read first, while knowing more or less its place within the framework of the book, and of Walras's work as a whole. In section 5 we present our concluding remarks.

We have added two appendixes. Appendix A is on Walras's terminology relating to capital and capital services. The reader will encounter Walras's idiosyncratic terminology concerning capital goods and their services throughout the whole book. Walras simply assumes that the reader is thoroughly familiar with it. This being doubtful, in order to avoid any possible misunderstandings, we have provided an explanation of his terminology in Appendix A. Appendix B is a table of correspondences between the paginations of editions 1 and 2 of the *Études d'économie sociale* and the Dockès edition (*ŒÉC*, vol. IX); this enables the reader to compare any passage of the translation with the corresponding passage in each of the French versions.

2 Walras, social science, and economics

Walras was born in 1834 in Évreux, Normandie, and christened Marie Esprit Léon. After his secondary school period, he went to Paris for his academic studies, where he resided till the end of the year 1870. His premature preoccupation with the social question, into which he boldly plunged without any preparation, and his Bohemian lifestyle when he was young, contributed to his academic failure.

His father, Auguste Walras (1801–1866), put him on the right track. Respecting his son's dedication to solving the social question, he persuaded him that the best thing to do was to devote his life to social science, in particular to economics, since to solve the social question it was first necessary to identify exactly its context and nature, which could be done through a study of economics. Convinced, guided, and inspired by his father, Léon started to work on social science.

Walras also had to earn a living. Doing so gave him the opportunity to know the business world, and confronted him more intensely with the concrete social and economic problems of that time than when he was simply a student. He was a journalist for the *Journal des Économistes* and *La Presse*, consecutively, from 1859 to 1862. In 1862, he entered into the service of a railway company, and in 1865 he became a director of a cooperative bank. At the same time, he was an editor of the monthly *Le Travail*, founded by himself and Léon Say. After the bank's bankruptcy and the cessation of publication of *Le Travail*, in 1868, he worked until 1870 for a private bank. During his Parisian period, he was also a prolific writer.[ii] In 1860, he participated successfully in a conference on taxation held in Lausanne. The conference turned out to be very important to Walras, because it led to his appointment as professor of economics at the Académie de Lausanne, as explained below in the summary of Chapter 10 and in Walras's preface to it. From 1870 until his retirement in 1892, Walras led the life of a teacher and researcher.

By nature, Walras was a scientist who wanted to examine the foundations of his subject. Therefore, he set out to formulate his own answers to a number of questions. First of all, he asked: What is science? Walras expressed his answer in several places throughout his work. Here is one of his formulations:

> *Pure* science establishes facts and relations; *applied* science prescribes rules of conduct. There exist *pure natural* sciences, studying facts and relations that have their origin in the play of the ineluctable forces of nature and *pure moral* sciences, studying facts and relations originating from the exercise of man's free will … There exist *applied natural* sciences, providing rules of conduct for man vis-à-vis impersonal things and *applied moral* sciences, providing rules of conduct for people vis-à-vis each other.
>
> (*ŒÉC*, vol. VII: 414, Walras's italics)

Pure sciences include mathematics, physics, and chemistry. Examples of applied natural sciences dealing with the relations of humans to things are geodesy, pharmacology, and medicine. Applied moral sciences, dealing with relations of humans to humans, are, for example, law, ethics, and theology. Applied sciences must be preceded by and based upon one or more pure sciences. Thus, according to Walras we do not have simply theory vs. practice. There are rather three stages: (1) *Pure theory*, (2) *Applied theory, or theory of the art,* (3) *Practical application of the art*, where the word 'art' is to be understood in the same sense as in 'artisan'.

Walras then asked: What is social science? Certainly, it is the study of aspects of society. The society Walras studied was the one in which he lived. He took it for granted, and analysed, stylized, and modelled it. The starting point of his research was the fact that a person living in this society is so specialized that he or she is unable to obtain all the necessities of life by producing them himself or herself. Hence, people depend on each other because they have to exchange goods and services. According to Walras, there are then two main categories in society to be distinguished, studied, analysed, and coordinated: 'social wealth', namely things that have utility and that are limited in amount, and therefore are valued and are exchanged, and persons, namely humans that have rights and duties with regard to each other (Walras 1868, 2nd lesson; below, chapter 2, §II; see also Potier 1994).

What, Walras went on to ask, is economic science as related to social science? The answers provided him with a systematic research programme that he followed for the rest of his life, a sort of filing system in which each of his studies found a logical place. Moreover, Walras's programme included a time schedule and specified an order of research projects to be undertaken. When arriving at Lausanne, he had the intention of writing three books covering the whole field of economics: one on economic theory ('pure economics'), one on social economics, and one on applied economics. Economic theory, Walras specified, deals with the nature, causes, and laws of social wealth. Applied economics deals with the application of theory to the understanding and solution of economic problems. Social economics, which Walras also sometimes called moral economics, deals with the distribution of wealth among the members of society, and social justice. Indeed, by the end of the 1890s, he had finished three books in which the substance of his economic ideas are presented, namely the *Éléments*, the *ÉÉS*, and the *ÉÉPA*.

The *Éléménts* is certainly Walras's best known and most important book. During his lifetime, four editions appeared. In a letter to Wicksell dated 2 November 1900 (*Correspondence*, Letter 1465)[iii] he remarked about this work: 'Regarding my theory, I answer: it is on *Grenznutzen* [marginal utility] pursued to the last details of economic equilibrium.' In other words, Walras's starting point was people's decisions, i.e., their choices from a multitude of possible alternatives. He explained that they can be analysed mathematically if it is supposed that they always decide by choosing the alternative that they consider, at the moment of the decision, the best among the collection of all possible alternatives. Indeed, in his *Éléments*, the theory of general economic equilibrium in a freely competitive economy is presented, with utility maximization subject to a budget restriction[iv] as a prominent element. Walras's conclusion was that, free competition is so advantageous that it should be the rule, if possible. In general economic equilibrium profits are zero, so all utility goes directly to the consumers to a degree depending for each individual on his income, and therefore on his efforts and his income-producing wealth.

Walras's *ÉÉPA* contains much of his best work on applied economics. In this book, he investigated where free competition is possible and where not, and how to organize and regulate economic life in these differing situations. At this point it should be observed that by 'regulating' Walras did not mean intervention in the processes that lead to market equilibrium; he did not believe that the state should organize or direct those processes. He was convinced that the market participants themselves bring about equilibrium through bidding up or underbidding prices and through redirecting the uses of resources in accordance with changes of demand.[v] By regulation, he meant taking measures to ensure that price competition can take place freely, unhampered, and undisturbed by those who would seek to profit from buying and selling goods or services. If free competition is impossible, monopoly appears a more plausible form of market organization. Some natural monopolies should be nationalized and others carefully regulated in order that the advantages of free competition are preserved as much as possible. The *ÉÉPA* also deals extensively with the problem of the regulation of the variation of the value of money; the book starts with that subject. Believing as he did that a stable monetary system is of the utmost importance for all kinds of business, it is, after all, not amazing that Walras inserted this issue in his *ÉÉPA*. The value of money fluctuates with the ups and downs of the economic process, which is natural and normal. But fluctuations caused by other phenomena (newly discovered goldmines or the exhaustion of existing ones, for instance) should be prevented because they can disturb economic processes.

Walras proposed a kind of open-market policy: 'Monometallism based on gold, combined with a silver token, distinct from coins for small change, to be introduced into the circulation or withdrawn from it in such a way that the value of this multiple standard would not vary' (*SAE*, page 3). Finally, in the *ÉÉPA*, Walras also dealt with other features that are important for the functioning of the economic system, such as capital, credit, banking, securities markets, and speculation.

3 Walras's expository powers manifested in *SSE*

By adhering to the letter and spirit of Walras's text, we believe that we have conveyed the fine stylistic quality of his writing. That quality requires not only felicitous phrases but also precision and logical constructions. His sentences and paragraphs are often long but nevertheless fulfil those requirements very well in most cases, so, as a rule, we have not broken them up into shorter units. The exceptions to that policy were made necessary by the differences between the grammatical structure of French and English. A sentence can be long, with a subject far removed from the object and its words from their antecedents, but it can, nevertheless, be clear in French because of the available ways of indicating features such as number, person, tense, and gender, whereas English, not being an inflected language to the degree that French is, and using different ways to achieve clarity, must sometimes be expressed or punctuated in a different way to convey the meaning and to lead the reader skilfully. Going beyond the structure of Walras's sentences and paragraphs to the structure of his series of lectures on the social ideal (Part I), and his arrangement of the other parts of the book, the reader will see that they are also logical.

An example of Walras's stylistic ability, of his acute perception of and predictions about the realities of the political situation, and of the striking analogies that he would have drawn between his times and ours, is provided by his comments on taxation:

> The state spends, gets into debt, and then declares that an increase of the rate of proportionality or progression is needed. This is called 'turning the press-screw tighter'. Now, such a turn of the screw is particularly easily done in the progressive system. The nation being then divided into two classes, those who have more than enough, or *the rich*, who are in the minority and pay most of the taxes, and those who have only the necessities, or *the poor*, who are in the majority and pay a small part of the taxes, why should not all tax increases be decided by majority vote? But this is not all. Given that the majority who vote on taxation pays little or nothing, why should it not use the result to its own benefit? After having introduced 'equity' into the receipts of the state, why not introduce the same thing into the expenditures? It will not take long before this will happen, and, if you doubt it, look at what is happening where progressive taxation already exists. You will see the proliferation of resolutions or propositions of equit-

> able spending: excessive and badly organized public works that provide wages for the workers, profits to entrepreneurs or landowners, and votes to political candidates; State contributions to the premiums for insurance against accidents, unemployment, illness, old age; provision by the State of free medicine, medical care, bread, etc., etc., all provisions of private, not public interest. Thus, taxation tends to become an instrument to impoverish the rich and to enrich the poor.
>
> (Chapter 13, p. 331)

Another component of Walras's style was his sharp wit, as evidenced in the following example:

> The fact is that, when Mr. Maria Pastor became silent, the two direct and single taxes on income and capital began to engage in provocations mixed with flirtations. Please give a performance, the income tax said to the capital tax; I will appear on stage afterwards.... [The delegates] must then be daring and sincere, must arrange the Congress as a show, and must organize its deliberations like the beginning of a ballet. One could have called it THE TRIUMPH OF THE SINGLE TAX. First, we would see the appearance of *Direct consumption taxes*, *Duties on imports*, and *Fiscal monopolies' duties*, only to be sent flying by a *Tax on capital* and a *Tax on income.* Then the *Tax on capital* and the *Tax on income would* perform some courteous dance-steps, unite and kiss each other, finally being carried heavenward in a grand apotheosis.
>
> (Chapter 10, p. 279)

In many passages, Walras demonstrated his polemical powers. Two examples show that he could castigate his opponents with scathing sarcasm:

> The economists of Carey's school ... notice very well how capital enters the land in the form of seeds, husbandry, ameliorations, drainage, irrigation, etc., but they fail to see this capital come out in the form of corn, vegetables, and all kinds of fruit. This is, indeed, the little error made by these gentlemen: they are present when the farmer irrigates, works, sows, spreads manure, plants, or constructs, but they are absent or distracted when he mows, harvests, or picks the grapes. And these same economists, who revel in this phantasmagoria of an enormous, invisible, and impalpable mass of capital, buried in the ground, are accusing us of living in an abstract world, taking the chimeras of our imagination as real facts, because, after having verified a hundred times the fact of the increase in value of the produce of land in a progressive society, we explain it by connecting it with the laws of exchange.
>
> (Chapter 12, p. 317)

and

> There truly does not lack anything more for the direct and single tax, levied both on capital and income, the offspring of heaven only knows what promiscuity of empirical doctrines, than to be mated with fiscal beggary in order to give birth first to a tax on inheritances, and later on, if God so pleases, to duties on the occasion of a cheerful accession to the throne, royal duties, windfall duties, and all kinds of fiscal duties.
>
> (Chapter 10, p. 285)

Sometimes, however, Walras did not make his meaning clear. Sometimes, perhaps, his thoughts were not clear. The translators of some foreign language writings choose to write English sentences that have a clear meaning even though the foreign language text does not have a clear meaning to a native speaker of that language who has an expert knowledge of the subject matter. The result is an English sentence that does not state what the original states. Similarly, some translators choose on occasion not to convey certain stylistic features of their author's writing. They depart from his or her style, on the grounds that conveying it faithfully detracts from the clarity of the statements in English. Those choices produce inaccurate or inferior translations. Our treatment of this matter took into account the following considerations.

We have been careful not to distort what Walras wrote. We convey his style faithfully as well as his meaning accurately. If his meaning in French is obscure, or logically faulty, or understandable but expressed in words that do not strictly make sense, we have rendered it that way in English. We have then mentioned in a note the difficulties of translation that we have encountered, reproducing the original French text, and offering any possibly worthwhile speculations on what his meaning, not perfectly expressed by him or not clear to us, may have been. An example of a bad choice of words occurs when Walras refers to a passage of Frédéric Bastiat's in which needs are described as being greater or less than human faculties (see Chapter 3, page 70). Human needs cannot be greater or less than human faculties; needs and faculties are incommensurable, as we remark in our note v to Chapter 3. An example of an unintelligible passage occurs in the third lesson of the *General Theory of Society*. Walras wrote: 'j'entends du spiritualisme pur et historique [...] tel enfin que l'aura plus ou moins vécu l'humanité durant une période et pour des destinées à jamais glorieuses'. We translate this baffling passage on page 60 and discuss it in note xviii to Chapter 2.

We offer here another example that gives some insight into the problems of translation and our approach to solving them. In one sentence, Walras wrote: 'L'idée artistique consiste dans cette simulation, par des procédés de convention, des aspects divers du monde physique ou moral; elle se réalise dans une œuvre plastique, pittoresque ou littéraire' (Chapter 7, page 166). The sentence deals with three 'works', each qualified by an adjective: 'une œuvre plastique', 'une œuvre pittoresque', or 'une œuvre littéraire'. Our first approximation for translating 'une œuvre plastique' was the sentence: 'The artistic idea consists in the simulation, brought about by means of conventional procedures, of various aspects of the physical or moral world; the idea is expressed in works of sculpture, painting, or literature.' We decided, however, that we should not use the word 'sculpture' to translate 'une œuvre plastique', because the latter has a broader meaning than sculpture; it includes sculpture, and indeed that is the largest component of the category, but also furniture, for example. Moreover, if Walras wanted to say 'sculpture', he would have used that word, as he did in an appropriate context, three sentences later in the same paragraph. We were also mindful of the fact that the 'œuvres plastiques' pertain to shaping or modelling, to a work in a plastic medium, and are a sub-set of the '*arts* plastiques', which are the visual arts. The latter also include painting, choreography, engraving, etc. The next matter is the meaning of 'une œuvre pittoresque'. When Walras wrote the essay, in the late 1860s, 'pittoresque' did not, in the context of the essay, have the modern meaning of the English 'picturesque', namely 'striking or interesting in an unusual way, suggesting or being worthy of a picture, quaintly attractive, etc.' It did not, in French, have the quality of a judgment about the subject. It described a category of artistic efforts, namely the design arts – decorative or artistic works such as drawings, engravings, paintings. As for literature, later in the same paragraph and elsewhere in the book Walras describes literary works as art, by which he was referring to the creative activity of the writer and the experience of the reader. Literature is obviously not a plastic or design art, so he specified it separately. Taking all this into consideration, we determined that the correct translation of the end of the sentence in question is: 'expressed in the plastic arts, in the design arts, or in literature'.

In translating Walras's book, we have drawn upon our knowledge of nineteenth-century French as it is found in both literary and economic writings. Although language evolves and Walras wrote some parts of this book as long ago as the 1860s, from the literary point of view – that is, considering his grammar, literary vocabulary, turns of phrase, expressions, freedom from regionalisms, etc. – his texts give, with some exceptions, the impression of having been written yesterday. From the economics point of view, however, matters are different. In a number of important respects, the meaning of his economic terminology differs from the usage of the economists of his own times and from modern usage. Fortunately, he specified the unusual meaning that he wished to attach to a number of his terms, but unfortunately he sometimes described it in different ways, and sometimes used them with inconsistent meanings. An example of inconsistency is his use of the word 'rente', as we indicate at the end of Appendix A, and in Chapter 8.

4 Editions of *ÉÉS* and contents of *SSE*

In November 1893, as we mentioned above, ill health forced Walras to abandon the idea of publishing a treatise with the title *Éléments d'économie sociale*. He decided instead to present a collection of his papers under the name of *Études d'économie sociale*, and conceived of a number of successive plans, reshuffling and changing his choice of texts. Eventually, the *ÉÉS* was published, toward the end of 1896, bringing together the booklet *Recherche de l'idéal social* and varied papers, some of which had been presented in public, some of which had been altered and published several times. More than a few of them dated from long before the publication of *ÉÉS*. In fact, when Walras arrived in Lausanne in 1870 to accept his professorship, he already had completed the text of Part I and a good deal of Part IV, and much of the other parts had begun to take form either on paper or in his mind. No second edition appeared during Walras's lifetime. However, by 1902 he had finished a complete revision for a possible second edition, written into a copy of the first edition. With the exception of the fact that he introduced a new chapter (Chapter 10 below), the changes are all of minor importance, just like those he made in the first publications of the papers before including them in the first edition of *ÉÉS*.

After his death in 1910, Léon Walras's children, Aline and Georges, donated his personal library, his papers, his manuscripts, and the manuscripts of their grandfather Auguste Walras to the University of Lausanne, with the stipulation that it initiate and sponsor the publication of the complete economic works of Léon and Auguste. It cannot be said that the University of Lausanne fulfilled that condition.[vi] Consequently, Walras's daughter Aline took the initiative to try to bring out a publication of all of Walras's works, a project that was to be edited by Étienne Antonelli, a professor at the University of Lyon. For several reasons, including first Antonelli's ill health and then his election as a deputy to the National Assembly, this project was not carried out. Nevertheless, she succeeded, with the aid of Gaston Leduc, Professor of Economics at the University of Caen, in obtaining the publication of the second edition of the *ÉÉS* in 1936. This incorporated the revisions made by Walras, including the addition he wanted to be made of his 'Souvenirs du Congrès de Lausanne' (Chapter 10). It is the edition that Walras considered definitive, and therefore the one that we chose to translate.

Aline Walras died in 1942, and attempts to publish Walras's works ceased for many decades. Finally, in 1984, a team of members of the Faculty of Economics at the Université Lyon–2 came to the conclusion that Antonelli's commitment could not be ignored. They founded the 'Centre Auguste et Léon Walras' and decided to prepare a 14-volume publication entitled *Auguste et Léon Walras, Œuvres économiques complètes*, to be published by Économica. Volume IX, published in 1990, has as its basic text the second (Leduc) edition of Walras's *Études d'économie sociale (Théorie de la répartition de la richesse sociale)*. It is a variorum edition, superbly edited by Pierre Dockès.

Considered from the viewpoint of its setting forth the philosophical foundations of Walras's treatment of social science, the *SSE* is seen to be necessary for a full understanding of his system of thought and scientific construction. Walras starts the book (Part I) by presenting his concept of an ideal society. He reviews socialism and liberalism, utilitarianism and moralism, communism and individualism, with the objectives of understanding existing society and of reconciling and synthesizing those different strains of thought to frame a new society. Policies and existing private economic activities, he argued, should be examined to reveal their impact on economic advantageousness and justice. These are not necessarily in agreement, in which case justice should be the determining criterion of desirable action. Walras achieves a vision of an equilibrated society, one in which individuals and the state respect each other's duties and rights.

Walras then analyses (in Part II) the notions of personal and impersonal property. A form of abuse of the personal property of the proletariat, namely of their persons, is the unjust confiscation of their wages by taxation. A major component of impersonal property is land. Walras observes that it is not produced; it is the endowment of a nation, and landowners benefit from an increase in the value of their land and its products that results not from their own doing, but from economic development on and surrounding their land and in the nation. Land, he argues, should therefore be owned by society as a whole. Accordingly, to eliminate what he considered an unjust situation, Walras prescribes (in Part III) a scheme whereby the state would buy all the land at current market prices, raising the revenue to do so by issuing bonds, and rent the land to private persons and enterprises. The rent should be used to pay the interest of the bonds and to redeem them. When the state owns the land, economic progress will make the rent sufficient to finance the expenses of the state, whereupon all taxes can be abolished.

The reader will see that Part III contains, and that Part IV is almost entirely, applied economics of a very high quality that could well have been put into Walras's *Études d'économie politique appliquée*. No one who gives the *SSE* even a cursory reading would maintain that Walras was exclusively a theoretician. In Part IV, Walras deals with taxation. He reviews a variety of taxes: multiple taxes versus proportional or progressive single taxes, indirect taxes on a number of different items, and direct taxes such as an income tax and a tax on capital. He shows that, except for a tax on wages, all taxes have more than one final incidence, and, therefore, that their burden does not fall completely on the tax payer. Furthermore, he insists on a well-organized cadaster (land registry), necessary for the proper allocation of taxes on landed property. The variety of taxes and their lack of logical structure alone is enough evidence that there is no unambiguous principle of taxation. That is why he proposes to give the state its own income, namely land rent, and to consider public goods as consumed by all individuals together as members of the society, i.e., by the state.

Here follows a brief summary of each chapter. For a good, overall understanding of the course of the development of Walras's work, we have indicated when each chapter was written, and when it was published for the first time, if this date differs considerably from the date of writing. The first publication of each essay is listed in the Bibliography at the end of this introduction. We have preserved Walras's order of the chapters, albeit that, while maintaining the original four parts of the book, we divided *Recherche de l'idéal*, in an obvious way, into three chapters.

In Chapter 1 (written in 1863, published in 1866–1867 and, as an introduction, in 1868), Walras introduces the theme of the first part. It deals with the disagreement of the socialists and the liberals about social reform: the former strive for perfection of the society, whereas the latter do not believe in the possibility of achieving a perfect society. Walras concludes that achieving perfection in this regard is unlikely, but that continual improvement is possible.

In Chapter 2 (1868: Lessons 1, 2, and 3), Walras argues that the principles of economic advantageousness and of justice compete in an unproductive way in present-day social science and economics. Philosophical doctrines like materialism and spiritualism each try to monopolize economics and social science. That gives rise to the unscientific situation of there being two different theories of value, and two different ways of arriving at the same erroneous conclusion about property, namely that all productive factors should be individually owned.

In Chapter 3 (1868: Lessons 4, 5, and 6), Walras develops his own vision about the society. Two natural facts are at the basis of all human facts: man's aptitude for the division of work and his moral personality. The one is necessary for his existence, or, rather, his survival; the other reveals itself in man's sensibility, his intelligence, and his will. Art and science form man's sensory and intellectual relations with the world; industry and mores form the economic and moral relations among people. These four categories of human facts embody beauty, truth, economic advantageousness, and justice and can be evaluated from those points of view. Art, science, industry, and mores and their starting points are distinct, and they are compatible, not contradictory. Slavery, serfdom, and proletariat are gradations of the same, objectionable phenomenon. (A 'proletarian' is a man who lives solely by his labour, and from whom taxation takes away the only part of his wage that he could possibly save with the intention of becoming an owner or a capitalist, at the same time as being a worker.) The above-mentioned human facts imply that society is a natural and necessary fact that presupposes the existence of the following four elements: the individual, the state, personal particular positions, and general social conditions. Two problems have to be solved. The first is the problem of order: the reconciliation of liberty for the individual and authority for the state. The second is the problem of achieving justice: the reconciliation of equality and inequality. Taxation, or rather the contribution of individuals to the state's expenditures, is not optional, but compulsory, and must not be proportional but equal.

Chapter 4 (written in 1868, published in 1896*a*) recapitulates the foregoing ones, thereby explaining Walras's method of reconciliation or synthesis.

The next three chapters form Part II. They deal with property. Chapter 5 (1896*b*) starts by defining wealth; here Walras walks in the steps of his father. First, there is capital: land, personal capital (man's body and mind), and artificial capital (buildings, machines, cattle, etc.); land and artificial capital form together impersonal capital. Second, there are these capitals' services: land services, labour, and capital services. Third, there are the products resulting from combining these services. See also Appendix A to this introduction. Natural law and economic analysis brought Walras (just like his father) to the conclusions that a man's personal capital is his unalienable property, that land should be the property of the state, and that artificial capital can be owned by individuals or by the state, depending on who produced it or paid for it.

Chapter 6 (1886) deals with the social question; that is, the problem of how the living conditions of the proletarians (many of whom are even paupers) can be brought to a higher level, and the question of how the workers can be made to understand that improvement can only be brought about relatively slowly, and, although they will be aided, not without their own efforts.

Chapter 7 (1880) is an interesting digression on intellectual property in that economic theory is used to comment upon a Swiss legislative proposal on the rights of owners of literary and artistic property.

The third part consists of two chapters. They deal mainly with the question of how the state can become the owner of the land. Chapter 8 (1881) presents Walras's scheme of the buying up of the land by the state without doing an injustice to the landowners. The state will then rent out the land at the highest market-determined prices. All taxes can subsequently be abolished and rent must suffice for the state's expenses. First, Walras mentions other writers on the subject, in particular H.H. Gossen, James Mill, and Henry George. Those authors failed to see that, when the landowners are paid the current price of their land with bonds, the rent will just suffice to pay the interest on the bonds if the rent increases as would be expected at the time of the takeover. For redemption of the bonds either a lower price should be paid, which is unacceptable to Walras, or something else must be done. The latter, indeed, will be the case, because, Walras argues, the state as the landowner will be able to take measures that, in general, augment economic progress, and intensify the use of land. Rent will increase at an even higher rate. The extra increase would not have been included in the purchase prices, so the bonds can be redeemed. The chapter ends with some speculations on how the time will become ripe for this grandiose operation.

Chapter 9 (1885) pays homage to Herman Heinrich Gossen (1804–1858), who was Walras's precursor in many respects. Walras explains the principal parts of Gossen's contribution to economics and shows their relation to his own, including critical analyses of certain deficiencies of Gossen's ideas. He also tells the story of how he came to learn about the existence of Gossen's nearly completely neglected book, and how he succeeded eventually in obtaining a copy. Walras must have been highly surprised to learn that in the second part of the book, disposed of summarily by Jevons as 'of inferior merit',[vii] Gossen presented ideas on state ownership of land similar to those of Auguste Walras and of himself.

The last part of the book is devoted to taxation. Chapter 10 (1861: v–xxxv) recounts Walras's performance at a conference on taxation held in 1860 in Lausanne. This Congress was very dear to him for two reasons. First, the proposal to exempt wages from taxation, suggested to him by his father, made a great impression. Second, he met Louis Ruchonnet, who, when Head of the Swiss Department of Public Education, invited Walras to apply for a professorship at the Académie de Lausanne, thus launching his career. Walras's main point at the Congress was that citizens cannot participate in the benefits of public services in proportion to or progressively with either their income or their capital. Therefore, he argued, no system of taxation can be just, and, thus the State needs another source of income, one that is just.

Nevertheless, taxes do exist and, therefore, in Chapter 11 (1861, part of §4), Walras examines two direct taxes: an income tax and a tax on capital. He shows that, except for a tax on wages, all taxes have more than one incidence, and, therefore, their burden does not fall completely on the tax payer. A tax on the income of land is, in fact, a confiscation of a part of the land by the state, to the detriment of the person who owns the land when the tax is initiated.

In Chapter 12 (1873), Walras explains all the details of creating and maintaining a well-organized cadaster, without which, he explains, taxation of landed property or the purchase of land by the state cannot be properly implemented. He describes the sometimes chaotic organization of the fiscal registries and land ownership registries in several European countries, contrasting them with the features of land taxation based on a well-designed and maintained cadaster.

Chapter 13 (1896*c*) was written by Walras especially for the occasion. Toward the end of his career, he felt impelled to deal once more with thorny issues like the injustice of private ownership of land, the harmful effects of taxes on individual and social welfare, and the unwise way in which many matters regarding these issues are organized in France. The result is an interesting, albeit somewhat rambling, swansong. The chapter starts with a section in which Walras describes the 'variety of religions' in matters of taxation. It seems that there is some agreement about the raison d'être of taxation: people should pay for the protection of their lives, income, and capital, and this payment should be proportional. Here, however, opinions start diverging: proportional to what? And how is proportionality to be achieved? Or perhaps the payment should be progressive? Some scholars say, without much evidence, that there should be multiple taxes. If levied on as many items and activities as possible, taxation will become proportional. Those who call themselves economists advocated a single direct tax, and the socialists advocate maintaining the existing taxes. All this, Walras goes on, cries for another solution. This, he says, is to be found through considering the state as the consumer of the public goods and introducing the maximization of a social welfare function with the quantities of these goods as variables, with the state's income as the budget restraint. This brings Walras to the nationalization of land and the result that the state's income would be the rent of the land. The chapter ends with a section that deals with the question of whether and how the nationalization of land can be brought about in France.

Thus, we are now back to the point of departure of this introduction, namely the Social Question, the solution to which is to be found, according to Walras, in the realization of the social ideal. In this ideal, all people will be allowed to provide themselves with what they need for meeting their wants, freely using their own abilities and property, in free competition with other individuals without infringing upon others' rights; the role of the state will be restricted to guaranteeing this freedom. The state will own all the land and the individuals will freely compete for its use, which will lead to optimal utilization of the land and provide the state with an income, making taxation needless.[viii]

5 Concluding remarks

Before undertaking this translation, we had a good knowledge of the *ÉÉS*. We had read the book, studied some parts of it closely, and made reference to some of its contents in various publications. Of particular relevance is that we were sufficiently familiar with the book and with its contribution to Walras's system of thought to be convinced that its translation would be a very valuable addition to the economic literature in English. Then, as we began the work of translation, we realized immediately that it demanded and elicited a depth of understanding and analysis on our part that far exceeded the efforts that we had previously put into its study.

We made discoveries of weaknesses in Walras's reasoning or exposition that we would have never recognized without engaging in the work of translating his book. Mainly, however, what we discovered were strengths of reasoning and the workings of a powerful intellect, and the concerns of an enlightened, decent, civic-minded person, who was desirous, with no thought of personal gain, of improving the human condition. In making the translation, we came to realize that Walras's achievements in the fields of study that we note in our dedication to this book were even greater than we had previously supposed. We hope that our translation and editorial work will enable the reader to benefit as we have, but with a great deal less time and effort, from the richness of his contribution to those subjects and to social economics in general.

Appendixes

A Walras's terminology with regard to capital

In Walras's pure theory, individual capital owners are the owners of all capital goods, and they rent these out to the entrepreneurs, or, in other words, they sell the services of these capital goods to the entrepreneurs. Formulating abstract theory on the basis of this supposition is one thing; in practice one cannot abstract so easily from the facts of life. There are indeed markets where capital services, or land services, or labour are offered by their owners and bought by the demanders, but capital goods proper, like machines or factory buildings, bought with money saved by individuals, are almost never bought by these individuals themselves and rented out by them to an entrepreneur. They prefer to lend their savings to an entrepreneur via an intermediary or financial instrument, and he buys the capital good in question. He pays interest, and at the agreed time repays the capitalist in money and not in kind. Hence, there are capitalists who own capital in the form of money that they lend. The word 'capital' may therefore have two different meanings: capital goods, such as tools, machinery, and factory buildings that are used in productive processes, and capital in the form of money. If the money is lent out for a short term, it is generally used for commercial purposes, such as financing the production of the entrepreneur's stocks until they are sold; Walras speaks then of 'circulating capital'. If the money is lent out for a long term, for financing machinery, for instance, Walras speaks of 'fixed capital'. Here, however, the double meaning of the word capital is quite noticeable. The capitalist does not use the terms fixed capital or circulating capital in connection with his financial dealings; to him, capital means simply a certain amount of money, deposited in a bank or the money value of his financial assets, such as bonds and stocks. To the entrepreneur, the word 'capital' can mean a sum of money, or it can mean the goods or services that he buys with money.

Finally, the reader will come across the terms 'land services' and 'produce of land', which do not mean the same thing. By the first expression, Walras meant the services a piece of land can provide ('la rente') that have to do with its potential productivity; for instance, a meadow can be made of it, it can support and nourish crops, buildings can be erected on it, it can be used as a garden, etc. By the expression 'produce of land' ('les produits de la terre'), Walras meant more specifically the things that are produced when the services of land are combined with other inputs, as, for example, when labour, fertilizer, machines, and tools are used on the land to produce corn, fruits, grass, flowers, tomatoes, etc. Thus, Walras deals with the value of the in-kind services of land (the money value of 'la rente', namely rent in the usual English sense of the word), the value of the produce of land (the money value of 'les produits'), and the value of land (the money value of 'la terre').

A nice complication is that Walras was not consistent in his use of the word 'rente'. In normal French and English usage, the rent of land, paid at the beginning of the rental period, is the present money value of the services of land for one year. That is the phenomenon that Walras called 'le prix de la rente', but sometimes inconsistently called simply 'la rente'. In our Table A.1 on th next page, we show that Walras defined 'services foncières' as 'rente foncière' or 'rente'. In one place (p. 183), among others, however, he wrote that the state purchase of the land would be paid for by 'la hausse de la rente foncière', i.e., by the increase in land services, whereas to be consistent with his terminology, and to make sense, he should have written 'la hausse des fermages' – the increase in rents, as when he wrote consistently, many times, that in a progressive economy, 'le prix de la rente, ou le fermage, s'éléve sensiblement' – the price (or value) of land services, or rent, increases considerably. Similarly, he wrote (Chapter 10, p. 284) that taxes would fall suddenly on 'la rente foncière et sur les fermages', which means 'on land services and on rents', whereas he should have written 'on the value of land services and on rents' although that would have been redundant. We discuss this matter again briefly in our note xv to Chapter 8.

B Concordance of the three French editions of ÉÉS

In the text of our translation we have inserted the page numbers of the second edition of *ÉÉS* (using bold numbers between brackets). Readers wishing to check this English translation of *SSE* against any of the French versions may do so using those page numbers (for the second edition), or those page numbers together with the concordance Tables B.1 and B.2 presented in this section (for the first and the Dockès editions respectively).

Table A.1 Capital goods: types, services in kind, remunerations in money

Type of capital				*Service in kind (sometimes called 'revenue')*			*Remuneration in money*		
In French	*In English*	*Some examples*	*Owners*	*In French*	*In English*	*Supply, demand symbols*	*In French*	*In English*	*Price symbols*
Capitaux fonciers *or* terre	Landed capital *or* land	Agricultural land, forests, ground beneath buildings	Landowners	Rente *or* rente foncière *or* services fonciers	Land-services	$O_t, O_{t'} \ldots D_t, D_{t'} \ldots$	Fermage	Rent (of land) *or* ground rent	$p_t, p_{t'} \ldots$
Capitaux personels *or* personnes	Personal capital *or* persons	Plumbers, teachers, cooks, judges, doctors, artists	Workers	Services personnels *or* travail	Services of persons or labour (work)	$O_p, O_{p'} \ldots D_p, D_{p'} \ldots$	Salaire	Wages	$p_p, p_{p'} \ldots$
Capitaux mobiliers *or* capitaux proprements dits	Capital proper *or* artificial capital	Dwellings, factory buildings, furniture, machines, tools, circulating capital, fixed capital	Capitalists or capital owners	Revenues mobiliers *or* services mobiliers or profits	Capital services *or* 'profits'	$O_k, O_{k'} \ldots D_k, D_{k'} \ldots$	Intérêt	Interest payment *or* interest	$p_k, p_{k'} \ldots$

Pagination of the second and first editions

Table B.1 lists the page numbers of the second edition against the location of the beginning of that page in the first edition, given as a page and line number. Note that:

- 'b' after the line number indicates that lines are to be counted from the bottom of the page, rather than the top;
- where the second-edition page does not begin at the start of the line in the first edition, the word in that line where it does begin is given;
- '(-)' indicates that the word is hyphenated in the second edition.

The reason for the discrepancy between the first and second editions is that the second edition has an additional Chapter 10, 'Remembrances of the Congress of Lausanne', preceded by two pages containing an explanation of why the chapter has been added.

The pagination of the next chapter (Chapter 10 in the first edition, Chapter 11 in the second) differs because the first edition has a long footnote on the first page of that chapter which does not appear in the second edition.

Pagination of the second and Dockès editions

Table B.2 lists the page numbers of the second edition against the location of the beginning of that page in the Dockès edition, given as a page and line number. Note that:

- 'b' after the line number indicates that lines are to be counted from the bottom of the page, rather than the top;

Table B.1 Concordance of second and first editions

Page in second edition	*Location of beginning of second-edition page in first edition**	
	Page	*Line*
377	353	1
378	353	1b peut-être
379	354	10 b(-)tie
380	355	17b une
381	356	12 ne
382	357	8 Exemptez
383	357	1b (-)gés
384	358	10b
385**	359	16b F en

Notes
* Pagination of first and second editions is identical up to page 374.
** From here onwards, the first-edition pages contain the same text as the second edition, but are numbered 23 less.

- where the second-edition page does not begin at the start of the line in the Dockès edition, the word in that line where it does begin is given;
- '(-)' indicates that the word is hyphenated in the second edition.

Table B.2 Concordance of second and Dockès editions

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
3	9	1
4	9	5b moi
5	10	13b (-)mine
6	11	18 (-)nité
7	12	11
8	12	1b le répète
9	13	8 (-)reil
10	14	18b progrès
11	15	13 étant
12	16	3 trouve
13	16	8b
14	17	20b point
15	18	13
16	19	16 (-)roult
17	19	5b (-)fini
18	20	12b l'application
19	21	20 avec
20	22	10 source
21	23	2 (-)serait
25	27	1
26	28	1 inquiet
27	28	3b ce
28	29	le [2me]
29	30	22 (-)quelle
30	31	13 toute
31	32	4 (-)relles
32	33	1 dans
33	33	3b
34	34	12b étant
35	35	20 et
36	36	11
37	37	4 A. Smith
38	37	4b systèmes
39	38	12b (-)nes morales
40	39	17 et
41	40	14 moral
42	41	3 philosophie
43	41	6 et
44	42	16b un
45	43	16 ensuite
46	46	9 doivent
47	46	3b (-)dustrie

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
48	45	12b Que
49	46	19 individus
50	49	1
51	49	2b celui
52	50	10b de la société
53	51	20b revue
54	52	12 envahie
55	53	1 (-)sion
56	53	8b politique
57	54	17b (-)pôt
58	55	15 libre
59	56	8 dit
60	56	2b la mise
61	57	12b transmet
62	58	22
63	59	10 ceux
64	60	1 (-)ceurs
65	60	8b toute
66	61	15b que
67	62	17 la
68	63	11 les
69	64	5 (-)ser
70	65	1
71	65	4b
72	66	14b les
73	67	19b (-)listes
74	69	1
75	69	2b à
76	70	7b
77	71	22 (-)tisme
78	72	13 que
79	73	3 moral
80	73	6b justice
81	74	18b seul mal
82	75	16 revanche
83	76	8 Ainsi
84	76	2b relève
85	77	10b Il
86	78	15b (-)cial
87	79	16 morales
88	80	10
89	81	2 spiritualisme
90	82	6 (-)ponsable
91	82	3b dans
92	83	13b
93	84	19
94	85	12 proteste

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
95	86	3 (-)tales
96	86	8b des
97	87	15b ne
99	89	1
100	89	2b sciences
101	90	12b cherche
102	91	19 travail
103	92	9 (-)loppement
104	92	1b l'homme
105	93	10b sensibilité
106	94	18b
107	95	13b aucunement
108	96	7 car
109	96	3b représentation
110	97	3b
111	98	13b (-)telligence
112	99	18b c'est
113	100	14 (-)crètes
114	101	4
115	101	6b
116	102	14b
117	103	17 (-)gnée
118	104	10 état
119	105	2 notre
120	105	5b Elle
121	106	14 Les
122	107	14b tempéré
123	109	1
124	110	2 leurs
125	110	7b
126	111	18b
127	112	14 qui
128	113	8 l'intérêt
129	113	1b et le
130	114	5b supérieur
131	115	15b
132	116	15 nous
133	117	6
134	117	3b
135	118	14b
136	119	17 garantir
137	120	10
138	121	1
139	121	8b époux
140	122	19b après
141	123	13 exemple
142	124	5 souci

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
143	124	6b société
144	125	15b ont
145	126	17 est
146	127	6 (-)sent
147	129	1
148	130	1
149	130	11b pour
150	131	21 Tocqueville
151	132	11 (-)gées
152	132	1b arbre
153	133	8b l'état
154	134	22 agir
155	135	12 mauvaise
156	136	3 communisme
157	136	8b mais
158	137	18b (-)çois
159	138	14 de l'
160	139	5
161	139	7b distributive
162	140	15b (-)pliquer
163	141	18
164	142	7 de
165	142	2b en
166	143	8b (-)ment
167	144	15b
168	145	14 dont
169	146	8
170	146	2b aussi
171	147	7b
173	149	1
174	149	8b une
175	151	1
176	151	2b fallu
177	152	9b raison
178	153	18b
179	154	14
180	155	3
181	155	1b sociale
182	156	7b de
183	157	13b laquelle
184	158	16 (-)fiance
185	159	12 (-)ciété
186	160	4 tarte
187	160	7b
188	161	14b
189	162	16
190	163	11 indépendance

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
191	164	7 personnes
192	164	5b production
193	165	15b dans
194	166	17 (-)sent
195	167	7 (-)litaires
196	167	1b aux
197	168	7b tue
198	169	15b
199	170	17
200	171	7 deux
201	172	4
202	172	7b
205	177	1
206	177	4b (-)trement
207	178	9b 6
208	179	12b céder
209	180	13b
210	181	18 nourriture
211	182	11
212	184	11 ne
213	185	6 nécessaires
214	185	2b
215	186	14b (-)tiennent
216	187	18 La
217	188	7 des
218	188	4b prendre
219	189	14b et
220	190	17 difficile
221	191	7 et
222	191	4b l'État
223	192	10b et
224	193	19b
225	194	12 but
226	195	3 certain
227	195	4b
228	196	14b (-)terai
229	197	13 à
230	198	10 ce
231	199	7 les
232	199	1b au
233	200	10b
234	201	16b
235	202	14 (-)vers
236	204	3 produits
237	204	8b à
238	205	14b et
239	206	16b publics

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
240	207	1
241	208	1 mises
242	208	5b étais
243	209	10b son
244	210	16b liberté
245	211	19 (-)ément
246	212	6b non
247	213	1
248	213	5b
249	214	14b (-)clarer
250	215	18 l'ouvrier
251	216	7 sculpté
252	216	4b et cela
253	217	5b
254	218	15b (-)clusivement
255	219	16 théories
256	220	9 science
257	221	2 à
258	221	8b (-)jours
259	222	18b aux
260	223	14 (-)que
261	224	5 de stipulations
262	224	7b part
263	225	13b aura-t-il
267	229	1
268	229	4b très
269	230	13b
270	231	18
271	232	9 estime
272	233	4 1542
273	233	3b
274	234	10b
275	235	18b
276	236	23b
277	237	23b comme
278	238	9 un
279	239	5 associés
280	239	1b que
281	240	5b *m* années
282	241	3b
283	232	4b
284	243	6b
285	244	6b (-)minée
286	245	4b
287	246	4b
288	247	4b
289	248	3b

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
290	249	1b
291	250	1b
292	251	2b
293	252	3b
294	253	3b
295	254	1b
296	255	3b que
297	256	4b durer
298	257	8b et
299	258	5b
300	259	4b
301	260	4b
302	261	1b
303	262	1b = – 13,31
304	263	5b value
305	264	5b
306	265	12b
307	266	15b
308	267	6b
309	268	13 Elle
310	269	10
311	270	11b
312	271	12b log
313	272	14
314	273	7b
315	274	4b
316	275	7b comme
317	276	10b (-)cevoir
318	277	3b
319	278	2b
320	279	4b
321	280	7b bien
322	281	2b
323	282	5b différence
324	283	6b
325	284	2b
326	285	5b et
327	286	9b prix
328	287	3b
329	288	5b
330	289	4b
331	290	2b
332	291	2b
333	292	1b
334	293	2b
335	294	4b
336	295	2b

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
337	296	5b serait
338	297	5b
339	298	9b croissant
340	299	13b
341	300	15 peut
342	301	5 (-)que
343	301	5b l'exemple
344	302	13b de
345	303	17
346	304	14 plan
347	305	5 (-)cion de la
348	305	5b bien
349	306	11b (-)ture
350	307	15b elle
351	311	1
352	311	2b demande
353	312	6 aussi
354	313	12b (-)sance
355	314	19b (-)marquables
356	315	10 que
357	316	3 des
358	316	2b à
359	317	9b
360	318	20 b Braunschweig
361	319	13 plus
362	320	7 (-)rence
363	320	3b je
364	321	14b qu'il
365	322	16b satisfaits
366	323	16 rente
367	324	2
368	324	1b (-)gressive
369	325	6b (-)res
370	326	13b (-)seignements
371	327	16 en
372	328	13
373	329	5 (-)maturée
374	330	1
377*	333	1
378	333	6b
379	335	1
380	335	2b (-)nglais
381	336	11b comme
382	337	15b
383	338	15 (-)ouable
384	339	9 ni
385	340	1

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
386	340	7b
387	341	15b (-)tivité
388	342	16 (-)médiatement
389	343	11
390	344	4
391	344	6b (-)dences
392	345	8b temps
393	346	20 de
394	347	13 (-)tés
395	348	3 n'a
396	348	3b
397	349	13b moins
398	350	20b
399	351	12
400	352	8
401	353	1
402	354	8 de
403	354	2b montant
404	355	8b tion
405	356	16b terre
406	357	17 des
407	358	9
408	358	2b (-)gent
409	359	6b taxés
410[#]	361	1
411	361	1b que
412	362	11b domination
413	363	20 (-)gnalé
414	364	11 que
415	364	1b comme
416	365	7b par
417	367	4 terrain
418	367	6b la
419	368	14b
420	369	18 les
421	370	12 (-)blit
422	371	7
423	371	1b 1811
424	372	12%, et
425	373	16b sur
426	374	14
427	375	6 les
428	375	3b (-)dérations
429	376	12b de
430	377	19 de
431	378	9 simple
432	379	1 (-)rie

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
433	379	1b terre
434	380	8b d'acheter
435	381	16b de
436	382	16 illimitée
437	383	8 qui
438	384	4 eux-mêmes
439	384	2b de
440	385	8b de
441	386	15b qu'une
442	387	16 (-)teurs
443	388	9 soit
444	388	2b (-)tre
445	391	1
446	391	4b Aristote
447	392	13b dans
448	393	17b la
449	394	14 des
450	395	5 mobiliers
451	395	5 ne
452	396	15b en
453	397	19 notre
454	398	14
455	399	10 (-)tion
456	400	7 entrer
457	400	3b des
458	401	6b (-)perficiellement
459	402	14b (-)res, il
460	403	18 (-)cettes
461	404	13 (-)cipation
462	405	5 nos
463	405	1b Alors
464	406	8b proportionnellement
465	407	11b
466	408	20 c'est
467	409	9 richesse
468	410	2 (-)portionnellement
469	410	4b
470	411	13b
471	412	18 (-)tant
472	413	8 pays
473	414	1 et
474	414	7b (-)thématiquement
475	415	10b finalement
476	416	17b dans
477	417	15 de monnaie
478	418	9 a
479	419	3

Table B.2 continued

Page in second edition	*Location of beginning of second-edition page in Dockès' edition*	
	Page	*Line*
480	420	7
481	420	3b mais
482	421	8b (-)tion
483	422	14b eux
484	423	16 économistes
485	424	9

Notes

i Of these notes, 43 are translations of, or contain material borrowed from notes by Pierre Dockès in Volume IX of *ŒÉC*.

ii Walker counted 92 writings between 1858 and the end of 1870, among which are six books, one of which is a novel. See Walras's definitive bibliography in Walker 2006: 207–255; see also Walker 1987.

iii In this letter, Walras thanked Wicksell for announcing the fourth edition (1900) of the *Éléménts* in *Jahrbücher für Nationalökonomie und Statistik*.

iv Walras's supposition that choosing the most preferred one from a given set of alternatives is, under mild conditions, equivalent to the maximization of a utility function under certain side conditions, had to wait until the 1950s before it was rigorously proved by, among others, Gérard Debreu (1959, chapter 5).

v This is the main subject of Walker 1996. See also Walker 2001.

vi The neglect of Walras's heritage by the University belongs to the distant past.

vii Preface to the second edition (1879) of his *Theory of Political Economy* (Jevons 1957, p. xxxv).

viii Everything Walras developed in his *Éléments* and his two *Études* undoubtedly had its proper place in a master plan to complete 'the mathematical theory of economic equilibrium' (below, page 328, n.4). Walras was as good at synthesis as he was at analysis, but, as already indicated above, his projected synthesis was never put on paper. Recently, however, a broad design for the economic framework envisaged by Walras has been suggested, combining the model of capital formation of the *Elements* with the following elements: (1) private goods (whether produced under free competition or regulated monopoly) and public goods are assumed to be produced subject to fixed coefficients of production; (2) all goods (both private and public) are supplied at their average cost, under free competition as well as under monopoly; (3) the state acts as an individual with a role that does not differ mathematically from that of an individual. The abolition of taxation, combined with state ownership of land, and the fiction of a social welfare function with quantities of public goods as variables, have the effect that the state has a real budget constraint with rent as income, and a utility function with quantities of public goods as arguments, just as individual consumers have utility functions with quantities of private goods as arguments (see van Daal 1999).

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ÉTUDES

D'ÉCONOMIE SOCIALE

(THÉORIE DE LA RÉPARTITION DE LA RICHESSE SOCIALE)

PAR

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PARIS
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1896

ÉTUDES

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PAR

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1936

Author's preface

[V] I have devoted myself to elaborating an economic and social doctrine that I taught in Lausanne between 1870 and 1892 in my three courses: *economic theory*, *applied economics*, and *social economics*,[i] and that I wanted to present to the public in three volumes under the title *Éléments d'économie politique et sociale*. Only the first of these three volumes, *Éléments d'économie politique pure*, has appeared and will appear [in a new edition],[ii] because the state of my health manifestly prevents me from finishing the other two, but the works, memoirs, and articles I have already published contain ideas that are quite developed on the most important points of this doctrine; and it seemed to me that by finishing and collecting these publications in two volumes, *Études d'économie politique appliquée*[iii] and *Études d'économie sociale*,[iv] and inserting a summary to show their interrelations, it would be possible to compensate to a certain degree for the lack of the last two volumes of the *Éléments*.

To justify the use of mathematics in some of my studies, I am reproducing the following lines with which I preceded them in the *Théorie mathématique de la richesse social.*[v]

> This book is particularly addressed to scholars. In my opinion, science must be employed before popularizing it. Now, all competent and sincere men know and confess that no science exists regarding the subjects treated in this book: money, the issue of banknotes, the value and ownership of land. These questions were pending and unsolved when I began to take up economics – and that is still the case today. It was in order to clarify them for myself that I developed, in mathematical form, the theory of the determination of prices contained in my first four memoirs; and this operation, which was necessary, was sufficient: it allowed me to set out in a few pages, for those who understand the language of mathematics, principles on which whole libraries have been written in ordinary language without succeeding in definitively establishing them. By means of the price curve, deduced from the equations of exchange and production, I was able to formulate in mathematical form the theory of **[VI]** metallic and fiduciary money; and, by means of the formula for the determination of the price of land, deduced from the laws of the variation of prices in a progressive economy, I was able

> to formulate in the same form the theory of the purchase of land by the State, thus giving, in a way, a mathematical solution of the social question.

I will first publish the *Études d'économie sociale.* The *Études d'économie politique appliquée* will come next; they will end with the 'Esquisse d'une doctrine économique et sociale' ('Sketch of an Economic and Social Doctrine').[vi] Since I explain my philosophical point of view in that sketch, I shall add only an indispensable word or two here.

Reading Renan's *Souvenirs de jeunesse*[vii] recently, I was agreeably surprised by a passage (pp. 337 and 338) in which that eminently critical mind – critical to the point of scepticism – placed 'man's free will and the spontaneous action of animals' among the causes functioning in the universe, and at the top of the scale of these causes. For my part, I had always taken man's free will to be a fact of experience, without granting it either more metaphysical value or less scientific value than the facts of vegetation and life, or those of duration and movement, facts that would not withstand a transcendental critique any better than man's free will would, and which are the subjects of incontestable theories. Even supposing that the final aim of science should be to piece all these facts together, that ought not to be the point of departure. By recognizing the facts of experience in all their diversity, and amongst these, the fact of man's free will, Greek polytheism created all arts and sciences, including the moral and political sciences; taking the opposite course, fatalistic Moslem monotheism was sterile.

For giving rules for man's free will, we must provisionally agree on its existence. But as soon as the free will of man is accepted as a fact *sui generis*, superior to the spontaneous action of animals, we encounter the moral personality and laws; social science then appears to be, at least in part, the mechanics of moral forces – that is to say, an abstract and deductive science as much as and more than is the mechanics of physical forces. Experience, by the intermediation of concrete and inductive sciences – such as physiology, psychology, **[VII]** and history – will first provide social science with its definition, from which it can derive its fundamental formula by the use of reasoning, and then the data for the great problems to which it will apply this formula logically. Statics and dynamics do not proceed in any other way to establish all their theorems *a priori*.[viii]

I have tried here to establish the basic formula for social science viewed in this way, and its application to the problem of the distribution of social wealth among the people in a society. If there are a few people to whom the *historical economics, physiological psychology*, and *biological sociology* prevailing at present have not provided all they expected, I beg them to be kind enough to consider the scientific results that may be obtained by starting from man's moral personality, on the good old terrain of natural law, subject to the sole condition of using a little reflection and reasoning power.

I feel I must again reproduce the other passage from the preface to the last three memoirs of *Théorie mathématique de la richesse sociale* that especially concerns the 'Théorie mathématique du prix des terres et de leur rachat par l'État'.[ix]

On publishing the seventh and final memoir, which constitutes, as it were, my crowning achievement in applying mathematics to political and social economy, I must particularly thank three of my colleagues and friends at the Academy of Lausanne. The first is Mr. Paul Piccard, an engineer and former professor of industrial mechanics, whom I have, from the very beginning of my studies, often consulted fruitfully, and who, moreover, first drew my attention to the impact the increase in the value of the produce of land, once observed, must have on the price of land.[x] The second is our eminent philosopher, Charles Secrétan, who, after procuring from the Munich Library the first copy of Gossen's work that I have held in my hands, was kind enough to go to the trouble of reading this book with me, and, as he read, to dictate to me a complete translation to which his admirable knowledge of French and German **[VIII]** imparts an inestimable worth. The third is Dr. Hermann Amstein, professor of mathematical analysis and mechanics, who, when I discussed Gossen's theory and the criticism I wanted to make of it, immediately noticed the general mathematical formula for amortization proposed by that author in his tables. He provided me with the function for the sum still owing at the end of each year, as given at the beginning of §IV [of Chapter 8 below], with the conditions of equality of this function to zero, as explained in nos. 20 and 21 of my text, thereby, in a way, opening the path along which I had only to advance in order to traverse all aspects of the question. I think I am fulfilling a duty by stating what I owe to these men, without whose kindness a work that has been accomplished would still remain to be done. What is more, I hasten to seize the opportunity to pride myself on the benevolence and friendship of such distinguished persons, in the midst of whom I have conducted my research.

I am happy that I can add to these three names in the expression of my gratitude that of a compatriot, my colleague and friend Georges Renard, editor of the *Revue socialiste*, who by the way that he welcomed to this magazine the three studies that will have been published there this year, confirmed my long established and unshakeable conviction that socialism and liberalism are terms which by no means exclude each other.

L.W.
La Bugnonné, September 1896.

Notes

i These lectures are published in *ŒÉC*, vol. XII. Throughout this book, we translate Walras's term 'économie politique' by 'economics'. We translate the term 'économie sociale' as 'social economics'. In Walras's time, these terms were to some extent in use, as may be inferred from the fact that W.S. Jevons changed the term 'political economy' to 'economics' in the text of the second edition (1879) of his *Theory of Political Economy* (first edition 1871), while retaining the original title of the book (see the Preface to that edition). Alfred Marshall also used the latter term in his *Principles of Economics* and elsewhere. Walras sometimes used the term 'économie politique et sociale' to stress explicitly that he was talking about the whole field of economics; most frequently, we translate this also simply as 'economics'.

ii Vol. VIII of *ŒÉC* (1988), translated into English by William Jaffé with the title *Elements of Pure Economics*, Homewood, Illinois: Richard D. Irwin, Inc., 1954.

iii Vol. X of *ŒÉC* (1992), translated into English by Jan van Daal with the title *Studies in Applied Economics*, London and New York: Routledge, 2005, 2 volumes.

iv Vol. IX of *ŒÉC* (1990).

v Lausanne: Corbaz et C[ie]; Paris: Guillaumin; Rome: Ermanno Loescher e C[o].; Leipzig, Duncker und Humblot, 1883. Republished in: *ŒEC*, Vol. XI (1993). This should not be mistaken for *Théorie mathématique de la richesse sociale, quatre mémoires*, Paris: Guillaumin, 1877.

vi *ŒÉC*, Vol. X, pp. 405–441; *Studies in Applied Economics*, Vol. II, pp. 355–394.

vii Ernest Renan, *Souvenirs de'enfance et de jeunesse* (1893), in: *Œuvres complètes d'Ernest Renan*, Paris: Calman-Lévy, vol. II, 1948.

viii That methodological prescription has its origins in the eighteenth century. It was expressed by the theorists of 'social algebra' like Turgot, Condorcet, and their disciples; by Dupont de Nemours, and, more generally, the Physiocrats; and by Daniel Bernouilly. It was expressed also by engineers-economists like Achille-Nicolas Isnard (*Traité de richesses*, 1781). Walras appears, by his adherence to it, to have accepted the ideas of the uniformity of the knowable world and of generalized determinism, and, consequently, the necessity of searching for the mathematical laws of social science. The contributions of Auguste Walras and Antoine-Augustin Cournot served as a bridge between these eighteenth-century ideas and the ideas of Léon Walras, as the contents of his personal library testify. A catalogue of the library can be found in *ŒÉC*, Vol. XIV.

ix 'Mathematical theory of the price of land and its purchase by the State'. See Chapter 8 below.

x Walras used the word 'rente' to mean the 'services of land', not an amount of money. He distinguished three notions with respect to a capital good: the capital good itself (in the present case, land), the services yielded by the good, and the price paid for its services (in the case of land, 'fermage', i.e., in English, 'rent'). He also defined 'produits', i.e., products. In the case of land, he meant crops, fruits, etc., i.e., the physical products grown through the use of land. In the case of human capital, Walras distinguished similarly three things: the persons, the labour they perform, and the remuneration for this labour; in other words: workers, labour, and wages. For his third category of capital, 'capital proper' (machines, building, etc.), he made the same distinction.

Part I

Seeking the social ideal

1 Socialism and liberalism

Letters to Mr. Ed. Schérer[1,i]

[3] Sir, in an article titled 'M. Adolphe Guéroult' and published in the column *Variétés* of *Le Temps*, dated 30 December last,[2] you dealt, in a remarkably superior fashion, with subjects that are constantly the subject of my studies. I was therefore particularly moved when I read your research, and it occurred to me that I should write to you. Only a natural enough reticence prevented me from taking up my pen. Now, I have just read the article 'La Liberté',[3] which appeared on the twentieth of this month, and I have doubly regretted my hesitancy. First, you seem to attach great importance to your subject, which made me think you would receive my observations kindly. Then it appears that, after probing very deeply to the most important and most essential points while discussing Mr. Guéroult, you have wandered off course a little towards points that are far more peripheral while dealing with Mr. Sainte-Beuve, and I think that that would not have been the case had I immediately refuted you with a serious objection. Please allow **[4]** me the liberty, therefore, of carrying out my project, somewhat tardily, by revisiting the data that you originally examined.

To do so, I refer to the place in your study of 30 December 1862 where, leaving aside the attention devoted particularly to Mr. Guéroult, his antecedents, and talent, you take up clearly and directly more general considerations that are connected to the divergence of his opinions from yours.

> Perfectibility is a modern idea – you say – one of those that most clearly mark the distance between the ancient and modern world. It is self-evident to the degree that only a few sophists or misanthropists contradict it. It has

1 This study, written during the first days of 1863, appeared for the first time in *La Travail*, 31 October and 31 December 1866, and 28 February 1867. I had asked Mr. Neftzer, who was my editor in chief at La Presse in 1860, to accept it for *Le Temps*, but he refused to do so because of his liberal principles. We had a long discussion on that subject. I was never able to make him give up the idea that if one adheres to a social doctrine, one will inevitably be led to burn alive or guillotine those who do not accept it.

2 30 December 1862. This article has been reprinted, under the title 'Le Saint-Simonisme et la société', in Edmond Schérer (ed.), *Mélanges d'histoire religieuse*, Paris: Michel Lévy frères, 1864, second edition 1865.

3 *Le Temps* of 20 January 1863.

> become common knowledge. However, perfectibility should not be confused with the possibility of perfection, as Mr. Guéroult seems to do occasionally. This conclusion is not simply playing with words; for those who understand the scope of these questions, it marks the dividing of the ways between two systems, liberalism and socialism. Socialism is, in its principle, indeed, nothing but the belief in the possible perfection of society and the effort to bring this about.

This is absolutely clear and precise, it must be admitted. You and Mr. Guéroult are in agreement up to a certain point: as far as you both can see, humanity is advancing, not retreating. The law of development and organization of society is a law of progress, not of decline. Beyond those limits, you are divided. You personally think that society is only perfectible, whilst Mr. Guéroult, on the other hand, considers that society will be perfect sooner or later. You are a liberal and Mr. Guéroult is a socialist. Perfectibility or perfection, liberalism or socialism: that is the alternative and that is the question. In fact, it is the great, and I willingly submit, the only question of our epoch. Not only does it **[5]** dominate all others, but it also embraces and contains them. Soon there will be grounds for asking whether you have found the solution, but before that, allow me to point out the excellent way in which you have explained it.

Indeed, what you bring to our notice is, on the one hand, very well-defined liberalism, and on the other, socialism, not at all considered in the diversity of its special forms, nor even envisaged in the generality of its most widely agreed upon aspects, but dealt with and grasped in its essence and innermost nature.

In fact, there are many different varieties of socialism: there is the triad of Saint-Simon and the religious and theocratic pontificate to which it gives rise; there is the passionate attraction of Fourier and his phalansteries; there is Mr. Louis Blanc's brotherly communism; there are the antimonies and balances of Proudhon, and the economic and political chaos which this author himself so naïvely and fittingly calls anarchy. Here, however, it is not especially a question of any of these systems.

Although so often adversaries, socialists have also occasionally met and agreed. Indeed, they have often drastically disrupted the family in one way or another. Some have absorbed the individual into the State, others destroyed the State to benefit the individual. They have disorganized and reorganized property and taxes in a hundred different ways. On the other hand, they have all, or at least almost all, deplored the disasters wrought by industrial and commercial liberty, free competition, and free exchange. They have proclaimed the right to work, and supported the system of regulations and arbitrary tariffs. In the same way all, or nearly all, have disparaged the tyranny of capital, and insisted on free credit. However, it is not here, as yet, a question of one or another of these utopias.

Whether they are enemies, quarrelling among themselves – some proposing their supreme Father, others their phalansteries; the latter, their social workshops, the former, their people's bank, or whether, on the contrary, they agree to demand **[6]** brotherhood and abolish capital, all socialists, almost without exception, are aiming for the same goal, which is the purest and most perfect morality, the most complete, entire, universal welfare. In either case, they want, as you said, a terrestrial paradise. Not only do they aspire to such advantages, but they cannot wait to enjoy them, and make us enjoy it with them as soon as possible; they do not just await heaven on earth, they hasten to get in and open its door to us, tomorrow, or even today! Oh, yes, belief in the possible perfection of society, and the effort to bring it about; in a nutshell, the absolute. That belief and that effort are, at once theoretically and practically, the raison d'être and constitutive principle of socialism.

On the other hand, the raison d'être of liberalism is a negation of that belief, and opposition to that effort. Liberalism believes there is, in this world, absolutely no reason to hope for either perfect virtue or universal wealth. Not only is there no point in counting on one's possessions, there is no point in thinking about them, even in one's dreams. Just as socialism upholds the absolute as its principle, not only theoretical but practical, so also does liberalism uphold relativism as its principle, not only practical but theoretical.

To this difference in principles there corresponds a difference in character.

Whether Saint-Simonians or Fourrierists, brotherly-communists or individualist-anarchists, all socialists, almost without exception, use one and the same scientific method, have recourse to one and the same political procedure. Scientifically, they try to discover by *reflection* and to announce *dogmatically* a definitive social formula. Politically, they are prepared to impose on us *despotically* the authoritarian and immediate application of this formula. Therefore, socialism has a character as absolute as its principle; its scientific method is dogmatism, and its political procedure is despotism.

[7] On the other hand, fear of dogmas and hatred of despotism is the character of liberalism. In the eyes of liberals, human activity, if allowed complete freedom, can spontaneously engender the progressive development of society, the study of which cannot and should not be purely and simply *critical*. Just as socialism, the doctrine of the absolute, is dogmatic and despotic, liberalism, the doctrine of relativism, has liberty as its political procedure, and critical thinking as its scientific method.

This is still not all. Possessing both a science and policy outlook, they also have their own philosophy of history.[ii]

According to socialism, social progress makes its course by a succession of dogmatic formulas, each being constantly replaced by another, and so the improvement of laws preceded and brought about the improvement of customs and moral attitudes. According to liberalism, on the other hand, society develops and organizes itself through the effort of human activity, urged on by an inspiration that is renewed from age to age; thus customs and moral attitudes improve first, and the self-improvement of laws occurs afterwards. So socialism and liberalism travel the length and breadth of time and space, in the past meeting paganism, Christianity, the Reformation, the Revolution, and giving to each of these events its distinctive interpretation. When our epoch arrived, in the environment of contemporary nations, each doctrine, to cling ardently to its destiny, chooses the country whose spirit and role seems particularly attractive: socialism establishes itself in France, land of government and authority; liberalism takes refuge in England, land of liberty and individual initiative.[iii]

Thus, in that simple, fitting distinction that you point out and that I myself have made between perfection and perfectibility, lies in fact the germ of a wide and fertile distinction between two very clear-cut systems: socialism, the system of perfection and the absolute, and liberalism, the system of perfectibility and relativism. That is quite undeniable, so I **[8]** repeat: you have posed the problem in a superior and definitive way. But have you solved it? At the risk of surprising you, that is what I take the liberty of doubting today.

You are a liberal. Does that mean to say that I am a socialist? It would seem that a choice must be made between perfection and perfectibility, between the absolute and relativism; that, consequently, one or the other system is inevitable. It does indeed appear so; and yet, well! in spite of everything, I am still hesitating.

I feel the absurdity of a dream of an earthly paradise, and yet I cannot decide to give up dreams of truth and justice, not relative truth and justice, but truth and justice in their absolute form; I do not stipulate equality, knowing full well that absolute equality is neither truth nor justice. I hate the despotism that hastily applies narrow and tyrannical formulas, always so much the more brutal the more ignorant it is; all the same, I cannot help waiting to salute enthusiastically and with admiration one of these sovereign dogmas, the fruit of reflection and knowledge, that, linking men together and humanity to nature and to God, would organize the world of material well-being and rights, just as astronomy has organized the world of celestial bodies. If I recognize the influence of customs on laws perfectly well, I see no less clearly the influence of laws on customs. If I love England with its liberal, practical commonsense, I adore socialist, theorist France.

Today is not the first time that I find two systems in the presence of each other, although different and conflicting, whose divergence is manifested by a double series of contradictory and paradoxical terms. In the same way, I have already met materialism and spiritualism, empiricism and idealism in metaphysical philosophy; in moral philosophy, I have already experienced individualism and communism; today, liberalism and socialism reveal themselves and offer themselves for my examination. Now, without being satisfied with vulgar eclecticism or having recourse to desperate scepticism, I have almost always managed to reconcile antimonies in **[9]** similar cases by resolving the contradictions in their identities, as it were. I am all the more tempted to behave in a like manner in the present circumstances, where obviously the divergence that exists or seems to exist between socialism and liberalism is none other than that which exists or seems to exist between idealism and empiricism.

Lastly, I remember the legend in which two knights, meeting at a crossroads in front of a statue of Victory bearing a shield, begin to argue about the metal it is made of, one asserting that it is silver, the other maintaining that it is gold. They fight and kill each other before they could learn that the shield is made of gold on one side and silver on the other. I think you and Mr. Guéroult are in the same situation as those relentless fighters, so please allow me, before committing myself and choosing between you, to scrutinize the matter from every angle.

II

You are liberal, sir; your solution is liberty, liberalism is your cause. For you, moreover, liberty and liberalism, are both attached to the idea of perfectibility. In order to leave uncertainty behind and take a step forward, I will agree with you, if you like, that society is improving from day to day, and also that it will never be perfect. It remains to be seen whether the result is logically the affirmation of all you suggest, and the negation of all that seems to you erroneous and inadmissible. Indeed, if I am willing to admit that society cannot be other than imperfect *in reality*, will you not agree with me that it should be perfect in another way? How so? *In its ideal form!* Now, that concession alone is enough to create disorder in your doctrine.

> I freely admit – you say – that perfectibility is a sort of contradiction; there is contradiction in the idea of movement that brings us closer to our goal, since **[10]** progress is made, yet which does not bring us any closer, since we shall never manage to reach it. But this contradiction is the very mystery of human life – it is the condition of our activity and our grandeur.

It is true that the idea of social perfectibility implies, at one and the same time, the idea of a certain perfection that one is nearing, without ever quite reaching it, and the idea of certain flaws, which we try to correct without ever managing to clear them up entirely. Here you cry: Contradiction! Mystery! If the contradiction is as real as it appears to be, there is indeed a mystery; but on the other hand, there would be no mystery if the alleged contradiction had just been reduced to an obvious, inevitable identity. It would then be a logical necessity and not a mystery at all, which would be the condition of our activity and our grandeur.

I do not know, sir, what you will think of all this; I personally have to admit that if matters could present themselves in this way, I would be infinitely more satisfied. Now, to be precise, I think I recognize that, where you saw a contradiction, there is an identity, not only in the present case, and as regards social perfectibility, but in all similar circumstances in which it is a question of progressive movement, or of some sort of result implying the double play of theory and practice, the double intervention of science and art. This, at least, is what I think derives from the distinction between ideality and reality, as is established by the most advanced modern philosophy.

Indeed, let us suppose

1 That the world of ideas and the ideal is the proper object and the true field of theory and science. – (This first being understood: that ideas and the ideal are acceptable in theory and science only on the condition that they are

drawn, by understanding and reason, from the facts and the reality provided by experience.)

2 That the world of facts and reality is the proper object and true field of practice and art – (This moreover **[11]** being equally understood: that the only serious practical acts and art are those that take place by the application of theoretical and scientific principles to facts and reality.)

Let us also suppose

1 That every ideal is perfect in its capacity of being an ideal.
2 That, if it must be said that every ideal is necessarily perfect, then it must also be admitted that all that is perfect must necessarily be ideal; in other words, all reality is imperfect in its capacity of being real.

That being stated, science is defined as the idealization of reality, and art is defined as the achievement of the ideal; what is more, the terms of ideality and perfection on the one hand, of reality and imperfection on the other, being considered adequate as terms, the result of these premises is a very clear, very precise double conclusion, first concerning theory and practice in general, then concerning what affects social perfectibility in particular.

Concerning theory and practice, it should henceforward be accepted

1 That perfection, or the absolute, is the principal constituent of theory and science.
2 That imperfection, or that which is relative, is the principal constituent of practice and art.

Insofar as social perfectibility is concerned, it appears logically necessary

1 That the idea of social perfectibility, implying the idea of a theoretical, scientific, social ideal, developed by the intelligence from the social reality that experience furnishes, implies, by the same token, the idea of perfection.
2 That the idea of social perfectibility, implying the idea of a social reality to which theoretical and scientific social principles are applied, implies by the same token the idea of imperfection.

Such should be the principles and consequences of the distinction between the ideal and reality; I have limited myself to stating this without demonstrating it. After all, that demonstration has **[12]** already been made from beginning to end in the splendid book by Mr. Vacherot entitled *La métaphysique et la science*.[iv] With marvellous critical sagacity and an admirable doctrinal breadth, the author of this work has discovered and shown us, by the distinction between the perfect ideality that is the realm of Thought, and imperfect reality that is the theatre of Life, the most solid and unshakeable base, not only of science, but also of metaphysics. I might add, in this respect, that he recognizes and shows us the living

God in the real universe, and in the ideal universe, the God of reflection; and I have no fear of astonishing those who have read him by saying that those passages, which are quite new and original, are, at the same time, of capital importance. But these considerations, by their breadth and scope, would go beyond the boundaries that are appropriate for a letter such as this; it is enough to say that you are the Master whose disciple I am, on this particular point.

All the same, I should tell you that even before the publication of this considerable work, recognizing quite clearly the fundamental principle of mathematical and astronomic science, and notably of geometry, in the distinction between the ideal and reality, I truly believe that I recognized the fundamental principle of economic and social science as well. The following is how:

1 I distinguish the idea of man, the idea of society, the idea of the individual, the idea of the State; in a word, social ideal types. I see, in these types, the proper subject of the theory of society, the true terrain of social science, just as the idea of a point, the idea of a line, the idea of a surface, the idea of a solid, in a word, the ideal geometric types, have always been distinguished, and just as these types have always been seen as the proper subject of pure geometry. – (I understand, of course, that in social science, just as in pure geometry, there are no admissible ideal types, other than those developed by reason from real types furnished by experience.)

[13] There is a difference between the theory of society, and geometry: the real type in geometry is immediately provided by experience, and the ideal type can be developed by the understanding by means of an immediate a posteriori synthesis. However, in the theory of society, the real type is not immediately given by experience, and the ideal type can be extracted only by means of a synthesis a posteriori that is very long and very arduous. However that may be, once having obtained the social ideal type, all that is left to do is extract all the principles of science by a series of a priori and necessary analytical judgments, just as in geometry. From this point of view, social science is a system of principles, a work of reflection.

2 On the other hand, I distinguish the real man, the real society, the real individual, and the real State, in a word, social reality, and, in that reality, I see the proper subject of social art, the true terrain of policy formulation and execution, just as the real point, line, surface, and solid have always been distinguished, and just as the proper subject of applied geometry has always been seen in these realities. – (What is more, again, I understand very well that there will be no serious practical applications in policy formulation, just as in applied geometry, other than those undertaken by the application of theoretical and scientific principles to reality.)

There is also a difference between policy execution and applied geometry: the reality to which theoretical and scientific principles are applied being impersonal in geometry, there is no reason to debate, regarding that application, any moral question. However, on the contrary, the reality to which theoretical and scientific principles in policy matters are applied, being nothing other than the real man, an active, free, personal being, there is a reason to debate, regarding that application, the moral question of despotism and liberty, and to settle it in favour of liberty. Be that as it may, given social reality, it is agreed that reality spontaneously modifies itself and approaches the ideal as much as possible, just as in geometry. From this **[14]** point of view, policy formulation and execution, while being a work of the application of dogmas, is also a work of spontaneity and liberty.

What argument would you oppose to this way of seeing things?

> However that may be, from the point of view of simple progress, the task is not to recast society but to reform it, not to change the bases of its being, but to extend those upon which it already rests, not to eradicate the evil, but always to reduce it more and more.

Let us make the distinction: from the point of view of political progress, the task is to reform society, to widen the bases upon which it already reposes, to be constantly reducing the evil therein, and to apply the ideal to reality more and more. From the point of view of scientific progress, the task is to recast society, to set it up on new bases, to root out all evil, and to formulate the ideal. Why should there be any evil in the ideal society?

> And, to give only one example, when Mr. Guéroult speaks of a society that rejects poverty, he seems to have crossed the very real, very deep limit that separates the two different ways of seeing things.

Let us make another distinction: Mr. Guéroult is wrong politically, but scientifically, he is right. The diverse theories of society that have been in existence in the domain of ideas until now accepted slavery, serfdom, a proletariat, but ours should no longer accept them. Why should the ideal society accept poverty?

> No longer accept poverty! That is easy to say; at the same time, I suppose, we will do away with laziness and disorder.

Perhaps. Or at least: no, politically; yes, scientifically. Here, moreover, it does not matter. Ideal society would be pure, devoid of all evil, absolutely perfect, if there were no poverty other than that due to laziness and disorder, no wealth other than that springing from hard work and order. Poverty resulting from laziness and disorder, far from defying truth and social justice, glorifies them. You are distancing yourself from the question.

[15] 'It would not be inopportune also to abolish illness, old age, and death.'

Illness, old age and death have nothing in common with the social ideal. You are completely outside of the problem.

> I admit I am always astonished when I witness the naïve idealism that cannot distinguish between an idea and a fact, between the conception of good and its achievement, and, to return to the distinction we were discussing just now, between perfectibility and perfection.

I admit at the same time that I, too, am no less astonished by the naïve empiricism that cannot distinguish between a fact and an idea, between the achievement of that which is good and its conception, between perfection and perfectibility – between the ideal and reality, between that which is absolute and that which is relative, between social science and policy formulation and execution.

III

Here, sir, after reaching so accurately, in a couple of clear, precise lines, the basis of the question I have just examined and argued against, you then only touch, as it were, the exterior and surface of the additional aspects that I would like to criticize at my leisure. Unfortunately, both time and space are lacking. However, I am going to journey with you on the terrain of the philosophy of history, not to follow you there to the furthermost point, but just to establish my position as you do yours.

To define Mr. Guéroult's philosophical and historical system, you write the following:

> Our author thus cheerfully imagines all progress of societies as consisting in the substitution of one dogma for another.

Allow me, I beg you, to take Mr. Guéroult's place, **[16]** and present my system instead of his, defining it myself for you.

In the progress of societies, I distinguish two things: the progress of social ideas and the progress of social facts. As for the progress of social ideas, I consider this as consisting in the substitution of one dogma for another, a substitution that occurs through the influence of reflection. As for the progress of social facts, I consider this as consisting in the substitution of the application of one dogma for the application of another dogma, a substitution that occurs through the pressure of spontaneous activity.

This progress of social facts is the only one you wish to recognize, and therefore the only one you wish to consider. Since this progress is what you exclusively call the progress of societies, it is indispensable that I state my opinion about it as clearly as possible. This is quite an easy task after what has been written above. Since, in my opinion, this progress consists in the substitution of the application of one dogma in place of the application of another, reflection plays its part in it, a really important part. But since I consider that this substitution occurs through the pressure of spontaneous activity, liberty also has a role to play, and that is a considerable one. I do not know whether I am wrong, but it seems to me that there is nothing contradictory in all this; and being scientifically absolutely a socialist, I can still find a way of being politically as deeply and sincerely liberal as is possible.

For you it is useless to talk of dogma, whether scientifically or politically. What is more, you say:

> Once and for all, we must discard this false notion of the nature of dogma. Dogma is not a reality, it is a shadow; it is not the living truth, it is a dead truth. Mankind does not live by abstract principles, but by great thoughts, and great thoughts come from the soul. Everything on earth that has ever been fertile has taken form in the mystic depths of our beings, in the spontaneous intuition of our nature, in our aspirations towards the infinite, **[17]** in a thirst for truth and beauty, in sentiments of love and justice. Great men are not those who impose rules, but those who are inspirational. They are not lawgivers, but prophets. The words that change the world are words of passion. Later they cool down; the lava congeals. And that is when the formula appears. The free manifestations of the eternal spirit are succeeded by drafts, creeds, and charters. We want to hold onto life, and by seizing it, we manage to stifle it. . . .
>
> Dogma follows inspiration like death follows life.

Certainly dogma, as I understand it, is not reality; it is the ideal, not a shadow; it is not the living truth: it is truth cogitated mentally, and not dead. But for you the ideal is night, and thought is death; for you, what is light and life are exclusively the *mystic depths of our being*, the *spontaneous intuitions of our nature*, the *aspirations toward the infinite.* In short, for you, everything starts from, everything comes from free spontaneity, guided alone by feeling and passion, if not completely given over and abandoned to itself; and as for what is scientific reflection, it has never fulfilled, and never will, anything other than the most sterile and insignificant task in the history of mankind and civilization. Many people, I swear to you, will refuse to consider such exclusive and extreme opinions for an instant. As a liberal as well as a socialist, well knowing how to juggle free spontaneity with scientific reflection, I understand and excuse this exclusivity up to a certain point, since it has nothing in it to upset me any more than it has elements that might attract me. While I do not agree with the extremities to which you go, they have my respect and esteem, as not being, on the whole, anything but the vigorously logical efforts of a balanced and firm mind placed in a situation that is half true and half false.

Exclusive socialism, indeed, absorbing the reality into the ideal, and that which is relative into the absolute, in that way makes application vanish **[18]** when faced with theory, and considerations of policy when faced with science. Here science, having as its objective the search for the definitive social formula, is everything; policy formulation and execution, having as their objective purely and simply the practical and immediate application of this formula, counts for nothing.

Exclusive liberalism, on the other hand, absorbing the ideal into reality and the absolute into that which is relative, makes theory vanish when faced with application, and science when faced with policy formulation and execution. Here policy forms itself by the development and organization of society – it is everything; science has nothing else to do other than limiting itself purely and simply to recording this development and organization; it counts for nothing.

From the exclusively *socialist* point of view, science, with the definitive social formula as the objective of research, resorts to *reflective reason*, a *dogmatic* faculty, as its instrument. In this system, policy formulation, with the pure and simple aim of putting the formula into immediate practice, finds its necessary and sufficient means in *despotism*.

From the exclusively *liberal* point of view, policy formulation, constructing itself through the development and organization of society, uses *spontaneous sentiment*, a *free* faculty as its instrument. In this system, science, having nothing else to do but limit itself purely and simply to recording this development and organization, has, as its last and unique resource, the transformation of itself into *critical analysis*.

Socialism, dogmatic reflection, despotism; liberalism, free spontaneity, critical analysis – this is the logic. That is what I suspected, if you remember, from the beginning; at present I am just recording and explaining it. Now, you are a liberal; therefore, logically, you glorify inspiration and trample on science on a page that Mr. Renan would like to have written, and on which I find, in substance, all the negations and errors of sentimental scepticism which calls itself critical philosophy.[v]

As I have said, I am not able to agree with you, to my intense regret, as you review, **[19]** from your point of view, paganism, Christianity, Catholicism, Protestantism, the Revolution, France, England. I wish to rectify only the most essential aspect of this philosophy of history. You say:

> It is impossible to imagine anything less dogmatic than Christianity at its origin. Christ wrote nothing, decreed nothing, and founded nothing. He flings his Word to the four winds as the sower sows his seed, with the most sublime confidence in the virtue of spiritual ideas. He teaches, but this teaching is neither articles of a code nor a catechism; it is the soul's cry to God, and God's cry to the soul.

Christ did exactly that, I admit. And in doing so, you say: 'He regenerated society; he gave mankind a new idea; he presided over a whole historic development; he transformed civilization; he created a world.' I admit that too. You add: *All that by the unique power of a soul come down to earth.* That, I deny.

Truly, my surprise is inexpressible. I had imagined, until now, that before Christ and the apostles and their first successors, there had been Socrates, Plato, Aristotle, Zeno, Epicurus, Cicero, Seneca, Epictetus; and that before the teachings of the Gospel, there had been those of the Greek and Roman philosophers, whose moral principles were largely to be found in the heart of Christianity itself. You, I note, attach little importance to these names. Indeed, what weight can the doctrines of these thinkers have from the point of view of your liberal criticism? Some pagan dogmatism, as vain as it was belated, *an extinguished fire, cold ashes.* Well, believe me, turn away from your prejudices; make close contact with the philosophers; open, for example, Mr. Denis's serious and observant work *Histoire des théories et des idées morales dans l'antiquité*, and you will see the enormity of your error.[vi] This alleged to be outdated paganism is nothing more than lively young Christianity; this dead fire and these cold ashes are a **[20]** living, abundant source of warmth and light. If, then, it is true that Christ on his side evoked only the power of individual feelings, spontaneous and free, free of all preoccupation with reflection and dogma, and if it is also true that he gave the most energetic impetus to an immense, prodigious movement of social renewal, it is not true to say that Christianity can be entirely explained by these considerations. Before sentiment began its work in the world of events, reflection had begun its work in the domain of ideas, and there, as everywhere, as always, policy formulation lived on the efforts and results of science.

It is the same thing with the Revolution, which was prepared through reflection before being started by sentiment; and the revolution in the factual situation, which dates back to 1789 and still continues before our very eyes, was preceded by the revolution in ideas that took place in the course of the sixteenth, seventeenth, and eighteenth centuries, and is still going on. What does this prove? Only that it is not true that *dogma follows inspiration, as death follows life*, and that the truth is that inspiration precedes dogma just as life precedes thought.

So you see, sir, that, from the scientific point of view, I am a socialist, though not Saint-Simonian, and range myself with Mr. Guéroult against your criticism. I hasten to add that from the political point of view, I am entirely liberal, and range myself with you against the despotism of Mr. Guéroult. This is my position, and I congratulate myself heartily on having been able to conquer and occupy it when faced with the exaggerations to which your respective prejudices carry you both. For example, when I see you and Mr. Guéroult considering France and England, I see you being led to misunderstand so gravely the spirit and role of one or the other of these two peoples that it seems as if you would happily welcome (or perhaps only with profound indifference, but certainly not regret), in the case of Mr. Guéroult, a torrential flood which would sink England to the bottom of the sea, and in your case, an earthquake which **[21]** would crack France apart from one side to the other. How on earth can two men of such great personal worth cheerfully close themselves off in systems that are so hatefully tyrannical?

The genius of England is the liberal genius; the genius of France is the socialist genius. The British constitution is purely experimental or empirical; all the French constitutions have claimed to be rational or ideal. So which is right and which is wrong? The English or the French genius? Both are right, both are wrong, according to one's point of view. The French genius is right to continue the search for a perfect, absolute constitution; it is wrong when it uses violence to try to make function, from one day to the next, a constitution that claims to be such. The English genius is right to keep an imperfect and relative constitution for daily use; it is wrong to cling to that practice to the point of neglecting theory.

The facts are that science is the domain of the ideal and the absolute, and policy formulation and execution is the domain of reality and relativism; that socialist France is scientifically right, and liberal England is politically right. A people that would be right from all points of view, having attained the conception of the social ideal with all the resources of reflection, reason, science, and metaphysics, would at the same time strive towards the realization of this ideal from day to day by using all the liberties of thought, speech, writing, discussion, and convincing; in a nutshell, with all the liberties of self-government. That people exists, it is Humanity; and it is necessary for us all only to know how to find our role in it.

Paris, January 1863

Notes

Di Walras's explanatory footnote 1 is perhaps not enough to take away the unprepared reader's feeling of confusion; it is too cryptic. Thus, below, we will try to explain the circumstances under which this chapter was written and published in a way somewhat more fit for the Anglo-Saxon reader.

At the end of the year 1862, Walras read an article written by Edmond Schérer, titled 'M. Adolphe Guéroult', and published in the 30 December 1862 issue of *Le Temps* (see below for details on this periodical). He wrote a reaction on Schérer's article for publication in *Le Temps* (see below). To that end, he sent it to Auguste Neftzer, who was then the editor of *Le Temps*; he was acquainted with the latter because in 1860 Neftzer was editor in chief of *La Presse*, when Walras was one of its regular contributors. From footnote 1, we infer that Neftzer did not accept the piece, and that this did not happen without some (undoubtedly vehement) discussion between him and Walras; nevertheless, the paper disappeared for three years in Walras's drawer of unpublished papers. Eventually (see footnote 1), it found a place, in three instalments, in Walras's own, newly founded, journal *Le Travail*, organ of the cooperative movement (for more information on this subject, see the editor's introduction to Volume VI of *ŒEC*). The first instalment (in the form of a letter) in *Le Travail* (see below) of 31 October 1866 was preceded by the following text, which was, in fact, composed by Léon Walras himself. The manuscript, three pages in length, is preserved in the Lausanne Walras archives, V b 26. We found it too typical for (the young) Walras to withhold it from the reader:

> Some time ago, in *Le Courrier Français*, a sentence uttered by Mr. Laboulaye in his lectures at the Collège de France was called to the attention of the reader; in this sentence, the professor defined socialism as follows: 'Socialism (I do not attach any unfavourable meaning to the word; science has no passion; it knows only the false and the true), instead of accepting both parts of the problem, the individual and society, chooses unity by sacrificing the individual to the State. Man is a bee, living for the hive and not for himself. His life consists of activities which above all have to benefit the community'. Not without some amazement, we admit, we learned from this source that, at the Collège de France, Jean-Jacques Rousseau was portrayed as the common father of all socialists, and that socialism itself is entirely summed up by the communist doctrine. We

also understood perfectly the speedy observation in *Le Courrier Français* addressed to Mr. Laboulaye reminding him that communism is far from being the same thing as socialism, and that in addition to the first socialist school, there is a second one, most distinctly individualistic, to which they, the *Courrier*, had the honour to belong; moreover, Mr. Laboulaye himself seems to them to fit into it. Personally, we would say to Mr. Laboulaye and the *Courrier* that, besides these two schools, there exists yet a third one which tries to be neither exclusively communist, nor exclusively individualistic, but rather brings what is sound in communism together with the most certain and unquestionable features of individualism itself.

Therefore, how socialist are these three schools? And, what is socialism as such? In our opinion, the *Courrier* gave a perfect answer to this twofold question by defining socialism as 'the search for an organization of society that meets all rights and all interests'; that is to say, an organization that is perfect from the point of view of both justice, or equity, and utility, or well-being; and by adding that 'the socialists' explicit characteristic is that they believe that ignorance and misery are evils that are not at all incurable, being only a consequence of an imperfect social organization'. Here we have, indeed, the heart of the question, and by surrendering this point without any resistance, and by taking the occasion to state a personal conviction, Mr. Laboulaye unfortunately gave up, without striking a blow, the most interesting and serious point of discussion of his subject.

The question of *communism* versus *individualism*, on the one hand, and that of *socialism* versus *liberalism*, on the other, are two quite different questions. Actually, one is a matter of social science. The other is a matter of the philosophy of social science. It touches upon one of the weightiest problems of human thought. Allow us to call attention to it in our own way, since the authors who raised it let it drop. Believe us that some of our readers will be greatly interested in it, but it will be presented to them in a quite particular and unfamiliar form that must be explained first.

Some years ago, this question, *socialism* or *liberalism*, was marvellously put forward by Mr. Ed. Schérer in an article in the newspaper *Le Temps* (see note ii, below). Mr. Schérer frankly took sides with liberalism against socialism. [Here, the fictive Walras, the ghostwriter who penned those introductory lines, starts to refer to the real Walras.] One of the present editors of *Le Travail* gave a very profound answer, in which he did not try to speak in favour of socialism against liberalism, but tried to view the dispute immediately from a higher point of view, thus reconciling both parties. Needless to say, his answer, submitted to *Le Temps*, was not published by it. Now, at the occasion of the polemic between *Le Courrier Français* and Mr. Laboulaye, our collaborator sent us his work, and we lose no time in inserting it. After having acknowledged (and excused) its date, we recommend it, as the work of a man who considers it his duty to think before he starts writing, to all our readers who like to think after having read. The writings consist of three letters, which we will publish consecutively.

(End of preceding text.)

Le Courrier Français was a literary and political newspaper of liberal and libertarian socialistic tenor. It became a weekly in 1866 and a daily newspaper in 1867. Its managing editors were A.L. Duquesne and Auguste Lepage. Its contributors included Karl Marx.

The monthly *Le Travail, organe international des intérêts de la classe laborieuse, revue du mouvement coopératif*, Bruxelles: Parent et fils, Paris: Librairie des auteurs et compositeurs, was published by Léon Say and Léon Walras at the end of every month during the two years from 31 July 1866 until 30 June 1868 (all issues can be found in the Lausanne Archives; see also Walker 2006: 213–217). Regarding this periodical, see *Correspondence* I, letter 108, note 2, and *ŒEC*, vol. VI. It made Léon Walras's (and his father's) dream of having their own outlet come true, but it reveals also the ambiguity of his liberal socialism and the originality of his cooperativism, insofar as it did not stem from Léon Say's ideas. Incidentally, in 1862, Walras was an employee (with an annual salary of 1500 Fr.) of the Compagnie de chemins de fer du Nord, owned by the Rothschilds, where Léon Say was a manager. On the evolution of Walras's relationship with Léon Say and, more generally, on his sometimes violent and scornful criticism of the members of the French liberal school, see Jean-Pierre Potier, 'Léon Walras, critique de l'école libérale orthodoxe française', paper presented at the colloquium consecrated to the work of Léon Walras, organized by the Association Charles Gide and the Centre Auguste et Léon Walras de Lyon, 3 June 1988, in *Cahiers Charles Gide*, no. 2, 1989, and 'Léon Walras, critique de l'enseignement de l'économie politique en France au XIXe siècle', *Revue d'Économie Politique*, 1988, pp. 232–251. During the period of the publication of *Le Travail*, Walras managed (as a wage earner) the *Caisse d'escompte des associations populaires*, which he founded with Say (23 March 1864 until 24 November 1868). *Le Travail* and the *Caisse d'escompte* must both be considered as products of Walras's ideas about the cooperatve movement. Founding and publishing the magazine cost Léon Walras and Léon Say a great deal of money (*Correspondence,* ibid.), and the bankruptcy of the *Caisse* cost Say at least 30,000 francs (see *ŒEC*, vol. VI, and Claude Hébert, 'Léon Walras et les associations populaires coopératives', *Revue d'Économie Politique*, 1988, pp. 252–272).

Le Temps was founded in 1861 by Auguste Neftzer, who left *La Presse* (see below) on that occasion. He was a great journalist, schooled by Émile de Girardin. He found the necessary funds in liberal protestant circles, particularly those from Alsace. This anti-clerical, central-leftist opposition newspaper was manifestly Protestant: all its editors during the imperial epoch were Protestants or atheists. Edmond Schérer was, until his death (1889), the most important political editor. Within a short time, the newspaper became the most influential and best-informed one in France. Walras submitted his article to the newspaper, along with a letter dated 28 January 1863, to Neftzer (*Correspondence*, I, letter 83).

La Presse was founded in 1836 by Émile de Girardin, a strong personality, who edited and owned it until 1854, when he was forced to abandon it because of a threat of interdiction. A. Neftzer was the editor-in-chief from 1854 to 1858 and 1858 to 1861. After 1854, *La Presse* became an independent, 'non-ministerial' journal, playing a considerable role in the debate on social ideas, and was, in general, very ready to display varied opinions. In 1885 it closed down. Walras was a regular contributor for a time in 1860. He left because he 'refused to bow to the owners' suggestions'.

Adolphe Guéroult was a Saint-Simonian close to Prince Napoleon. He was the founder of *L'opinion nationale*, an organ of the moderate opposition. He was in favour of an authoritarian democracy, and, feeling himself attracted to socialism, of a 'social Empire'. Schérer argued against Saint-Simonian dogmatism and the ideas of Guéroult and his fellow journalists, namely their programme of a 'great popular dictatorship', the establishment of democracy by decree, and the intervention by the state in the economy and society, considered by the Saint-Simonians as typical of ideas of the English aristocracy.

On Saint-Simonism, see Paul Bénichou, *Le temps des prophètes*, Paris: Gallimard, 1977, in particular, Chapters 7–9 on the dissident Pierre Leroux, who seems to have inspired Auguste Walras regarding certain ideas in the 1830s and 1840s, and therefore his son. Saint-Simon developed a certain religious mysticism (see, in particular, *Le nouveau christianisme*, in *Œuvres de Saint Simon et Enfantin*, Paris: Dentu, 1864, vol. XXIII). He considered himself as a sort of Messiah, teaching a New Gospel.

After his death in 1825, his disciples united in a hierarchical church headed by *Pères* ('Fathers' in the clerical sense).

On Fourier, see Simone Debout, *L'utopie de Charles Fourier, l'illusion réelle*, Paris: Payot, 1979. Fourier's phalanstery, with its 1,620 members living communally, was an association in which labour was mainly agricultural (which was considered desirable), and needs and passions were satisfied by means of a sort of 'generalized free exchange'.

On Louis Blanc, see Jean Vidalenc, *Louis Blanc*, Paris/PUF, 1946. He presented his system in his main work, *L'organization du travail*, Paris: Prévot, 1840. He advocated 'social labour shops', self-managed enterprises to be created by the state, which should eventually replace all traditional private enterprises.

On Proudhon, see Jean Bancal, *Pluralisme et autogestion*, Paris: Aubier, 1970. For Proudhon, the 'antinomy' is the very rule of life and progress (see his *Système des contradictions économiques ou philosophie de la misère* (1846, Chapter 14)). Justice, or 'entendement', is a 'balance' of antinomies, bringing the opposing forces into equilibrium. Proudhon's anarchism is mutual associationism at the level of self-managed 'basic groups', and a federalism of these basic groups at the level of the whole nation, which replaces the state. A 'bank of all people' must facilitate the acquisition of capital needed by the self-managed units. Auguste Walras had already criticized the 'Proudhonian balances' between workers and masters, sellers and buyers, landlords and tenants, taxes and rent, population, and subsistence (*ŒEC*, vol. II, passim and 'Petit manuscript', pp. 605–612). On the position of Léon Walras, see his *L'économie politique et la justice, examen critique des doctrines économiques de M. P-J. Proudhon*, Paris: Guillaumin, 1859; *ŒÉC*, vol. V, pp. 77–313.

ii This little paragraph does not appear in Vol. IX of the *ŒEC*.

iii These pages were written in 1863, under Napoleon III's 'Social Empire'. The latter had encouraged a delegation of workers to go to the Great Exposition at London and study the industrial products of foreign countries. This led to contacts with English trade-union leaders and to attempts to create trade unions in France. In 1864 Napoleon III legalized individual (i.e. personal) strikes, but not organized ones. (From 1884 onwards, coalitions to organize a strike were no longer criminal.) However, the union movement became more and more powerful, and there were numerous, sometimes violent strikes. Consequently, the gap between workers and the government became wider and wider, leading eventually to the use of troops against the former. (See also *SAE*, page lxiv, note 11.)

iv Étienne Vacherot, *La métaphysique et la science, ou principes de métaphysique positive*, Paris: Chamelot, 1858 (second edition, 1863).

D v Ernest Renan, however, was certainly not a man to trample science underfoot. He believed in the virtually continuous progress of reason, and, in the spirit of positivism, he assigned (in his *L'avenir de la science. Pensées de 1848*, Paris: C. Lévy, 1890) the role of the rational organization of humanity to science, the new religion. The ideas in this book, however, nourished by a romantic culture via Hegel, Johannes G. Herder, and Victor Cousin, hardly look scientific. As a historian, Renan was both a positivist, because he believed that everything in history has a human explication, and a romantic, because he believed that a 'divination' may mitigate the disavowal of facts and that the historian should find his inspiration in the human soul, the people's spirit. Renan's 'philosophie critique' is thus a sort of idealistic metaphysics combined with a rational spirit.

D vi Jacques-François Denis, *Histoire des théories et des idées morales dans l'Antiquité*, Paris: A. Durand, 1858.

2 General theory of society

Present state of economics and social science[i]

[25] I First Lecture: competition between the principle of economic advantageousness[ii] and the principle of justice in socio-economic problems

SUMMARY: The lecturer wishes to explain the doctrine developed by his father and himself with regard to the distribution of social wealth between men in society.

In economics, there are at present two theories of value in exchange: one bases value on *utility* combined with *limitation of quantity*; the other bases it on the *efforts* and *services* of man. In social economics, there are likewise two theories of property: one bases property on the *personality of man*; the other bases it on the *necessities of production and savings*.

These two theories of property are equally unsatisfactory: the first because it does not base property on considerations of justice, except on the condition of identifying the notion of value with that of *labour*, which is anti-scientific; the second because it recognizes the value of *land* only on the condition that property is based on considerations of *economic advantageousness*, which is anti-philosophic.

In spite of everything, both of these theories give themselves the task of attributing all types of social wealth, without exception, to *individual*, *non-communal* appropriation and enjoyment. In our newly proposed system, we will instead make an effort to find such a way of distributing wealth among men that, at one and the same time, the share of the *individual* will be based on *property*, and the *State*'s share will be based on *community*, according to social advantageousness and social justice.

The six lectures that follow will be devoted to examining these two preliminary moral questions: the distinction and agreement between economic advantageousness and justice, and the separation and reconciliation of the individual and the State.

Dear Sirs,
Towards the middle of the Restoration,[1] a young man, a former student of the École Normale, temporarily having given up teaching and seeking a new career, left the Law Faculty where he had just attended a course on property, **[26]** uncertain and with a dream. At that time, the attacks of socialist writers had not penetrated the sanctuary of the school at all, and the lecturers on law did not trouble themselves much about logic in establishing the theory of the personal domain of man over things. There was no great question of considering social advantageousness in connection with the ownership of capital and land, or the needs of industry and agriculture in this respect. There was even less consideration of justice, communal justice and distributive justice, and of the demands for equality or inequality of conditions or positions. Do you know the Weasel's argument and Johnny Rabbit's answer?

> And supposing this is a kingdom,
> I'd very much like to know – she said – what law
> Has always granted things
> To John, son or nephew of Peter or of William
> Rather than to Paul, rather than to me.
> But Johnny Rabbit cites custom and usage as justification. . . .[iii]

Those, gentlemen, were the only arguments put forward by the lawyers of that time to serve as a basis for the law of individual appropriation of the whole of social wealth.

The arguments were not suitable to satisfy a spirit well grounded in serious, knowledgeable philosophy; they were more of a nature to encourage anxiety and profound meditation. But what could be done? They were the basis of this essential, formidable law! The corner stone of the entire social edifice rested on shifting sand! The student gave up the lectures of legal experts, and took up the works of economists. Here is what he found:

> Speculative philosophy may be concerned with trying to find the true basis of the right of property; the legal expert may draw up the rules that govern the change of ownership of objects possessed; political science may show what the best guarantees of **[27]** this right are; as for economics, it considers only property as being the most powerful encouragement to the multiplication of wealth. It will not be much concerned with what constitutes its basis and guarantees it, provided that it is assured.[2]

This was, you see, just a way of declining, in the name of economics, to recognize the question. In any case, it meant clinging to the point of view of advant-

1 In 1824.
2 J.-B. Say, *Traité d'économie politique* [first two sentences of Book I,] Chapter XIV, 'The Right of Property'.

ageousness alone and disregarding that of justice. Following that route, economists went further, since, perceiving or believing that they perceived, in the matter of property, contradictions in certain cases between the rules of natural law and the necessities of 'multiplying wealth', they were not afraid of revealing that antagonism, openly proclaiming their intention of letting what is useful take priority over what is just. The question became both increasingly grave and increasingly obscure.

What man, irresistibly dedicated to the service of science, has not, in a decisive moment, seen the birth of the problem to which his whole life will be devoted? One day, the man of whom I am speaking thus perceived his scientific career open and traced out before him; he began it, and from that moment on, for 40 consecutive years, never ceased for an instant to follow his vocation, fulfilling the duty he had set for himself: that of founding the theory of the right of property on both an economic and a philosophic basis. First, recognizing in social wealth the common object of economics and of the right of property; that is, in the group of things susceptible of acquiring an economic value, i.e., to be given or received in exchange, he endeavoured above all to clear away uncertainties prevailing over the nature of that wealth; he determined the origin and cause of the fact of value in exchange and stated its laws. Then he endeavoured to put an end in his own mind to the conflict that had arisen between **[28]** the point of view of utility[iv] and that of equity, which he managed to do by relating the theory of production exclusively to the former, and the theory of the distribution of wealth to the latter. Finally, when all this was accomplished, and the economic and philosophic preliminaries to the question were respectively formulated, he busied himself with research and managed to find a formula for the distribution of social wealth between men in society, which was, in the first place, rigorously based on equity, and, in the second place, tallied with the formula for the production of wealth itself rigorously based on utility; in other words, he obtained a theory of the right to possess property, or of the right of persons to appropriate things, thus equally satisfying the injunctions of social justice and the prescriptions of social advantageousness.

He never published this theory: he wanted to produce it only when it was supported by all its economic and moral, philosophical and historical evidence; little by little, he exhausted his health and life in this venture; death surprised him at last as he was preparing the soil of metaphysics in which to plant the roots of his system.

Gentlemen, forgive my emotion. This conscientious, persevering worker was my dear father and wise master, Antoine-Auguste Walras. This is the first time I have spoken to you since his death.[v] I promised myself that my first word should be homage to his memory. I have resolved to do even more. My father had made me a partner in his work; for many long years, when close to or far from each other, we pursued it together; he welcomed the results of my research and I think that, before he died, he counted on me to deliver the fruits of his efforts and research to the public. I come before you today to share this inheritance with you. I beg you to remember sympathetically this modest, hard-working thinker. Be indulgent, too, with my failings. After that I have nothing left to ask you but the attention due to **[29]** all questions concerning morality and public wealth today, and, if necessary, the honour that must be accorded to scientific truth when it appears in the midst of disordered facts and confused ideas.

Gentlemen, I do not know what is taught today at Law School on the subject of property; I only know what is said and written among economists, and I can assure you that, since the beginning of the century, the subject in question, although constantly taken up and examined from every direction, has not made a single step towards its solution. What is more, I am going to let you judge it for yourselves.

Without a doubt, the language I use with you will greatly astonish economists. In the eyes of most of my colleagues, political and social economy is a science now finished and complete, and there is nothing left to do but to popularize it for all the people of the world, and above all to disseminate it among the working classes.[vi] This way of seeing things is quite convenient and very attractive, and without further ado people willingly believed that there is indeed a theory of the distribution of social wealth among the people of a society; a theory that is now in an almost definitively constituted form, if not in its smallest details, then at least in its principal and essential points. Unfortunately, on examining the case a little more closely, one thing can immediately be discovered, and that is that these same economists, unanimous in proclaiming the state of advancement and perfection of political and social economy, all express opinions and socio-economic theories that are very different and even totally opposed to each other. From this we must conclude that if their optimism does the greatest credit to the sincerity and energy of their respective convictions, it conforms, however, only imperfectly to the true state of the science.

And in reality, what is that state? It is the one that, if you do not mind, we shall try to discover and understand for ourselves. The problem of the distribution of wealth appears before us in **[30]** all its extent and importance, together with all other problems whose solution depends on it and, at the same time, all those on whose solution depends the solution of the problem of distribution itself. However, to throw light on such a vast field of investigation we need some preliminary definitions, which I shall try to provide.

Personally, I divide the entire science of economics[vii] into three parts, namely:

1. The study of the natural laws[viii] of *value in exchange* and of *exchange*, or the *theory of social wealth*; I call this also *pure economics* [*economic theory*].
2. The study of the most favourable conditions for *agriculture*, *industry*, *commerce* and *credit*, or the *theory of the production of wealth*; I also call this *applied economics*.
3. The study of the best conditions for *ownership* and *taxation*, or the *theory of the distribution of wealth.* This is also what I call specifically *social economics*.

I do not think that I am making a mistake by considering these three parts of the science equally distinct one from another by reason of both their specific approaches and their respective purposes.

First, it appears certain to me that the entirety of valuable and exchangeable things forms the stage for a certain number of facts relating to exchange and exchange value, submitted to natural laws, just like the entirety of physical bodies forms the stage for a certain number of facts relating to gravity, electricity, etc., governed by laws that are equally natural. When I say, for instance, that *things tend to increase or decrease in value according to whether their quantity demanded decreases or increases in comparison with their quantity supplied in the market*, I am stating a law of the same order as when I say that *bodies tend to fall into the direction of the centre of the earth with a speed increasing with time*. In either of these cases, I note a truth of observation entirely and absolutely independent of all considerations either of utility or equity. Now, once the **[31]** natural laws of social wealth are known, it seems incontestable that there are grounds to deduce from them diverse rules concerning the agricultural, industrial, commercial, and financial production of this social wealth. We pass then from pure economics to applied economics, just as we pass from rational mechanics to the construction of machines:[ix] in both cases, we find ourselves on the terrain of art[x] and take the point of view of utility, advancing from theory to practice. Finally, I think it is not of much use that social wealth should be abundant if it is not fairly distributed among all the members of that society. Now, here we have a third, well-delineated operation, and a third, very special point of view, that is not that of truth or utility, but of equity. And, what is more, do you not agree with me that if all that were done, and if this wealth were perfectly understood from the point of view of what is *true*, and perfectly understood also from the point of view of the conditions of the maximization of production, i.e., from the point of view of what is *useful*, and perfectly understood also as regards its most equitable distribution, i.e., from the point of view of what is *just*, there would be no need to utter a single word more about it, and science would be finished and perfect? Gentlemen, think what you will, as far as I am concerned, this is my theory of economics. After having explained it to you, I am able to paint the present state of science for you in just two lines. It will be enough for me to tell you, that, out of the three parts we have listed above, there are at least two, the first and the last, that, properly speaking, do not exist at all, and that economists are divided into two radically divergent schools. This is what the divergence, that manifests itself notably in two respects, consists of: the question of the nature of social wealth and the origin of value in exchange on the one hand, and, on the other, the question of the foundation of the right of property.

According to some people, everything is part of social wealth, on the necessary and sufficient condition of being at one and the same time *useful*; that is to say, sought after for some sort of use, and *limited* **[32]** *in quantity*; that is to say, offered in quantities such that there is not quite enough for everybody. A useless thing, a thing that has no use, is of no value. A thing that is useful, very useful, perhaps even indispensable, but available for us to use in unlimited quantities, for example the air we breathe, has no value either. But something that is useful, for any purpose at all, and that is, at the same time limited in quantity, such a thing is precious, it is bought and sold; it is part of social wealth. In the view of these people, social wealth is composed of three great principal types of things that are useful and limited in quantity. They are: 1. *man's personal faculties*; 2. *land*; 3. *capital*. Personal faculties and land are natural riches; capital, i.e., the result of applying the labour performed by our faculties to raw materials obtained from the land, is produced, or artificial wealth.

According to others, it is not at all the limited quantity combined with utility that causes value in exchange, it is labour. Everything of value and that may be exchanged is, or represents, a sum of *effort* or *service* provided by man. Everything that is not, or does not represent a certain sum of man's effort or service can have no value, nor can it be exchanged for something else. According to them, social wealth is reduced to this single unique category: man's labour. Everything stems from, is the result of labour: capital is only labour transformed and accumulated; land itself has no intrinsic value, and it is only bought and sold because labour and capital are in one way or another bound up in it.

I think that the difference of opinions is sufficiently marked that it cannot be passed over in silence. You will now perceive that these economists who are thus divided on the theory of value in exchange are also divided on the theory of property; I should add that you will see how the disagreement that exists over the foundation of property is linked with the one existing on the origin of value in exchange.

[33] Gentlemen, as I have already led you to suspect, the distribution of wealth can be modified according to two very different points of view: the fairest distribution in itself may be sought, or one may seek the most advantageous distribution for society. The first point of view is that of *justice* or moral philosophy, the second is that of social *advantageousness* or economics properly speaking. When one wants to distribute wealth in conformity with the principles of moral philosophy alone, the law of property is founded on the fact of *man's personality*. Man is said to be a free and rational being; that is to say, a *moral person* in contrast with all the other beings that are only *things*, neither free nor rational. Hence the double consequence: 1. persons belonging to themselves can be the subjects of the right of property, but they cannot be the objects; 2. things belong to people; they can be the objects of the right of property, but they cannot be the subjects. Thus man, a moral individual, belongs to himself; thus social wealth, being composed of things, belongs to man. Thus man, by natural law, is the owner of himself; that is to say, of his personal faculties and of the labour performed by those faculties; thus man is also, by natural law, owner of the things that are part of social wealth, for which he has exchanged his labour.

That being said, this is where the difficulty arises.

The practice of individual appropriation thus being justified with respect to personal faculties, to the work done by those faculties, and to the fruits of labour, it is also therefore justified for total social wealth if one accepts, regarding the theory of exchange value, the hypothesis that labour alone constitutes the whole of social wealth, capital and land being only labour transformed and accumulated. But this is not so; on the contrary, if we adopt, relative to the theory of exchange value, the case in which land is considered in the same way **[34]** as personal faculties, as wealth of a natural order, and in which the application of the labour of our faculties to the raw materials provided by the earth results in capital, namely artificial wealth. In the first case, the moral theory of ownership is announced and is perfect; in the second case it is only half decided, without our being able to find any means of perfecting it. Here indeed, and speaking only of natural wealth, there exists an abyss that no reasoning can cross between the legitimatization of individual ownership of human faculties and the legitimatization of individual ownership of land.

> You are a moral person – you will say to a landowner, as Lady Weasel did to Johnny Rabbit in La Fontaine's fable – and as such you belong to yourself, that goes without saying. That land is a thing and as such belongs to the people; that is to say, men, is agreed, too. But why not to all people, all men collectively? Why to just a few people, a few men only? Why should it belong to John rather than Paul? Why yours rather than ours? That is what is absolutely incomprehensible to us.

Gentlemen, perhaps there are a few socialists among you, and perhaps indeed by expressing myself in this way, I am one. I do not know, Gentlemen. I do not wish to denounce anyone, or to betray myself. All I mean is that if there are socialists here, there are none braver or stronger than this Weasel, and if I am a socialist at this moment, and people want to arrest me, then they had better send the Weasel directly to the magistrate's court. Between myself and this animal, however, there is a difference, and I insist on pointing it out. Lady Weasel, as you know, goes straight from the principle to application by moving her household possessions directly into Johnny Rabbit's home; one may even suppose that if she announces the principle after the deed is done, it is merely to excuse the application of it that she has already made. I thoroughly disapprove of this procedure, gentlemen. **[35]** I myself act in quite a different manner, since, first of all, I declare that I am concerned at present only with a question of theory, keeping for later any question of application. What is more, I vow not to deal with that theory before having proved to myself and made myself capable of proving to others that the application of it could be made not only without despoiling anyone, but indeed with the intention of pleasing everybody.

But, theoretically, we are still faced with an insurmountable obstacle. Hence, we shall have to distribute wealth not in conformity with moral principles, but on purely economic grounds; it will be necessary to base property laws no longer on the personality of man, but on the *necessities of production and savings*. Land will no longer be owned individually by natural law, it will be owned to the advantage of agriculture. Capital will not be owned individually by natural law either, it will be owned to the advantage of industry; not even our natural faculties will belong to us by natural law, but for reasons drawn from economic usefulness. In a nutshell, it will be to the advantage of society that, justice aside, man will be owner of his faculties or of his labour and wages, of capital, or of land; that is to say, of the whole of social wealth.

Is exchange value rooted in the limited quantity of useful things, or in the labour incorporated in them? Does landownership depend on the personality of man, or on the necessities of production and savings? You see quite clearly that these are the two controversial points that linger on in pure economics and social economics, in spite of everything; and that they are so closely linked that if you really want to deduce value from utility and the limitation of quantity, property will have to be based on considerations of economic advantageousness, while on the other hand, if you really want to establish property on considerations of justice, value will have to be deduced from labour.

[36] On this alternative, which seems to be entirely inevitable, economists are divided: each respectively follows the path that best suits his habits and intellectual tendencies. Some, who came to economics through moral doctrine and who are mostly minds of a more literary than scientific culture, are concerned above all with the integrity of philosophical principles, rather than being much concerned with the disinterested and attentive observation of purely natural phenomena, whose theatre is wealth. They therefore lean resolutely toward a doctrine that boldly places the origin of all value in labour and that not only gives rise to an irreproachable philosophical development of the theory of property, but also opens the door to all sorts of more or less cheerful views on the moral character of agricultural, industrial, and commercial production, savings, credit, etc., as well. Others, led to the study of economic questions by the applications they make of positive sciences, and who are most frequently people educated in mathematics and physics, are keen, above all, not to violate the truth of natural facts relating to value; and, as for principles of moral philosophy, well, they do not greatly concern themselves with such things. That is why they are irresistibly drawn to the doctrine that, satisfied with letting ownership rest exclusively on considerations of the economic advantageousness of production and savings, claims to respect scrupulously the scientific sincerity of the theory of social wealth; and that, besides, being more sensualist[xi] than spiritualist, does not displease them more, quite the contrary. The latter people seize the first branch of the dilemma, the former, the second branch. This is probably enough to enable understanding of how the two principal schools of thought were formed in economics, and by what rights, moreover, philosophy necessarily entered the debate at a certain moment, and, finally, why, in today's debates, Quesnay is no longer made to oppose **[37]** A. Smith, or Ricardo to oppose J.-B. Say, without at the same time opposing Hobbes or Bentham to Descartes, and Condillac to Reid or to Dugald-Stewart.

There is no reason to be astonished that both of these schools of thought take pleasure in considering that the science is pushed to the zenith of perfection. Ask the author of a treatise on economics and I should be surprised if he did not swear that in economics there is not much left to say. Now, you must certainly know that, advocating one side or the other, a notable number of manuals have been published or courses taught on the science. Those beliefs are here the more excusable in that neither of the doctrines is completely devoid of a certain logical value; that in both, once the premises are accepted, the deductions and conclusions follow with satisfactory rigour. Agree with the spiritual school that all value springs from man's labour and services, and that land is only bought and sold on account of the capital and labour invested in it, and nothing will prevent you from obtaining a truly moral theory of property. Similarly, admit with the sensualist school that what is just is confused with what is useful, and that natural law is confused with social economic advantageousness, and that the right of property is sufficiently legitimized by the economic advantageousness of production and savings, and nothing is in opposition to your thinking that you have the only truly economic theory of social wealth. All the same, if it is not surprising that economics seems as advanced as possible to both the school of moralists and the school of economists, you will admit that it is equally unsurprising that it does not seem much more than a very uncertain, very obscure subject to the general public, and even to a few more enlightened people. In truth, it would be difficult for the public to consent to regarding something as a definitively constituted science if there are two opposing systems within it, each with its equally numerous, equally eminent supporters; as for the enlightened folk, if everything must be said, given the two **[38]** systems in question, I recommend to them without reservation not to accept either of the systems, for if they are both logical to a certain point, neither arrives at it except at the price of making the cruellest intellectual sacrifices.

Until now, we have defined social wealth as *the entirety of things that, being at one and the same time both useful and limited in quantity, have exchange value*. Nowadays, we are requested to drop this definition and to adopt another, that, identifying the two ideas of wealth and labour, states that all labour has value and can be exchanged, and that labour alone is valuable and exchangeable. I declare that as far as I am concerned, this statement is very hard to accept. God forbid that I include in a general critique a weighty discussion on the nature of wealth and the origin of value, on a comparison between wages and landed income! However, because it is with philosophers that we have to deal, let us try to make them feel, by a well-chosen example, how tyrannical and untenable their pretension is. They are moralists and normally they define moral persons as *the whole group of beings endowed with reason and free will*. What would they say if we now propose a quite different definition that, identifying the twin ideas of moral person and of race or colour, states both that every European or white man is a moral person and that only a European or a white man is a moral person? Their reply will be ours.

They would say that, generally speaking, a definition should contain neither more nor less than is in the object described; that, truly, in the idea of moral person, there are no elements contrary to the idea of a European or a white man; and that it is equally true that there is in the idea of a European or a white man many elements that are unlike the idea of a moral person. Consequently, while admitting that our definition includes no being without reason and free will in Europe, nothing can guarantee that it does not leave out beings worthy of the appellation of **[39]** moral person in Africa or Asia. Indeed, we grant, if you wish, that they would reply that the European is a moral person. But why should he be that, if it is not because he has the gift of reason and free will, and generally because he fulfils the conditions, whatever they may be, of the moral personality? Therefore, let us continue to define a moral personality by the possession of reason, free will, and generally by the most abstract conditions, whatever they may be, and let us beware of stating not only that all Europeans, but also that only Europeans are moral persons. Good or bad in itself, this statement has no philosophical import. – Well, we shall also give them an answer; we grant, if you insist, that labour has value. But why has labour value if not because it is useful and limited in quantity, and generally because it fulfils the conditions of value, whatever they may be? Hence, let us continue to define value by usefulness, by limitation in quantity, and generally by its most abstract conditions, whatever they may be, and let us beware of insisting that all labour and labour alone has a value. Whether true or false in itself, that statement is anti-scientific.

I know that moral philosophers are not much concerned by these difficulties: they have their reasons, in spite of everything, for defining exchange value by labour.

> Consequences that are equally attractive – says one – result from the idea of value we have just formed. They are too numerous for me to list them all here: I shall content myself with the most relevant. The first is to make economics spiritual …[3] Therefore – says another – making the idea of value spring from labour is much more satisfactory for the moral doctrine…[4]

I quote textually, gentlemen, **[40]** and I feel the need to assure you of this. Is it not precisely as if, in order to justify a definition that would mix the two ideas of a European white man and a moral person into one idea, we presented such a definition in order to concretize moral philosophy, or as being much more convenient from the political point of view? That is, however, the prejudice of the Bastiat school. To tell the truth, I consider it more naïve than audacious, and I really do not think it necessary to discuss it at greater length or more seriously. Imagine surveyors or astronomers who would agree to discuss for a single moment, the former, a theorem that described itself as 'spiritualizing geometry', the latter, an astronomic law purporting to be 'more satisfactory from the moral point of view'? However, that is the situation of men accustomed to the rigour of positive sciences when faced with the economic pretensions of spiritualist moralists.

Let us cross over to the other camp. Here we consent not to misrepresent natural facts for the benefit of such and such preconceived system of moral philosophy, and we are happy to recognize an intrinsic value in land; for example, we are asked to give up our concept of justice in favour of that of

3 H. Baudrillart, *Des rapports de la morale et de l'économie politique pure*, p. 248. [Lectures presented at the Collège de France, Paris: Guillaumin, 1860.]

4 H. Dameth, *Le juste et l'utile, ou rapports de l'économie pure avec la morale*, p. 343. [Paris: Guillaumin, 1859.]

advantageousness and to be satisfied with a theory of individual ownership of the land drawn, not from natural law, but from the economic circumstances of agriculture. Well, gentlemen! If you will believe me, here again, without examining in itself the proof produced, without examining the series of considerations on the relationship between this or that basis of land tax, or the more or less flourishing state of agriculture, let us limit ourselves to answering that the proposition is not at all acceptable and that this absorption of natural law into economic considerations will necessarily revolt philosophic spirits as much as the absorption of economics into moral doctrine will revolt scientific ones.

Let there be no ambiguity in our thinking here. There is absolutely no question of attributing to the notion of what is good **[41]** in a moral sense the character of a supernatural revelation transmitted by tradition, nor even that of a spontaneous attestation provided by our consciences. We merely want to relate the notions of justice and law back to psychological experience, in the same way as considering advantageousness and utility as belonging to physiological experience. There is no question, either, of opposing social equity to public wealth, or of opposing private morality to individual welfare. We only wish to ensure the respective independence of the moral and the economic order. Now, from this point of view, which is that of wise and noble philosophy, it is certain that the principle of advantageousness is established neither to oppose nor to be substituted for the principle of justice in an essentially moral category like that of property, no more than the principle of justice would itself be competent to contradict or supplant the principle of truth or the principle of advantageousness in an essentially economic category such as that of value, production, or credit. If, for example, touching on men's ownership of personal faculties and the labour of these faculties, natural law comes to a clear decision and concludes against slavery and serfdom, everything has been said, and the problem solved, whatever may be alleged, rightly or wrongly, by social advantageousness. If then, in the same way, with respect to land-ownership, moral philosophy has in reality kept quiet up until now, nothing has been done yet: the question is not settled at all, whatever economics, rightly or wrongly, may contend. Let us persist, then, in wishing to set up a theory of property on the foundation of law and justice, and let us refuse to believe that individual appropriation of the land is sufficiently motivated by the needs of cultivation, which is a theory, whether true or false, to which we can always raise the objection that for us it is devoid of all philosophical value.

I am not unaware of the fact that such objections are not fashioned in such a way as to silence utilitarian economists. For them, man's personality is a word and the deductions of **[42]** moral philosophy are nothing but empty phrases. There is no answer to that, if not that on the day that it is forbidden to consider man as psychologically superior to the beast by possessing reason and free will, and, from such facts, to draw definitions, principles, and all the consequences they include, many people would think they have nothing more to do than to lay down their pens and keep quiet; they would not only despair of finding a theory of the personal dominance of man over things, but even give up trying to find the theory of any political or social category. I must tell you, gentlemen, that I am not one of them. I believe that the truth is true, whatever the moral consequences, but I also believe that justice is just, whatever the economic consequences. That is my faith, my faith as scientist and philosopher, and the torch by whose light I wish to traverse the field of economics and social science with you.

In the light of this, you can see what point science has reached concerning the distribution of social wealth among men living in society. Do I, or do I not, have the right to say that today, just as was true 50 years ago, the theory of the right of ownership is not part of the thought of either lawyers or economists? Truth to tell, the latter do point out to us that, if they differ on the demonstration, they agree at least on the conclusion of submitting all types of social wealth, without exception, to the regime of individual, non-shared appropriation and enjoyment. That is true; I should only like to point out, in my turn, that they reach this shared result by means that are not only different, but also contradictory. They form two schools of thought, one of which is attached to the moral point of view, and, according to the other, misrepresents science; while the second is attached to the economic point of view and, so says the first, tramples philosophy under its feet. They follow two different methods, each of which declares itself to be superior; and each of which asserts that the other is worthless. Thus, unless **[43]** two bad demonstrations make a single good one in economics, which I doubt, economists' unanimity on this point would satisfactorily prove to be not at all in favour of, but precisely in opposition to, the regime of individual, non-shared appropriation and enjoyment of all types of social wealth without exception. In reality, however, why should all types of social wealth without exception be submitted to the regime of individual, non-common appropriation? Certain types being allotted to the regime of individual appropriation and enjoyment, why should others not be allotted, on the other hand, to the regime of communal possession and enjoyment? When shall we climb out of the double rut into which absolute individualism and absolute communism throws us, each in turn? When shall we finally find, in the reconciliation of economic advantageousness and justice, the very conciliation of individualism and communism?

This, gentlemen, is where we touch the nub of the social question, in my opinion. The time for unravelling it has not yet arrived, and on this extremely serious point I shall make only two observations. First, I notice that all economists neglect, in the general problem of the distribution of wealth, to place the problem of taxation side by side with that of property. Second, I see that, in the matter of property, different reasonings lead them directly to identical conclusions, but in matters of taxation, quite to the contrary, these different reasonings lead them to diametrically opposed conclusions.

To the large majority of economists it really seems very strange to bring the questions of property and taxation together; but it is precisely my colleagues' surprise that astonishes me, for this closeness is certainly not so new nor so peculiar. A man no one surely would accuse of being tormented by the genie of paradox, and whom one would be rather tempted to believe was common sense incarnate, did not fail to follow his defence of property by a defence of taxes in a

[44] well-known treatise. I am speaking of Mr. Thiers and his book, *De la propriété*.[xii] Common sense is the criterion for neither philosophy nor science, and Mr. Thiers is an authority in neither social morality nor economics. His book is a reactionary work, which I personally relegate to the same level as the revolutionary works it claims to oppose. All that is perhaps political in nature, but it is certainly not science. However, in spite of that, or to put it more accurately, even because of that, does not this example beautifully prove how much the twin problems of property and taxation tend in some way to move together of their own accord? However that may be, in fact, what politics thus mingles instinctively, science can mingle methodically. Insofar as the distribution of wealth between men is concerned, how can one possibly imagine that the individual's share should be fixed, unless the State's share is too! But how can one conceive of property theoretically being instituted and guaranteed in practice, if taxation can come again to undermine it – taxation in its myriad forms, as varied as they are numerous, as capricious as unforeseen, as tyrannical as burdensome, as unjust as harmful! Instead of completely isolating two such close questions, would it not be better to reunite them altogether? If the individual and the State are two equally natural and necessary social types, both of them obliged to live and subsist on social wealth, why should not a single theory on the distribution of wealth between men give, simultaneously, on the one side, the individual's share from property – by the ownership of personal faculties and labour, if you like – and, on the other, the State's share through taxes – through a tax on the rent of land, for example? You try to reject this fusion of the two problems, property and taxation, but that is only to fall into confusion yourselves. First of all, you let land and its produce be private property, and, in so doing, let individualism reign where perhaps communism would be better. Then what do you do? **[45]** You impose burdensome taxes on the wages for my labour, and in doing so, you let communism reign, where individualism surely should. Therefore, turn the two problems of property and taxation into a single one, and solve it by the conciliation of communism and individualism, which will also doubtless be that of advantageousness and justice.

We shall come back to this topic. But for the time being, one thing is absolutely undeniable: the system of public taxation is a matter of dispute in which equity and utility are debated without any measure of success, and in which economists diverge and end up, because of their quite different concerns and in view of very varied consequences, with essentially contrary conclusions. A certain number of them will not willingly resign themselves to leaving taxes to be determined only by fiscal interests, and are keen on having the matter ruled by a minimum of honesty. Rightly or wrongly, they believe that everybody should contribute to the expenses of the State in a measure more or less proportional to the benefits they receive from public services; that each should participate in the benefits of public services in proportion to his personal expenses; that finally each should spend in proportion to what he owns, in capital or income. This is the origin of direct taxation on capital or income, whether proportional or progressive. On the other hand, there are economists favourable to constructions of a more particularly financial nature. In their more or less well-founded opinion, taxation is an unavoidable evil or a necessary plague; there cannot really be any rigorous method to follow in these matters, so the best form of taxation, or the least unpleasant at any rate, is the one whose imperfections are the least apparent. From this stems their preference for the system of indirect taxation – where the tax itself, mingling with the actual price of the articles purchased, is somehow accepted without our noticing it and distributed thereafter according to the vagaries of consumption, whether the object taxed is consumed straight away or whether it **[46]** plays the role of raw material or of something else in a prior productive process. Far be it from me to promote or criticize either of these systems! I note only the divergence of views; after all, gentlemen, you are my witnesses; if someone who wished to have ideas in conformity with those of the economists on taxation as well as on property, sought to consult the best authors on this subject, and found himself guided to direct proportional or progressive taxation on capital or income, to indirect taxation on consumption, then from real to personal taxation, and finally from single tax to multiple taxes, he could probably find it a most instructive study in economics, but it would be difficult for him to consider it to be a completed science.

Truth to tell, the whole of economics is in a sad state; does not all it has acquired in the hundred years since its birth, after several successive schools in France and England devoted their efforts to it, consist of merely a few bad answers to questions, bad because the questions were badly formulated in the first place? That is not exactly the situation, gentlemen, and I should be afraid of appearing a denigrator of the science if, after making a long list of its gaps, I finished without at least mentioning rapidly its discoveries. As you have seen, all the problems I have touched on, up to this point, had a connection with either the first or the last of the three parts into which I divided economics; they were connected either with the theory of exchange and value in exchange; that is to say, with the study of wealth itself, in its own natural conditions and tendencies; or with the theory of property and taxation, which means the study of wealth seen from the point of view of its most equitable distribution among men in society. I have as yet said nothing on matters in the second part of economics, on those connected with agriculture, **[47]** industry, commerce, and credit; that is to say, wealth envisaged from the point of view of its greatest possible production. Now this is part of the science where I can and must express myself clearly: for some time economists have already almost definitively worked it out. Observing and proving that the satisfaction of the economic interests of producers, left completely free to act as they want, will bring about the greatest and best organized satisfaction of the economic interests of consumers; rejecting therefore all systems of corporations, privilege or monopoly, rates and maximums, rights to import or export, and all administrative interference with a view to control or to protect; *laisser faire, laisser passer*, that is the superior principle of production of social wealth formulated by Quesnay and the Physiocrats, accepted by Adam Smith and the English school, developed and popularized by Jean-Baptiste Say, and by many others, that economics has always defended, and that finally triumphed among two of the greatest peoples who are at the forefront of modern civilization. All economists unanimously agree on this point.

Yet it must be said: they are now less in agreement than they were a few years ago. They are less in agreement when it is question of determining the character and the reach of this formula and are less united in recommending the different applications of it; and this strange step backwards is not the feature the least essential for the fidelity of the picture I am drawing you of the present situation of economics. It is only too true: the principle of *laisser faire, laisser passer* is no longer the universally accepted and universally proclaimed formula of the theory on the production of wealth. Some economists turned this simple rule of practical utility into a principle of social morality. They only deformed it, while others abandoned it. Yes, gentlemen, formerly the words economics and free competition or free trade were in a way synonymous, but today there are regulationist and protectionist economists, friends and defenders of privileges and monopolies. **[48]** What did I say about economics not being achieved and perfect? What had been done is being undone before our very eyes. What did I say about it not yet having reached the most advanced possible state? Far from marching forward, it is moving backwards.

It is by the same imperious necessity that makes a body fall back when it is prevented from advancing that a being arrested in its development becomes disorganized, that an unfinished monument deteriorates, and that an incomplete science falls apart. We are actually now witnessing the falling apart of economics. It was stationary for a long time and is at present retrogressing. Yesterday it was still ignorant of the notions of value in exchange, income from land, and what property and taxes are; today it would not be able to tell you what money is, or a banknote. Yet it is our fault and to our shame that doctrines with no substance, that would fade away in a minute in the presence of science if it were fully formulated, take their place and establish themselves in our minds. In such a situation, I personally leave economists to their comforting, flattering optimism. I declare conclusions reached concerning social economics by the school of moralists or the school of utilitarians to be insufficient – and I undertake a search for other conclusions.

This task should be accomplished in two stages. Today, you may have recognized which questions dominate the problem of the distribution of social wealth between men in society. First of all, what points of view and what principles should govern this distribution? Is it from the point of view of justice and according to principles of moral philosophy, or is it from the point of view of advantageousness and the principles of economics? Would it not perhaps be better from both points of view and according to both types of principles at the same time? Next, among which social elements should the distribution be carried out? Should it be among individuals only? Should it be among **[49]** individuals and the State together? In the first series of lectures, gentlemen, I shall examine these two fundamental points of social moral standards: the distinction and agreement of economic advantageousness and justice, and the distinction and reconciliation of the individual and the State. This is the syllabus I am authorized to work through this year; later, if permitted, I shall try to proffer a new formula for the distribution of wealth, by ownership and taxation, between the individual and the State, in conformity with social economic advantageousness and social justice.

In the course of carrying out a plan so seriously thought out and firmly resolved, I cannot help feeling a certain uneasiness. I may give the impression of having a proud innovator's blind confidence, but all I have is the cold, carefully considered certainty of an enlightened and convinced disciple. I reveal the temerity of a young man, and I possess in reality, apart from my personal experience, the temerity of another life filled with the exclusive, assiduous study of the problems I am taking up. What a lot of natural prejudices may be engendered against me! I shall face them in the knowledge that I am undertaking a task as pressing as it is difficult. Just as we are, we will be seen to be quick to shake the yoke of many religious traditions and moral obligations that we regard as old-fashioned and unreasonable. Well, so be it! If necessary, let us boast about no other faith than reason; but at least let us be enthusiastic about it! Let us profess no other cult than science, but profess it courageously! Failing all beliefs and all virtues we no longer possess, if all that remains is this religion of respect for truth, that makes us seek what may be proved and say what we believe, it is enough for us that soon, in the midnight of the moral obscurity that surrounds us, we will finally see daybreak and the light shining through! **[50]**

II Second lecture: intervention of philosophic doctrines. The present battle between materialism and spiritualism in economics and social science[xiii]

SUMMARY: Adherents of the points of view of economic advantageousness and justice argue about the theory of property, and also about the whole of both economics and social science.

Utilitarians claim they have established not only the theory of *property*, but also the theory of *family* and *government* from the economic point of view. Spiritualists claim they have established not only the theory of *value in exchange* and *exchange*, but also the theories of *agriculture*, *industry*, *commerce*, and *credit* from the moral point of view. What is more, the common conclusion of both is absolute individualism.

Conclusion of spiritualists: The economic reform of society is confused with the moral reform of the individual. The *absence of standards of living for family life* and the *lack of education* are the only social causes of present persistent social poverty. *Charity*, *philanthropy*, *mutual insurance*, and *cooperative associations* are the only remedy.

Objections: Can moral reform of the individual take the place of social economic reform? Can aid and associations supplant social justice? *The Parable of the Labourer*.

The socialist outlook quite rightly identifies the social question; it is the job of scientific reason to solve it.

Gentlemen,

The main subject of my first lecture was to point out to you the presence of two schools of thought in the field of the theory of property and taxation, or the distribution of social wealth among men in society; both theories try to reach the same conclusion by different ways, one by the way of moral truth or justice, the other by the way of economic truth or advantageousness. Their conclusion is that all social wealth is attributed to the individual, without any part reserved for the benefit of the community or the State. The subject of this second lecture will be to show you this difference of opinion, stretching from the domain of social economics on one side to that of theoretical and applied economics on the other **[51]**. We shall see one of these two schools of thought triumph over the other; then we shall stop to examine its conclusions and ask it to account for its victory.

As I have already told you, we have always up to this point considered economics as being composed of three parts: the study of the nature of social wealth, its causes and laws, or *economic theory*; the study of the production of social wealth, or *applied economics*; the study of the distribution of wealth, or *social economics*. Thus, the study of the distribution of social wealth among men in society, or the theory of *property and taxation*, falls into place quite naturally beside the other two economic categories, since it has a bearing on *social wealth* as well. But it should also be noted, all the same, that because it touches on the *rights of people in society*, it finds its place just as naturally along with the other social categories, such as the theory of the *family* and that of *government*, whose exclusive subject is society and the rights of the people who compose it. Thus, you will have to imagine the study of the distribution of wealth, or the theory of property and taxation, as a border province that can be annexed to economics, if so wished, especially if such a move is envisaged from the point of view of the interests of society, by reuniting it to the study of wealth for itself and to the study of the production of wealth to complete the science of this wealth. However, one could just as well, if not better, annex it to social science, by reuniting it to the theory of the family and the theory of government in order to complete the science of society.

Hence, since the theory of property and taxation, by its mixed character, is linked to the theories of wealth **[52]** and society, and therefore is claimed concurrently by two principles as different as those of usefulness and justice, ought it not to happen that pure and applied economics on one side and, on the other, social science properly speaking, be themselves challenged sooner or later? This is indeed what happened. From the first economic categories to the last social ones, advantageousness and rightfulness have been fighting it out. On one hand, the economic point of view, to which the theory of agricultural, industrial and commercial production had until then belonged without any discussion, claimed first to contain the theory of wealth, and then the whole of social science. On the other hand, the moral point of view, that had always been allowed to reign supreme in the theories of government, family, property, and taxation, not only retained them but also invaded the whole of economics. Gentlemen, perhaps you think I am letting myself ramble off into a veritable censorious novel, and that I am setting up imaginary adversaries on an imaginary battlefield. This is not the case at all, and my sentences are merely the translation as precise and the picture as faithful as possible of one of the most confused scientific muddles ever seen.

A few years ago this activity made itself apparent and revealed its character. At that time, the Academy of Moral and Political Science, an erudite body sustained by a rather exclusive and somewhat intolerant spirit but nevertheless watchful of the progress of economic events and ideas, and whose programmes reveal a lively feeling for scientific news, initiated a competition regarding the question of the *relationship of economics with morality and with law*.[xiv] Taking place at the most favourable time, it gave to intellectual research an impetus that is still operative, and gave rise, directly or indirectly, to the publication of a considerable number of dogmatic or critical books, writings, and articles of uneven quality, that would not be worth **[53]** reviewing completely, but whose respective characters should be explained.

First of all, in the struggle that was thus to be taken up, the chances of the economists were not at all bad. Indeed, economics seemed to have finished stating very clear, very precise conclusions on the production of wealth, susceptible of being universally accepted by all those who wanted only to take the trouble of studying and understanding them. Moral philosophy, on the other hand, appeared to be in an ongoing state, taking a long time to develop further, insofar as concerns the distribution of wealth, civil and political society. All sorts of ideas were developed, more or less lofty, more or less ingenious, but in all cases incapable of leading to the unanimous assent of competent people by which alone the authority of science is revealed. Thus, it was an attractive undertaking for utilitarian scholars to take boldly upon themselves the task of finding solutions to all social problems by having so-called moral truths demonstrated by the demonstration of economic truths. They had already tried to constitute the theory of property with a view to a single advantage, namely the production of wealth; all they had to do was continue along that line, using the same data, to try to establish the theory of the family, government, and, generally speaking, the whole theory of society. Thus, law was forced into the study of advantageousness and morality into economics. Things were set in motion, and consequently there was no talk of anything less than proclaiming the advent of a *social science* that would have included all activities of mankind in society – industry, property, family, and so on – and a *social art* that would have consisted of the practical application of theoretical principles; this science and this art being developed, of course, purely from the point of view of economic usefulness.

When faced with these sensualist pretensions, it did not take long for a spiritualist reaction. However, it was precisely then that economics was invaded by the moral standards it had hoped to absorb **[54]**. What, indeed, spoke to the moralists of their powerlessness? Was their theory of property not rigorous, providing it was admitted that all value sprang from labour? How did their theories on government and the family leave something to be desired? Far from having to shed the burden of finding solutions to social problems, it was rather they themselves who felt strong enough to use the demonstration of moral truths to demonstrate so-called economic truths. As we know, they had already 'moralized and spiritualized' the theory of value in exchange by emphasizing that social wealth is constituted of labour alone; it was enough for them to continue along these erroneous lines to 'moralize and spiritualize' the theory of the production of wealth in the same way. Similarly, law took the place of economic advantageousness and moral standards that of economics. This is what they did and thus we have the very marked trend that is dominant today. Moral decay was explained from the point of view of usefulness and economics. Since man's labour is itself the only wealth, they no longer discussed the production of wealth, but rather man as an individual, worker, or producer. In this fashion, henceforward all economic categories and solutions became as many moral categories and solutions. This new colour bestowed on science has even leaked on to empirical socialism. Writers of this school, not normally much interested in philosophy, and mostly not dreaming of either distinguishing or reconciling different points of view, also forbid us, in their turn, to study wealth from the scientific point of view, or the production of that wealth from the point of view of economic usefulness, and they order us to study man's labour exclusively from the point of view of moral truth. To sum up, you see quite clearly that I have neither invented nor exaggerated anything; social economic advantageousness and natural law are present; morals and economics strongly disagree; materialism and spiritualism, like two old wrestlers, grasping the opportunity **[55]** to settle an old disagreement, have entered the lists, and in the camp of science one of those splendid battles Descartes used to talk about is taking place, the sight of which would have intoxicated his philosophic spirit. Having set forth the events, it now remains for me to assess the outcome.

Now, first of all, it is as easy to recognize as it is curious to note that the extension of the battle between the two schools has only brought a proportional extension of their reciprocal pretensions without the least alteration or deviation. Just as the two battling doctrines appear to us in the restricted domain of the theory of property, so they appear to us on the vast field of economics and social science. Materialists claimed to substitute the principle of utility for the principle of justice in the case of the distribution of wealth, i.e., that of property and taxes; now they claim to make the same substitution in matters of civil and political society. The spiritualists claimed to extend the empire of moral standards over pure economics, and claim now to have made it include even applied economics. That being so, does it not follow that we can and should restrict ourselves, before as well as after the battle, to confronting the one and the other with the same objections, quite briefly, and to say: – to the materialists, that wealth and justice are not in opposition, but distinct and independent, just as are welfare and morality; that in the matter of social science just as in the matter of property, where law reaches a verdict, economic advantageousness refutes it in vain; and consequently, where law is silent, it would be useless for economic advantageousness to speak up; – to the spiritualists, that value in exchange and social wealth exist, up to a certain point, and obey, within certain limits, natural laws; that agricultural, industrial, and commercial production of wealth, takes place, and, for its part, obeys all rules of adequacy; that the moral point of view will not be able to upset and destroy **[56]** the point of view of scientific truth in pure economics, nor that of practical use in applied economics? Having said that about principles, let us examine the consequences.

There, persistence is no less obvious or less remarkable. Where property is concerned, utilitarians and moralists both conclude by attributing all wealth to the individual without the slightest provision benefiting the community or the State. In the domain of social science, both moralists and utilitarians agree on the exercise of individual initiative in all circumstances, without the slightest intervention of either collective or communal initiative. For both of them, the individual is everything and the State is nothing; in the eyes of both, the individual can and should do everything, and the State has only one service to render us – to destroy itself. This agreement is complete and striking. Among socialists there are all sorts of different varieties, from total communism to total individualism; among the economists, individualism rules, alone and unrivalled. By the way, that doubtless explains why all economists confuse socialism with communism. Unanimous though it be, this agreement should not bother us: finding it far from decisive in the matter of property, we have the right to consider it quite suspect in the matter of social science. At present though, I shall not get into the discussion of absolute social individualism, whether materialist or spiritualist. I shall use this lecture only to analyse and explain it as sincerely and completely as possible; I shall criticize and refute it in the next lecture. What I would like to do straight away, at least, is to render justice to the logic of these systems. After attributing all resources to the individual, it was logical to expect the individual to cover all expenses as well, and, depriving the State of all income, also to relieve it of all expenses. After solving the problem of property in the sense of individual appropriation and enjoyment of all sorts of social wealth, it was logical to solve the problem of taxes **[57]** by means of doing away with all public services. I wonder for example, whether it was really necessary to have recourse to methods so diametrically opposed in order to obtain such similar results, and to shake two sciences to their very foundations without reshaping even their smallest part.

Gentlemen, it would be not be of great interest for me to expound in my own name and my own way the absolutely individualist conclusions of official science in matters of social morals: I am going to let it explain those conclusions itself. Of the two doctrines into which it is divided, there is one whose authority and credit are particularly indisputable – it is the spiritualist doctrine. Spiritualism takes exclusively the moral point of view; now, if we contest this point of view in matters of pure and applied economics, we accept it in matters of social economics and social science. What is more, spiritualism today reigns as sovereign, and, in spite of everything, we endure its rule. It fills academies and professorial chairs; it disposes of journals and newspapers in which it extols the merits of its own books; it sets up competitions and conscientiously awards the prizes to itself. Thus, I shall ask spiritualism to provide us with its formula. When I have obtained it, I shall clarify and develop it. Gentlemen, I need all your attention and all my presence of mind, for I am about to raise the most serious question of our era, the one that is constantly arising between science and socialism without ever being solved.

To proceed more quickly, we will assume, if it is really desired, that nothing has any value nor can be exchanged, except the efforts and services of mankind, and, consequently, that labour alone constitutes the whole of social wealth. Where will this violence perpetrated on the theory of value and wealth lead us? We admit that industrial and agricultural labour, that commerce and credit, are nothing more than manifestations of **[58]** our free, responsible human personality, just as are the exercise of rights and the completion of duties by the citizen, the husband and the pater familias, and that therefore *laisser faire*, *laisser passer* is an economic liberty analogous to freedom of thought, speech, and writing, and all other liberties, both civic and political. Where is this disguise, forced on the theory of the production of wealth, supposed to lead? What will be the outcome of all spiritualism's extravagant moralization in economics? We are told that the result will perhaps be commonplace, but certainly extremely important.

> This truth, this triviality, if you like, to which a very special timeliness is currently attached, is that the economic reform of societies, the object of so many reformers and so many utopians, takes, as its necessary foundation and beginning, the moral reform of the individual, which is the basis and unique purpose of human societies. Outside of this truth, not only proclaimed theoretically, but also seriously put into practice, you will find only useless unrest and sterile chimeras. Would you like to reform humanity while staying faithful to the great moral and economic principles of all society: duty, justice, charity, labour, property, capital, family? Begin by reforming man and the rest *shall be given unto you*. – Reform mankind; that is to say, start with yourself, make yourself better, more just, more enlightened, morally stronger. Reform mankind; that means, first of all, respect all right thinking, all charitable activities, and then help others to improve, become enlightened, etc., etc.[5]

Gentlemen, you have heard it: economic reform of societies is henceforward the moral reform of the individual. Please understand well everything that the formula states. It says that economic society is definitively organized as much from the point of view of economic advantageousness as that of justice. It **[59]** says that the theory of the production of wealth is known, and not only known, but also applied; it says that the production of wealth, with respect to its social conditions, is as plentiful as possible. It says that the theory of the distribution of wealth is equally known, and not only known, but also applied; it says that, as

5 H. Baudrillart, *Des rapports de la morale et de l'économie politique pure*, p. 573. [Lectures presented at the Collège de France, Paris: Guillaumin, 1860.]

for its social conditions, the distribution of wealth is as fair as possible. It says that poverty, should it exist, has no social causes; it has only individual causes. It says there are questions of individual initiative, but there are no questions of collective or communal initiative, nor social questions. As you can see for yourselves, it is just the complete contrary of what socialism says.

Thus, it is our moral standards that are bad, and, as for our laws, they are perfect! Well, gentlemen, I must admit to you that this amazes me. Not, of course, that I am one of those socialists who ask nothing more than to have the constitution placed in their hands for 24 hours, and who do not commit themselves to anything less in exchange than the immediate realization of happiness for humanity. However, without wanting to act so authoritatively or so quickly, and without waiting for anything as serious and durable as freedom and time, I dared to hope that there was something more to be done with a view to economic reform of society itself. I had thought – must it be admitted? – that our legislators still needed to perfect our codes, from the economic point of view, by adding some good laws and getting rid of some poor ones; that the press could prepare the legislator's work by discussing a few general or particular questions; and finally that the rest of us, publicists and teachers, ought to make the task easier for the press by elucidating the principles of economics. What a mistake I made! Economics does exist; it exists not only in the ideal realm of the mind, but also in reality. Spiritualism made it so; spiritualism **[60]** has set it in motion. Since this is so, all we have to do is retreat without a word; the press itself should remain silent. The role of legislators has come to an end; the role of preachers is just beginning. No more books or conferences, no more articles in journals or newspapers, no more speeches in the legislature! Sermons and homilies against drunkenness and debauchery! That is the conclusion of spiritualism. But then, how strange and deplorable the aberration of mankind is! What? So much preoccupation and so many scientific battles over a problem that is already solved? So much passion and upheaval with a view to an applied solution! So many systems still being produced in the world of ideas, so many revolutions, the one succeeding the other in the world of facts, when, for there to be an end to poverty here below, all we have to do is look inside ourselves and blush at our lack of restraint and overindulgence! Is such a misunderstanding really possible? Is this supposition acceptable?

No, gentlemen; and to be just, I hasten to add that not all spiritualists accept all that.

There are some publicists of that school who have studied the poorer classes enthusiastically and described them with talent; it is a fact that their moral observations are of great importance. I shall not here talk of immorality properly speaking, which may be found among poor people, and to which the wealthier ones themselves are perhaps not entirely strangers either; I wish to mention a certain absence of moral standards that seems unique to poverty. The writers to whom I am alluding have witnessed, in big industrial towns, the fathers and mothers of families kept away all day long from home at different places by their labour in factories, while their children are either left neglected at home or wandering about the streets. Thanks to the striking pictures the writers have painted, we have been able to imagine these sorry households, their members being only for a short time together in dwellings deprived of privacy and charm. We have also been able to form an idea of the ignorance **[61]** transmitted from one generation to another in such families. It is certain, moreover, that we can and should consider this absence of family life and this want of education as the two powerful causes of destitution, as two persistent sources of pauperism.

Let us think about it, though, for a minute. We now find that a woman has quite enough to do as a wife and mother, an effort that excuses her from any other work. Indeed, this is a great law of nature, and social infringement of it incurs sad consequences with regard to welfare and moral standards! But was it, in fact, such a well-kept secret? And is the telling of it so revealing? To see girls and young mothers labouring with machinery is certainly a sight against nature. Only male workers should engage in these tasks; as for women, their place is in the home, not the workshop. What forces them to go there if not pitiless needs? And what keeps them there if not the same inexorable needs? In the same way, it is observable that elementary education and professional training are indispensable for forming a good worker and, at the same time, an honest man and a citizen worthy of the name. It is true, a worker should educate himself and, above all, have his children educated. Neither he nor they should stagnate in eternal ignorance. Can one reasonably believe that they remain in that state by choice? And if they wanted to better themselves, are they not physically incapable because of lack of time and financial means? Would it therefore be inexcusable to imagine, for these reasons, that poverty and pauperism themselves are an obstacle to family life and a barrier to education for the working class?

We are willing to agree that individual immorality, that is domestic isolation and ignorance, favours and perpetuates pauperism, but on the other hand, let it be granted that pauperism by itself also tends to prolong ignorance and isolation. Should immorality be stamped out for poverty to disappear? Or should **[62]** poverty be stamped out so that immorality can stop? This is the vicious circle we cannot escape when bringing the problem of pauperism onto the terrain of individual moral reform; it can only be avoided by bringing the question onto the terrain of socio-economic reform. If, indeed, immorality and poverty are two principles reacting on one another and giving rise to one another, let us resign ourselves to seeing consequences here and not principles, and let us consider the consequences as the effects of a common cause, one that is none other than the persistence of some disorder in the economic conditions of society. It is therefore perfectly allowable, given this point of view, to reply thusly to spiritualism:

> A truth, a triviality if you like, that gives rise today to a special opportunity, is that the moral reform of individuals, object of so many preachers and philanthropists, has as its necessary basis and point of departure the economic reform of the very basis and natural milieu of all human individuality, namely society.

Thus, its own conclusions would turn against spiritualism, conclusions that are doubtless very true and certainly even more trite.

Gentlemen, let us not hasten to triumph over our adversary. Spiritualism is a philosophy full of resources and, from the position in which our argument places it, there are several ways it can extricate itself from the difficulties. I shall enumerate these ways faithfully and review them for you.

The first of all is *charity*. Charity is an eminently spiritualistic virtue: the devotion in which it is rooted is one of the principles of the doctrine; the gifts by which it is accomplished are one of the consequences. When, indeed, one grants all power and wealth to individuals, doubtless it is because one expects them to be extremely powerful and very generous. When, under the aegis of the distribution of wealth, one declares a society to be perfectly satisfactory, in which nevertheless, extreme poverty rubs shoulders with extreme opulence, it would appear that one counts confidently on **[63]** those who have too much giving something to those who have nothing. It has to be recognized that this is an expedient to which not all spiritualists attach the same price or the same efficiency. The people whom I personally meet frequently, those who are philosophers and economists, it must be said, have neither a very great esteem for the practice of charity, nor a very great faith in its results. The charity I speak of here, of course, is not that spontaneous, discreet, attentive charity that makes us personally, driven by brotherly emotion or friendly impulse, run to the aid of sickness and infirmity; it is that premeditated charity, public and organized, that appears to be a sort of complementary social institution, and that as such claims to supplement the lack of work or the inadequacy of wages. That is the one we economists, of all schools of thought, have always condemned. We consider that, while degrading those who accept, it does not always ennoble the person who doles it out. We recognize that it is less a remedy to poverty and misfortune than an encouragement to idleness and hypocrisy. In short, we look forward to the day when nobody will be able to give it, because no one wants to receive it.

This is true of charity properly speaking, which is material help; it is totally different from *philanthropy*, or purely moral assistance. That is almost always a credit to the one who gives it, for it is generally practised without an intermediary, and it is a real help to the one who receives it, because it implies for him an effort rather than an excuse for doing nothing: it does not aim to reach the goal immediately, but only to indicate the path he should take, and it smoothes his way and guides him there. Thus, our spiritualists are philanthropists above all else. You know their target: it is the absence of the main conditions of individual morality, those of the family circle, and of the elements of education. That is what is wrong at its source. Such being the case, they address those who have plenty of money and enjoy both the benefits of education and the **[64]** pleasures of family life, and they then incite them to come to the aid of those whose isolation and ignorance cause their destitution. From the application of these principles, industrialists and capitalists create societies to build cheap housing that provides clean, pleasant homes for workers at modest – though normal – purchase prices, or moderately priced rent, while remaining lucrative and always in relation to the average cost. This is also why associations of writers and of teachers of elementary and professional education have been created. In a nutshell, many and varied are the institutions that attach themselves to philanthropy; the most noble and purest sentiments create, support, and encourage them, and as you all know, the institutions have completely transformed certain towns from the point of view of both morality and comfort of the lower classes; that is to say, those classes of people who live exclusively on their wages, the fruit of their toil, without any additional rent from land or interest on capital.

Where philanthropy, like charity, is concerned, we are on the ground of individual initiative, as are the spiritualists. While still there, we find two other ways of improving the lot of the working classes: one is *mutual insurance*, the other is *cooperative associations*.[xv] The poor and ignorant see their position improve with material help and moral aid; but, in both cases, that depends on the help of rich and educated persons. Through mutual insurance and cooperative association, it is the worker, united with others like him, who can himself improve his position without having to wait for anyone's approval, or the help of any stranger.

First of all, the *mutual help association* preserves him from the regrettable consequences of being ill or jobless, by providing him with a subsidy or some sort of aid. Thus by mutual insurance, the working classes eliminate any chance of disaster; having done that, by means of cooperative association, they can give themselves every opportunity for success **[65].** The *consumer association* reduces expenses, the *production association* and the *mutual credit association* favour an increase in income; all three make saving easier, and once this saving is started, it is quickly multiplied by rapid capitalization. Poverty is already conquered. Then the *building association* provides cheap housing, as well as all the economic and moral conditions of family life, the *education and recreation association* procures all the most solid and refined elements of intellectual culture. Demoralization, in its turn, retreats. This victory over demoralization causes a second, more vigorous effort, and a second, more definitive victory over poverty, one that finally ensures the most complete triumph of individual morality. Thus, we have now broken out of the fatal ring that kept circling around us: isolation and ignorance entailing pauperism and pauperism entailing isolation and ignorance. All of that without any intervention by the State, without any special aid, with this single slogan: *Help yourself!* Let us bow, gentlemen, before the power and fertility of these marvellous arrangements: the association of mutual help, the consumer association, the production association, the association of mutual credit, the building association, the association of popular education and recreation. In the cooperative association, let us salute the only solution, the supreme effort and definitive success of individual initiative!

Gentlemen, I was sure of seeing you demonstrate your sympathies in favour of individual initiative and the cooperative association; and I believe that you yourselves did not doubt that you would witness my paying them striking homage. We are all in agreement on this point – you, the spiritualists and me. Where I deviate entirely from the spiritualists, and where you have to choose between us, is not when they say that cooperative societies are a powerful and fecund way of conquering poverty, but when they say it is the one and only way of conquering poverty. It is not when they say **[66]** that moral reform of the individual is essential and urgent, but when they say that it constitutes the entire economic reform of society. I say loudly and without circumlocution: Gentlemen, if spiritualism agrees to being only half the truth, I am with it and, with science, against socialism. But if it claims to be the whole truth, I am with science and the socialists against it – for on the point in question, it is certain that science considers socialism right in this opposition.

Reform the conditions of our very society! But according to spiritualism, our social condition calls for no reform. Production and the distribution of wealth, property and taxes, government and the family are, in the eyes of spiritualists, social categories perfectly well known and definitively organized, to which we are enjoined to remain faithful. And is it really so? Alas, I should like this to be the case, but to convince oneself of the opposite it is unfortunately not necessary to be systematically pessimistic. It is enough not to give way to a blind optimism; there is no need to go to the trouble to look for doubtful examples; it is quite sufficient to choose a few from the great number of indisputable ones.

Let us first take agricultural and manufacturing industries, trade, credit and all those other things that compose the subject matter of the theory of the production of wealth. Supposing that the *laisser faire, laisser passer* of economics be (as indeed, it is) the general formula for the solution of questions of this order, and supposing that this response be (as it definitely is not) accepted as theory everywhere by everyone, is it also accepted practically everywhere? We economists, who struggle day by day against the rules restricting the liberty of trade unions, the liberty of international exchanges, the liberty of interest rates, the liberty of associating capital, and so many other economic liberties, may believe scientific truth upholds the validity of these liberties; but how can we dare imagine that **[67]** political wisdom has done away with them? Here, quite outside individual immorality, are causes of poverty and a source of pauperism.

Now let us pass on to property and taxes and the other things making up the subject matter of the theory of the distribution of wealth. Allow me here to remind economists of all schools that they have no theory of property and that they have no theory of taxes either. Allow me to remind spiritualists in particular that their formula for distributing social wealth between men in society is quite certainly unacceptable from the economic point of view, since it makes the fact of value in exchange unnatural, and quite certainly unacceptable from the 'moral' point of view in sacrificing the State to the individual. Now, even when restricting myself purely and simply to explaining doctrine, I have still better things to say. People do not mind talking about property; to tell the truth, the very word has a sort of magic effect; but taxes are passed over in silence, not only when it is time to conclude and invoke great principles, but also during the course of those long studies where economics and morality are compared, as if nothing, gentlemen, were more indifferent than taxation to either morality or economics, or further removed from them. Yet I ask you – without going as far as mixing or even bringing closer the two theories of property and taxation – could we not simply put the question of taxes among those issues where the rights of justice and the interests of wealth are the most committed, among those at least on which the economic and moral situation of the most numerous and most suffering classes depend? Tell me, is it allowed totally to disregard the problem of taxation, as if it did not exist, or no longer existed, while theorists are divided into the most diametrically opposed camps on this subject? For some – the partisans of indirect taxation – an income tax would ruin the Treasury, while for others – promoters and defenders of direct taxation – **[68]** taxes on consumer goods, transfer duties, and other analogous fiscal constructions are a challenge to economic order and an offence against moral order; whereas the system that prevails in practice, whether good or bad but probably very mediocre and perhaps detestable in itself, is such that it does in any case constitute (and agreement is unanimous on this), an inordinately crushing burden? Is there here, or not, – without considering the flaws in family life, the lack of elementary and professional education – cause enough for poverty?

Finally, so that I do not forget anything, I am going to make a similar observation. We are enjoined to bow before the idea of the family. There would certainly be a good deal to say to spiritualism itself on this subject. Yet if we keep silent, will we be allowed to mention the government as one of the social categories that are not completely known down to their least details, nor perfectly organized in all quarters of the globe, but that, however, have considerable influence, directly or indirectly, on the welfare and morality of individuals? Are the independence of nationalities, constitutional liberties, and the separation of legislative, judiciary, and executive powers fixed and beyond all dispute? And if they are not, does that not also, along with domestic isolation and ignorance, constitute another quite important source of pauperism?

Does that mean to say that, in my opinion, all the conditions of society should be brought into question, or re-examined? That our social state should be recreated from start to finish, or totally changed? Not in the least; but simply that if many of these conditions are not subject to change, there are still some that are, most notably, the conditions of the distribution of wealth. It means that if our social state is in some respects satisfactory and above all preferable to what it used to be formerly, it is not yet perfect in every respect, nor, especially, equal to what it one day should be – for example, insofar as property and taxes are concerned. This is enough for us to have a good basis **[69]** for energetically rejecting the conclusions of official contemporary science in matters of the theory of society or social morality; I mean those of the academic economists of today and those of spiritualists, as well as, but even more strongly than, those of the materialists. Indeed, if materialism has not won over social science from the economic point of view, at least it has not itself ruined economics, whereas spiritualism has not only failed to conquer economics from the moral point of view, but has, with its own hands, changed and mutilated social science, misjudged its scope, and, in a way, compromised its existence. Materialism has doubtless not succeeded in having economic advantageousness prevail against natural law; at least it has not obscured the notion of economic utility. Spiritualism, on the other hand, by trying to substitute law for economic advantageousness everywhere, has completely lost the meaning of social morality; so in this campaign, it has desecrated the principle of scientific truth in pure economics, distorted the principle of advantageousness or utility in applied economics, and finally wiped out the principle of law or of justice in social science – and all this in favour of private morality and for the greater glory of philanthropic aid and cooperative associations.

Believe me, gentlemen, I am weighing my words very precisely, and I do not wish to say things that would wound or irritate you. I just want to explain how it is possible to hold philanthropy in sincere esteem, and harbour a veritable veneration for cooperation when they act in their domains and in their sphere, but at the same time how it is possible to detest philosophy and condemn cooperation itself when it claims suzerainty, when it dares invade the sphere of justice. To lead you to understand and share my sentiments, I believe there is no better way than to illustrate it with this parable:

> PARABLE OF THE LABOURER
>
> A worker took legal action against a powerful, rich man. He pleaded that this man unjustly withheld what he owed, leaving the worker and his family in a precarious, difficult position.
>
> **[70]** 'Stop your suit against me', the rich man said to his adversary. 'I feel sorry for your unhappy situation; if you need something I'll give it to you, and if my protection would be helpful, you can have it.'
>
> The other answered: 'I want justice, not charity; I will not sell my rights for charity.'
>
> 'I understand your refusal', the rich man said; 'I appreciate its motive and I like your self-respect. However, listen to me. I know of a commercial operation that will be very easy for you to undertake. Accept this enterprise and give it your best care. If you succeed, you will make a much more substantial fortune than the one you lost and be richer than I am, without having to thank anyone but yourself.'
>
> To this the worker answered: 'I thirst for justice, not wealth. I claim the heritage of my fathers, which I owe to my children. I have confidence in the integrity and sagacity of my judges. If they decide in my favour, you will return to me the part of your fortune that is mine and that you are wrongfully withholding. If they do not decide in my favour, I will remain poor or become rich, whichever I prefer. Whatever happens, I claim nothing from you but what is mine by right, and you have nothing to pay me except what you owe me.'
>
> They went to court, and the worker obtained justice.

Gentlemen, this insatiable need, this ardent and persistent pursuit of the effects of social justice beyond all the results of individual activity, is a well-founded and invincible element of socialism. This sentiment is also, believe me, inspiring more and more independent science. While speaking about the cooperative movement, a subject in which he was assiduously engaged, Mr. Jules Duval, an economist whose twofold talent, as a writer and an orator, you all know and appreciate, expressed himself quite recently on this point in some ingenious lines that I have before me and will read to you:

> The whole contemporaneous cooperative movement – he said – has socialism as its father, but we add to this that economics is its mother. Cooperativism is socialism's child because of its feeling, its ambition and its mainspring; it is the child of economics because of its ideas and its being guided by science. In short, it is economic progress and **[71]** social reform united and closely integrated, mutually completing and correcting each other.[6]

M. Jules Duval makes a grave error, in my opinion, when he mixes cooperation with social reform: I have just precisely explained to you that cooperation was one thing and social reform was another. Cooperation is a question of individual initiative, and it has nothing to do with social reform, which is a question of collective or communal initiative. The truth is that it is the question of property and taxation, and not cooperation, that is confused with the question of social reform. Looking for social reform in cooperative association is just like looking for it in charity or philanthropy, or like looking for it in mutual insurance. At one and the same time, this demeans, if not underrates, social reform – and exaggerates cooperative association and thereby compromises it. I should say, since the opportunity occurs, that in my opinion, this widespread and persistent confusion of cooperative association with social reform, this general and obstinate seeking for social reform in cooperation is what, in France, most harms the development of the cooperative movement. It was especially in support of this movement that I dwelt so long today on the distinction between individual activity and social justice. But apart from this reservation, I would gladly say, borrowing Mr Duval's felicitous expression to apply it to social reform exclusively, that this reform should proceed from socialist sentiment and economic science at the same time.

I shall be bold enough, gentlemen, to tell you exactly what I think: the opposition of science to socialism is also, in a sense, the opposition of science to ignorance. The scientist is a man who, while he is still young and his spirit flexible and obedient, takes it upon himself to read authors' works attentively, **[72]** to accept and, in a way be subjected to the doctrines in order to understand them thoroughly; and when, later on, his spirit is mature, sturdy, and unshakeable, he will come back to these doctrines to examine and criticize them with a view to completing and correcting them, if need be. The aim of his career is to pick up science in the state in which his predecessors have brought it, in order to take it a

6 ['Le mouvement coopératif en Italie',] *L'Économiste français*, 3 October 1876, p. 413.

little further, to where his successors in their turn will take it up. The socialist, however, is a man who, in the grip of his lively impatient passion, rejects and denigrates, without even reading them, all those authors who have not been able to begin and finish science in one fell swoop. His reading is useless or superficial and hasty; his scholarship is false and unwholesome. His avowed ambition is to create science himself from beginning to end. Look at the great socialists, Saint-Simon, Fourier, Proudhon: each dwells in a series of ideas, isolated from both scientists and other socialists at one and the same time. They have members and disciples, but never a master; and, because they never wanted ancestors, they leave only a limited and ephemeral legacy.

It is enough to show up these pretensions to have them judged and condemned. However, if conflict between socialism and economics is often the conflict between ignorance and science, it has to be admitted, too, that it is often conflict between progress and routine, sometimes even between progress and reaction. When it happens, for example, as it does today, that some economists dismantle and disrupt the whole theory of social wealth and the whole theory of production, with a view to keeping and establishing an imperfect, halting theory of the distribution of wealth, I have the right to say they are placing themselves as much outside and against science as the socialists; with this difference, that the socialists wish to develop and spread the theory while those economists want to limit and restrict it.

This declaration, gentlemen, should be enough to explain to you my attitude vis-à-vis the economists and the **[73]** socialists. I refute contemporary economists, and I do so in the name of economics. I do not disprove the socialists because my reflections have led me to the conviction that there is only one way to ruin and wipe out empiricism, which is to develop science. How can one refute an error if the truth does not exist? There is no empiricism in astronomy, because astronomy is a finished science. There are empiricists in medicine, as there are socialists in economics because the science of health and illness of the human body has not yet been completed any more than that of the health and illness of the social body. But when social science is completed, there will be no more socialists. How should we behave until that day arrives, and hurry it on its way? If you wish, I would say: let us remain socialists; that is to say, progressivists, and become economists; that is to say, scientists. Let us keep the faith and acquire science. Let us unite, instead of splitting up; let us mingle our banners and mottos, and call upon all those who believe and who study to stand with us around them.[xvi] **[74]**

III Third lecture: critique of materialism. Critique of spiritualism. New point of view on social morality

SUMMARY: The philosophical principles of absolute social individualism, whether materialist or spiritualist, must be refuted.

It is the exclusive use of *the senses* as an instrument of experience that

leads materialism to reduce man's destiny to the *satisfaction of physical needs* and considers human destinies as *enemies* of one another. It is the exclusive usage of *interior sense* that leads spiritualism to reduce the destiny of man to *the triumph of free will* and to consider human destinies as *independent* of one another.

How economics, from the beginning, modified and completed philosophical conclusions. In them, materialism found this social principle: *the shared pursuit and creation of wealth and welfare*. In them, spiritualism found this social principle: *the shared search for the worker's morality*.

Materialism is refuted by spiritualism; but to refute spiritualism, critical analysis of moral experience must be made. Exclusive use of interior sense has a tendency to make subjective what is objective. We do not make use of our will power in complete *individual liberty*; it is partly used in a context of *social necessities.* Human destinies are not absolutely *independent*; they are partly *related* to each other. There is a social morality that is distinct from individual morality.

The change in physical, moral, and metaphysical points of view coincides with the beginning of a new period of humanity.

Gentlemen,
In my first two lectures, I showed you successively the present state of economics and of social science. In both we found, regarding the economic or materialistic point of view and the moral point of view, too, at least insofar as it is produced by spiritualism, that both claim a supreme and exclusive empire. Besides, neither economics nor social science appeared to us to be seriously defined, nor – with even more reason – seriously completed. Thus, the moment has come to analyse and criticize the two points of view in themselves, to go back **[75]** to their origins in order to find out the causes of their inadequacy, and to draw from this research the principle of a happier and broader point of view. At first sight, that seems a very arid and tiresome task, but it has in fact, been made easy and attractive by recent work in contemporary philosophy.

Gentlemen, there are three subjects of knowledge for us, or perhaps I should say more accurately, three aspects of a single subject: *the physical being*, the *moral being*, and the *metaphysical being*; nature, man, and God. Furthermore, we possess three instruments for acquiring knowledge: *external experience*, *inner (personal) experience* and *rational, abstract formation of ideas*: the senses, conscience, and reasoning. Now, we realize that all the philosophical systems that have existed until the present consisted of attempts to study the three subjects of our knowledge with only one of those instruments. Therefore, we can also state the formula for the philosophy shortly to succeed these systems by saying that it will consist in studying all three of these subjects of knowledge using all three of our instruments of knowledge.

Knowledge of nature through the senses, and deducing from it the knowledge of man and of God is *materialism*.

Knowledge of man through the conscience and deducing from it the knowledge of God and of nature is *spiritualism*.

Appropriating an idea of the metaphysical being by the exercise of reason and deducing from it knowledge of the physical world and the moral world is *idealism*, which is the contrary of *empiricism*, whether materialist or spiritualist.

Finally, knowing the physical world and the moral world through external experience and interior experience, and conceiving an idea of the metaphysical being by rational thought is modern philosophy, which consists of the reconciliation of idealism and empiricism.

[76] These definitions and the distinctions that may be deduced from them, form one of the most important and well-founded conquests of nineteenth-century thinking. Thanks to them, philosophical critiques are no longer made of a more or less complete system of such and such a philosophy that is more or less internally consistent, but of the archetypical system resulting from the rigorous linking of physical, moral, or metaphysical conclusions with the intellectual point of departure. Thus, we may refute a materialism simpler than the sensualism of Condillac and of Cabanis; we may likewise refute a spiritualism more ingenious than Leibniz's monadology, and a purer idealism than Spinoza's pantheism. I shall use this method, which has recently been applied in marvellous ways, for a critique of materialism and spiritualism in matters of economics and social science.

Materialism is, then, shall we say?, the philosophy of the *senses*, in opposition to spiritualism, which is the philosophy of the *conscience*.

The materialist opens his eyes, reaches out his hands, sees, touches, and perceives outside himself exterior phenomena of space, form, solidity, and resistance; and he puts these phenomena in relation with exterior objects that he calls *body* or *matter*.

The spiritualist is inward looking and perceives interior phenomena of pleasure and pain, of thought, of will; he links these phenomena with an interior subject of his innermost being that he calls *soul* or *mind*.

Matter endowed with properties on the one hand, and, on the other hand, a mind, an active force, provided with faculties; this is the material with which materialism and spiritualism have to explain nature, man, and God, the physical world, the moral world, and the metaphysical being; and this is, whatever the cost, the material with which we will make our explanation.

Nobody, gentlemen, can dispute the precision of this double definition. It is not simply the philosophy of pure reason and Kant's transcendentalism, it is **[77]** Jouffroy's eclecticism and the philosophy of common sense that thus define materialism and spiritualism. What we are now going to verify is whether the philosophical doctrines thus defined correspond more or less exactly with the socio-economic doctrines we have encountered. In order to do that, we shall first make our own deductions of the moral conclusions of materialism and spiritualism unaided, and then we shall compare them with the economic and social conclusions of the materialists and spiritualists we know. If some differences do appear, we can affirm a priori that they stem from a fault in these gentlemen's logic; but you will see that the similarity is perfect.

In this respect, it can immediately be noticed that materialism, which puts the senses in direct contact with exterior phenomena, and spiritualism, thanks to which the conscience instantly grasps innermost phenomena, are undoubtedly respectively the point of view most appropriate to natural sciences, and the point of view most appropriate to moral philosophy; that, indeed, the two schools we have discovered in conflict are composed on one side of more or less natural scientists, and on the other of moral philosophers; and that therefore, finally, we can be sure that it really is materialists and spiritualists with whom we have to deal.

However, insofar as the former of the two schools is concerned, which we have indicated from the beginning as the school of economics, it would be right to make a proper reservation. It does not believe itself to be materialist nor call itself materialist. Its ideas are held by a number of people who, unaware of how much philosophy is necessary and inevitable, nor of how essential it is to compare the points of view of all the philosophies in existence in order to choose the best, and, declaring they have no wish to choose any, only end up by accepting the most detestable one. Who does not know these physicists, chemical engineers, doctors, determined to banish from their science any sort of philosophical system, and not to admit anything other **[78]** than corporal facts or the properties of matter? They think this is the way to reject all philosophical doctrines, and yet what are they doing all unawares, in spite of themselves, other than submitting to the principle and speaking the language of the purest sensualism? Most economists do not act otherwise; but their utilitarian philosophy, being only a crude philosophy held unawares, is nevertheless a materialist philosophy, as we shall shortly see.

It is far from being the same case with their adversaries. These people give daily thanks to heaven for two things: for being philosophers, and, moreover, for being spiritualist philosophers; they are spiritualists, and are happy and proud to be such. Doubtless, after probing, like Descartes, the respective values of the witness of the senses and the witness of the conscience, and having recognized in the exercise of the one a very imperfect means of apprehending and embracing the world, they preferred to fall back on the exercise of the other. Not greatly concerned with the problem of philosophical certainty and, to tell the truth, even less philosophers than moralizers, they are, as was previously noted, irresistibly drawn towards a type of experience of which the first results are primarily to attest to human personality and individuality; this assures, first of all, the existence of morality, and immediately safeguards its independence. This philosophy, although not the highest and most enlightened form of spiritualism, is nevertheless no less spiritual.

Thus, at first sight both doctrines really do present the character we have attributed to them. That is enough, and their weakness and philosophical coarseness do not matter. Putting aside contradictions and inconsistencies and dealing only with the logical sequence of ideas, it is up to us to recognize how the philosophy of the senses and the philosophy of conscience both reduced to their own resources, understand and interpret the physical world, the moral world **[79]**, and the metaphysical being. At the same time, we need not concern ourselves with God or nature here, but materialism and spiritualism owe us their conclusions concerning the subject of man and human destiny; we leave them their physics and their theology, and concentrate only on their moral doctrine.

For the materialist, man is a *body* provided with organs that function under the pressure of irresistible *needs* and in order to satisfy those needs.

For the spiritualist, man is a *soul*, endowed with faculties that act under the influence of *free will* with a view to its triumph.

Needs that are to be satisfied as fully as possible on one hand, and free will that is to triumph as far as the means will allow on the other hand, that, we might again say, is what materialism and spiritualism mean – the formulas with which we must achieve our individual and social destiny; and these are the formulas that help us to be as aware of this as can be expected.

First of all, insofar as the deductions of materialism are concerned, whether about individual morality, or social or political morality, we have only to extract for our perusal the sketch so ably and clearly traced by the author of *Mélanges philosophiques*:

> Would you like – says Jouffroy – to take these rigorous doctrines further? You will find that *just* and *unjust*, since they are not transformations of the senses, are useless; that the only *good* and the only *evil* known to us are encountered in feelings that are sometimes *pleasant* and sometimes *unpleasant*; so that all *good* leads to *pleasure* and all *evil* to *pain*; from which it follows that the only principle of human behaviour is to avoid pain and seek pleasure. This is the *morality* of Helvetius, or rather the principle of the exclusive authority of the senses. Would you like to go yet further? You will find that inasmuch as each person is pursuing his *own pleasure* or *personal interests*, without any notion of *moral order* or **[80]** *justice* restraining him and imposing on him a minimum of respect for others, all men are *enemies* and *war* is the *natural state of affairs*; whence it follows that *might* is *right* and that *absolute power*, the principle of peace, is eminently *legitimate*. This is Hobbes's politics, that is, the politics derived from the exclusive authority of the senses.[7]

I took these most remarkable lines from Jouffroy's *Mélanges philosophiques*. The study entitled 'Du materialisme and du spiritualisme' appeared in the *Globe* in 1828 and January 1829, but it had then already been written several years previously. In May 1825, the excellent study 'Comment les dogmes finissent' [How Dogmas End] had appeared in the same journal. What are we then, scientists and philosophers, and what are our written and spoken words worth, if 40 years after those words were written, spiritualism and materialism are still proposed as philosophies of social morality? What is more, we are fully aware that the fault

7 Th[éodore] Jouffroy, *Mélanges philosophiques*, p. 226 [Paris: Paulin, 1833].

lies in the eclecticism that Jouffroy himself introduced into the ways of spiritualism. That was a slope that this philosophy was bound to descend sooner or later; and I see a very curious, very convincing proof of this in the very passage I have taken from him. After he painted in broad outlines the exclusive morality and politics of materialism, I naturally sought a similar painting of the exclusive morality and politics of spiritualism. Gentlemen! I cannot find it. The author has completely forgotten to make it. But perhaps it would not be too bold of us to try to do that, with the help of the example of such a master.

> Thus, we shall say: – Would you like to probe further into the deductions of spiritualist doctrine? You will find that the demands and satisfaction of *the body's needs*, independent of or even going against the soul's will, are of no significance for morality; the only *good* and the **[81]** only *evil* we need to consider have a connection with the exercise of will power that is *good* or *moral* when it supports the soul above bodily necessities, and *bad* or *immoral* when it submits the soul to them; so all *good* consists in *morality* or *virtue*; that is to say, in the triumph of free will, all *evil* in *immorality* or *vice*; that is to say, in the defeat of free will; whence it follows that the true moral principle of human behaviour is to avoid *vice*, which is the defeat of free will and to *seek virtue*, which is its triumph. Would you like to go further? You will find that each of us, with the reins of free will in hand, can and ought to remain in control and follow his *own virtue* or his *personal morality* without hindrance from any preoccupation with personal *welfare* or *riches*, without any idea of *solidarity of interests* committing or compromising him in association with his neighbours. All moral destinies are naturally *independent* of one another, and *isolation* or *solitude* is a natural state; whence it follows that charity and affection alone lead us to make contact with our neighbour, and *loving one's neighbour* is the basis upon which *the whole of society* reposes, and that brotherhood, the *principle of* relationships between mankind, is the apotheosis of the *social* principle. Unless I am mistaken, this is the *morality* and the *policy* of the Gospel, or – to express it better – this is the morality and policy that springs from the exclusive authority of conscience.

Disregarding logical errors, which it is the critic's lot to detect and eliminate, philosophy, whose proper concern is to encompass the universe from the general point of view and as a whole, did that with regard to individual and social morality. In almost exactly the terms I have just used, materialism and spiritualism argued about the world of principles and of facts. What is more, as always happens, spiritualism won forcefully and with great panache over materialism where it was a question of principles, and materialism boldly took its ample **[82]** revenge over spiritualism in the domain of facts. It was, therefore, in science, whose proper task is, on the contrary, the study of the universe from the point of view of particular cases, investigating its separate species, that economics was created. In the same way as astronomical facts and truths appeared independently of all philosophical conceptions of the physical world in the sixteenth and seventeenth centuries, so economic facts and truths appeared in the eighteenth and nineteenth centuries, quite independently of all materialistic or spiritual conceptions of the moral world. These perfectly well-determined and defined facts were those of the production and consumption of wealth. These truths, already demonstrated and brought to light, consisted in the irrevocable condemnation of certain social situations actively unfavourable to the production of wealth by agriculture, industry, and trade, and in certain other conditions decidedly favourable to this agricultural, industrial, and commercial production of wealth. Just how far did the special assertions of science invalidate or confirm the general assertions of philosophy? Faced with the conclusions of economics on the subject of the production of wealth, how far could materialism and spiritualism maintain their conclusions or how far should they modify their ideas with regard to individual and social human destiny? This is what still remains for us to say, adhering always to the logical sequence of ideas.

First of all, it is easy to see that economics, far from thwarting materialism, gives it instead a helping hand. Indeed, noting that social activity partly consists in the agricultural, industrial, and commercial creation of wealth, is to note likewise that the object of individual activity has partly the aim of the pursuit of well-being. Stating that some social conditions are more favourable than others to the creation of wealth means stating at the same time that these conditions are also more favourable to the pursuit of well-being. **[83]** Thus, not only does the statement of these economic facts encourage materialism, but the economic truths provide the moral materialist with a less distressing notion of society, and a more acceptable principle of social order. Thanks to economics, the materialistic social state is no longer the terrible state of war, but an agricultural, industrial, commercial state; thanks to economics as well, materialistic social law is no longer ignoble despotism as a necessity for peace, but economic advantageousness or utility, the principle of wealth. And anyway, after or before the intervention of science and its particular conclusions, philosophy is still free to persist in its general conclusions; after or before the intervention of economics, materialism remains free to maintain that individual activity has no other aim than the pursuit of well-being; to which it may very well also add that social activity consists entirely in the creation of agricultural, industrial, and commercial wealth. In this system, the economic point of view encompasses the whole of the social state; material considerations and utility encompass all of social law; in a nutshell, economics is social science in its entirety.

How much more awkward and difficult was the position of spiritualism in the presence of economics! I mean pure, historical spiritualism, of course, not the variety professed by our philosopher-academicians,[xvii] but that which thinkers of profound, incomparable genius produced in metaphysics, that which apostles of a perfect and superhuman virtue produced in moral thought, and finally, that which humanity will have more or less experienced during a period and for a forever glorious future.[xviii] Imagine spiritualist morality, that demanding, ambitious morality, dividing man into two parts: the body it rejects and despises, and the soul to whose salvation it is passionately exclusively attached; the animal man or brute, and man properly speaking: the personal, moral being whose free will finds in itself the principle and aim of his exercise, sufficient unto itself and **[84]** answerable only to itself, condemned to this life as a test and promised after this transitory destiny to a final destiny either of unending pain, if having failed, or eternal joy, if such is won. Imagine this morality, the most sublime, if you like, but certainly the most anti-social of all, rendering unto Caesar the things that are Caesar's; that is to say, keeping itself narrowly and scornfully apart from socio-economic, civil, and political life, giving unto God what is God's; that is to say, solely devoted to individual morality and virtue, disinterested, uncompromising. Finally, imagine the morality whose kingdom is not of this world and that anathematizes property, family, wealth, and society all together, and, on the other hand, economics, glorifying society and wealth by the facts and truths it reveals concerning social and economic production and consumption, and tell me whether the simple *Laissez faire, laissez passer!* of the Physiocrats has brought more disturbance and problems to the morality of spiritualism than the *And yet it does turn!* that Galileo threw into physics!

What ought to be done by spiritualism in such a situation? Is it possible to admit these scientific results just as they are and explain them by such a doctrine? On the other hand, is it not to surrender if scientific results are denied, whatever they may be, and to misunderstand them in whatever philosophical context? There was one option left: to take economics in hand again and to reformulate it at the risk of mutilating or misrepresenting it, in order to align things as much as possible with the essential data of spiritualist morality. Origen and Saint Jeremy would probably have declined this duty, but modern spiritual moralists eagerly devote themselves to it and have acquitted themselves successfully, as honesty obliges us to acknowledge. Have they completely succeeded in making religion agree with this sacrifice of science? I should not have dared to tell you this. For my part, I am very much afraid that the slightest of mistakes on the part of these Christian economists would take the shape of not being more Christian than they are economists. But that is not our business. **[85]** It suffices that their thesis has been deduced with method enough for it to attract attention and discussion. Let us see by what means this reconciliation between spiritualism and economics has been brought about.

To tell the truth, although the undertaking is difficult, it is not impossible; and on condition that they are approached in a resolute fashion, even the difficulties could be happily overcome. Indeed, suppose purely and simply that instead of resulting from the utility and limitation in quantities combined, exchange value results only from effort – man's services and labour – and you will see, as if by magic, all the conclusions of materialism regarding both individual and social morality transformed into spiritualist conclusions. First of all, as for the fact of the production of wealth, this is no longer a fact partially linked to natural circumstances like the inevitable combination of the limitation in quantity with utility from whence value and exchange are derived; it is a fact depending exclusively on moral circumstances like the exercise of man's free will demonstrated in labour. Consequently, and as for the conditions for the production of wealth, these are no longer simple social rules of economic suitability, as was *laisser faire*, *laisser passer*, they are true moral principles, formulated with a view to the individual dignity of the worker, as are *freedom of labour* and *freedom of trade*. Consequently, regarding the conditions of the distribution of wealth and of civil and political society, just as materialism organizes them with a view to social and economic conditions under which production of social wealth should take place, spiritualism organizes them with a view to the individual moral conditions where the worker, the producer of all wealth, should be placed. Thus, on the one hand, the production of all wealth springs from the worker's morality; and on the other hand, the whole of society converges towards the morality of the individual, the *sole basis and end of human societies*. In this system, the individual and moral point of view encompasses the whole economic and social state, **[86]** virtue contains wealth and commands justice. In a word, individual morality is the whole of economics and social science.

Unless I am mistaken, here then are the socio-economic consequences attached to their philosophical principles; here are these two conflicting doctrines, one of which entails the suppression of social science to the benefit of economics; the other of which is reduced to the annihilation of economics and social science to the benefit of individual morality. They are linked to the two equally conflicting theories of the philosophy of the senses and the philosophy of conscience. Thus, what is easier than to make a judgement, with full knowledge of the facts, on the respective pretensions of materialistic economists and spiritualistic moralists?

What is narrower, more powerless or more inadmissible, for example, than the attempts of materialism to move into the realm of social morality? Using only the senses, this philosophy sees no more in man than an organized body, reduces the whole of human destiny down to the pursuit of well-being and the creation of wealth, and knows no other social principle than that of advantageousness and utility. Well, then! Let it question the inner sense: it will find a rational, free soul in mankind and will give back to human destiny the character of a set of duties to carry out and rights to assert, and it will recognize in justice a principle of the organization of society. God forbid, too, that we refute materialism in its premises and conclusions concerning social morality in more detail than we have yet done! With regard to materialism, there is something that needs to be pursued: to review the functioning of the senses by analysing the elements of feeling. Physics, chemistry, physiology, and all natural sciences are extremely interested in that review, and nowadays rationalism is also actively involved. However, as for analysing and weighing the importance of experience by means of the senses from the point of view of moral **[87]** science – that is a chore that the doctrine of common sense has performed over and over again, and an exercise we should not fight over with philosophy students.

The pretensions of spiritualism are not less tyrannical nor less unacceptable than those of materialism; the error, however, is perhaps not quite so obvious nor the condemnation of it quite as easy.

Before the appearance of economics, spiritualism, using inner experience alone, just as materialism uses outer experience, did not in the least take into account the body and its needs any more than materialism considered the soul or the moral personality. At that period, the refutation of spiritualism was made by materialism, just like that of materialism was made by spiritualism, the whole affair being a matter of the philosophy of common sense.[xix] But, since the discovery and the presentation of economic facts and truths, spiritualism has taken on the task of a bold development of itself: it has put a number of its virtues to work and has undertaken to reconcile justice with utility in its own way; so there are no longer any other than the very backward Saint Simonians who can nowadays still set the principle of Christianity in opposition to the creation of wealth. Today spiritualism envisages human destiny under the double aspect of morality and economics, and indeed, in doing so, it has greatly modified its position. But at the same time, as you have seen, it leads the economic point of view back to the moral one, and, moreover, concentrates all this into the individual point of view; and, therefore, it cannot be denied that in this respect it has remained rigorously the same. How did spiritualism thus manage to make moral philosophy contain the whole of economics, and what is more, reduce the latter to the proportions of individual morality? It was enough, you know, to do two things: on the one hand, it saw in labour the origin and source of all social wealth; on the other, it found in the individual the basis and unique end of all human societies. Is labour really the origin and source of all social **[88]** wealth? Is the individual the basis and unique end of all human societies? The truth or falsehood of all spiritualist social morality lies in the answer to that double question. Now, gentlemen, two points of experience are of importance here; one is a point of economic experience, the other is a point of moral experience. It is up to attentive and truthful observation of the facts to re-establish them both in the face of spiritualist prejudices. We shall keep the discussion of the first point for later on; at present, we will devote all our efforts to clarifying the second. This is a point at one and the same time both philosophical and scientific, in which may be found the entire principle of spiritualism and all its consequences with regard to social morality; its discussion includes an analysis and critique of the inner experience of the highest importance for the future of moral sciences. The dispute concerning this subject is no longer between spiritualism and eclecticism but between spiritualism and a superior renewed form of philosophy. We cannot therefore let it go without mention.

Gentlemen, since Kant and his *Kritik der reinen Vernunft*, it has been granted as being proven in the most advanced philosophy that if all our feelings are, to a certain extent, representative of the objects sensed, they all are also to a certain extent characteristic of the subject who does the sensing. The sensation of taste is partly due to the body that enables us to experience it, and partly to our taste buds. Therefore, sensations of extension and resistance, and all sensations of the properties of matter come partly from the nature of the things and partly from the nature of our sense of sight, touch, and the other senses. Consequently, accepting the witness of our senses as entirely representative, without taking into account what is purely characteristic of the sensing subject, is to attribute to the objects of our senses elements borrowed from the sentient person. Well! In the same way that empirical materialism, trusting in the absolute value of the testimony of the senses, has a tendency to objectivize the subjective, so **[89]** empirical spiritualism, trusting in the absolute value of the testimony of the conscience, tends to subjectivize the objective. Similarly, just as there is reason to criticize the results of the experience of feeling from the point of view of the reality of physical phenomena, there is also reason to criticize the results of inner experience from the point of view of the reality of moral phenomena. It is this distinction between the relative elements and absolute elements of experience that is the point of departure of modern *rationalism*. On the day when the spirit grasps that, the veil is torn to pieces, and, illuminated by thought, the horizon of the intelligible world stretches further than the eye can see.

Yet it is not necessary to make a metaphysical critique of the results of inner experience to refute empirical spiritualism; it is enough to make a scientific one. That is to say, it is not necessary to notice in the perception of the self elements that are relative, not absolute, coming from the very exercise of either the conscience or the intelligence, and that it is enough, taking the self as experience offers it, to recognize two components in it: one *individual* and subjective, the other *social* and objective.[xx]

Let the evidence of the conscience reveal to us the many innermost phenomena of emotions, ideas, volition, as being many special phenomena, distinct from exterior phenomena, which are physical and natural; let these phenomena suppose the existence of an innermost subject able to think, feel, and will, of a soul or spirit endowed with feeling, intelligence, and will-power, distinct from exterior objects and the body; this is not what rationalism challenges about spiritualism, scientifically at least, if not metaphysically. But should these phenomena only be connected with the inner subject? Or rather, should they not be connected only partly with this subject, and partly with the moral environment in which it exists? Are these emotions, ideas, and volitions the exclusive products of individual feelings, intelligence, and will? Or rather, are they not, partly at least, the product of the sensitive, intelligent, human soul endowed with a will, and partly the product of the religious, aesthetic, philosophical, scientific, moral, and political state of the society to which the individual belongs, in the bosom of which his spirit is formed, grows and develops? This is the question that is shuttled back and forth between empirical spiritualism and rationalist empiricism.

For spiritualism, man deliberates, finds a solution, and acts exclusively in accordance with his free will; his acts are personally imputable to him and he is responsible for them. **[90]** From this point of view, the moral destiny of man is absolutely individual, and, at the same time, all human destinies are independent of one another. The individual is the only theatre of moral facts, which are all individual facts; at the same time, he is the only social type.

On the contrary, for rationalism, man deliberates, finds a solution, and acts partly in accordance with his own will and in absolute liberty, and partly in accordance with the social conditions in which his will may act, under the authority of an inevitable necessity; his acts are therefore partially imputable to him personally, but partially imputable to the community or social collectivity of which he is a member. He is partially personally responsible, but partially responsible in common with others or collectively. Now from this point of view, man's moral destiny is both individual and social. What is more, all human destinies are in certain respects independent, but in certain other respects interlinked. The individual and society are the double theatre of moral facts, which are sometimes individual facts and sometimes social ones, whence we deduce that it must not be said that the individual is the basis and end of all society without immediately adding that the social state is therefore the basis and milieu of all individuality.

Gentlemen, the difference of opinion I have just brought up is the culminating point of all the efforts of my critique in the first three lectures, the point on which repose all the efforts of my doctrine in the next three. I summarize it by observing that there exists a theory, under the name of empiricism, trusting exclusively in matters of philosophy in the testimony of experience, whether of the senses or of conscience, a theory that necessarily ends up with absolute individualism, whether materialist or spiritualist, in matters of social morality. For these new *nominalists*, if scholastic terms may be recalled here, all reality reposes **[91]** in the individual, and the State constitutes only a pure and simple abstraction; society and humanity are nothing but *universals*. Doubtless, the ocean only exists in their eyes as the sum of the drops of water composing it. Yet, do we not see the ocean persisting independently of the masses of water pouring into it or evaporating from it daily, just as society itself persists independently of the generations that are daily born into it and die? Is it in the water droplet or in the ocean that the force exists that drags the tides in and out, and that sometimes, under the wind, raises hurricanes and storms? Is the force that precipitates nations into the alternatives of progress or political reactions, and sometimes thrusts them into wars and revolutions, to be found in the individual or in humanity? As for us, we say that it is only abstraction that allows us to imagine either the individual without the State, or the State without the individual, and that it is man in society, the individual in the State, which is the sole reality. This way of conceiving and envisaging human destiny shall be ours; and it is in its name that we shall defend, against spiritualist confusion, the distinction between man's individual activity and the social conditions in which this activity takes place, a distinction from which results the one between individual and social morality.

The conditions of economic society – agricultural, industrial, and commercial – form the terrain on which the individual can advance. The conditions of the moral society – conditions of property and taxation, family, and government – form the atmosphere in which the individual lives and breathes.

Whether this terrain is firm and long lasting, devoid of obstacles, whether this atmosphere is healthy and fortifying, clear of all privileges – this does not depend on the individual but on society itself. This is what social economic advantageousness and justice call for; it is the object of economics and social science; it is the goal of social progress.

[92] Whether the persevering individual proceeds firmly forward over this terrain in the conscientious and orderly manner that is the root of well-being, sooner or later, whether he breathes immersed in this atmosphere while steadfastly controlling all the faculties of his soul over his bodily appetites, without which control there can never be any true happiness in this world – this entirely depends on him alone: it is what his own special interests and virtue demand; it is the aim and goal of private morality and individual activity.

Consequently, what is to be said about spiritualism's blatant attempt to confuse individual with social morality, and to reform society by reforming the individual? In my opinion it has a doubly false, unfortunate basis: first of all, indeed, suppressing social science and refusing to reform society mean forcing mankind along a dangerous track strewn with obstacles and making him breathe polluted, unhealthy air, which is short-sighted and cruel; second, setting up individual morality as social morality and reform of the individual as a means of reforming society is like supporting a man after having knocked him down, or giving medication to somebody after making him sick, which is infantile and humiliating. Whoever we may all be, let us simply seek a place in good social conditions and energetically pursue our individual activities in them. It is then quite probable that the large majority of us will be hard working and sensible, and, finding that it is easy to be virtuous when we are comfortable, and that virtue itself is an indirect source of comfort, we shall approach as near as possible our ideal destiny. Whether some people, however, forgetting themselves in sloth, or allowing themselves to slip into misbehaviour, sink into ignorance or fall into demoralization, becoming poor and vicious – and the more vicious they are, the poorer they are – well! this exceptional indignity, having no social cause and being a purely individual matter, would be the honour, not the shame, of social **[93]** order, the misfortune and poverty of these wretches explaining and justifying the happiness and well-being of good persons. But the resources and treasures of charitable help and brotherly devotion would come to the aid of this misery and unhappiness, as much as they do to the aid of undeserved poverty and misfortune – and these initiatives spring from the individual and have nothing to do with social science. Let us, therefore, reform society and allow the individual to reform himself; or, at least, if we reform each other, let it happen apart from all theorizing and all official and public social practices. Imposing morality in the name of society on those who lack the social conditions for morality is basically the same thing as giving money in the name of society to those who lack the social conditions for well-being. The right to virtue is not worth more than the right to work, and this sort of moral communism is certainly no better than economic communism. Once more I say: let us learn to reconcile the respective demands of individualism and communism. This will relieve us of trying to remedy the consequences of excessive individualism by inappropriate communism, whether in moral matters or economics.

Transform the conditions of moral experience, deduce from a new conception of human destiny the conception of a new social ideal, and, finally, achieve that ideal – that, gentlemen, is what I believe we have to do. It is certainly an extremely difficult, burdensome task, but it is what history has obviously assigned to us – not the history of facts, which is almost always left to the interplay of force and chance, but the history of ideas, controlled by the laws of the human spirit itself.

At the beginning of this lecture, I spoke to you of three objects known by all: nature, man, and God, and of the three modes of science: physical, moral, and metaphysical. These are three different branches, and modern philosophy **[94]** protests quite rightly against former mistakes according to which morality was drawn from physics, or physics from morality, or physics and morality from metaphysics. Outward experience, inner experience, and rational abstraction have each its separate domain, their own instruments of investigation; and morality, in particular, is not bound to submit to the laws of theology any more than those of geometry or astronomy. But these types of science are three branches sprouting from a single trunk and contemporary criticism is quite right to wonder about the links joining physics, morality, and metaphysics. Experience nourishes and supports reason, reason illuminates and guides experience; and if progress in physics and morality drags metaphysics in its wake, in the same way, progress in metaphysics also leads to the progress of physics and morality. That said, gentlemen, I should like to add this: When you see that the science of nature or of the physical world changing, and then that the science of mankind or of the moral world is being transformed, and then that knowledge of God or of the metaphysical being is renewed, be assured that the social state is going to change and another epoch for humanity is in preparation. I would add something more, gentlemen: Study the period when spiritualism overtook physical, moral, and metaphysical materialism in governing the things of this world; you will see the work of ideas in action. After that, study our own epoch: you will see the same work carried out in identical conditions.

There was, indeed, a time when materialism reigned over the world. I do not mean the entire world; I am restricting myself to our European world. I am not a philologist, linguist, or exegete, and I would be straying from my speciality if I tried to cover the entire philosophy of history. At that period, physical, moral, and metaphysical science were confused in a naïve, elegant polytheism, purely and simply a deification of all the ineluctable **[95]** forces of nature and all of man's instinctive appetites. The aim of social organization was the search for material happiness along with the worship of physical beauty. The means used was slavery – that is to say, the greatest iniquity that has ever sullied the world: this fact sums up the corruption and monstrous depravity of public and private morals in the ancient world. The most accurate image of this civilization compares it with a lovely flower whose roots are deeply embedded in filth and mud. Now how can the revolution of ideas and the revolution in facts work in such a way that necessarily ends in turning this state of things upside down? Watch closely; this is what you will see.

First of all, at the awakening of the spirit, at the time when science was separating from poetry, a series of physicists appeared. They included Thales of Miletus, who observed the stars and predicted eclipses of the sun and the moon, Leucippus, originator of atomic cosmology, and his disciple Democritus, and Anaxagoras, head of a school of physical philosophy in Athens. After these came a series of moralists: Socrates, the first of them all, who, it was said, brought philosophy down from heaven to bring it to earth; that is to say, he caused the study of nature to be followed by the study of mankind. Then came Plato and Aristotle, then Zeno of Citium and Epicurus, who, the latter in Epicurianism and the former in stoicism, emphasized so clearly and completely the opposing aspects of empirical morality: the subordination of the will to exterior influences, a subordination that is daughter of the authority of the senses, and the subordination of exterior influences to the will, a subordination that is daughter of the authority of the conscience. Lastly, there was the series of metaphysicians, represented by the famous Alexandrian school: Plotinus, Porphyry, and Iamblicus, the real creators of theodicy. This intellectual work went on for about 700 years. It began 400 years before the birth of Christ and continued for 300 years after his death. Thus, it was in the middle of this period that the immense event of the advent of Christianity took place. The empire of the **[96]** Caesars collapsed at its end, and, out of the combination of spiritualist principle with barbarous feudalism, sprang a new form of society from the ruins of the Greek and Roman one.

Well now, gentlemen! Think back three centuries and you will see the same succession of scientific progress reproduced, in the same order. The world at that period belonged to spiritualist physics, spiritualist moralism, and spiritualist metaphysics. The physical world is relegated to a position below moral phenomena. The three aspects of the metaphysical being: all-powerful, creative will, perfect intelligence, and infinite love, are nothing other than the three deified faculties of the soul. Society no longer permits slavery, but it oscillates between liberty with an aristocracy and its privileges, and equality under despotism and in servitude. A new philosophical revolution is preparing a new social revolution. Examine it closely; the following will be its phases.

First of all, more or less in a struggle with established dogma, astronomers, physicists, and naturalists reappear: Copernicus, Galileo, Kepler, and Newton, whose names are sufficient to conjure up the idea of all modern astronomy and the radical substitution of systems whose consequences are incalculable: the earth moving among the heavenly bodies, instead of the heaven in movement round the motionless globe; Lavoisier and the creators of chemistry; Cuvier and Geoffroy-Saint-Hilaire, the great naturalists. What dazzling names! And how many marvellous discoveries am I obliged to omit! This time again, a generation of moralists follows and accompanies the generation of physicists. Need I mention Montaigne, Voltaire, Rousseau, Montesquieu, Condorcet, all precursors of free thought, all disciples of tolerance and justice, all founders of civil and political rights? Finally, so that the parallelism is incontestable, German metaphysics is born and develops, with Kant, Fichte, Schelling, Hegel, becoming the Alexandrians of our time. The sixteenth century saw the beginning of this work of ideas, and the nineteenth century **[97]** will not see the end of it. Here once more, at a solemn moment, an extraordinary event marked the bursting forth of new ideas in the bosom of historical reality. The bell rang on 14 July 1789: that event is called the French Revolution.

That is the meaning and the significance of the Revolution witnessed by history; they should be neither underrated nor exaggerated. The Revolution is a memorable date. It is the date of the end of one world and the beginning of another; but its political doctrine is only a minimal fraction of rationalist dogma, physical, moral, and metaphysical. It devolves upon us, as sons of the Revolution, to defend it against its adversaries; but, above all, it is up to us to continue it by pursuing truth and social justice along with all the other problems of philosophy and science. It will also be our concern, or that of others after us, to pursue, through all the turmoil of liberty, the fulfilment of all the promises of democracy.

Notes

i Chapters 2 and 3 are the translation of the body of Léon Walras's book *Recherche de l'idéal social. Leçons publiques faites à Paris. Première série (1867–68). Théorie générale de la société.* Paris: Guillaumin, XXXII + 194 pages, containing six lectures, and the paper 'Socialisme et libéralisme' (Chapter 1 above) as a preface. This chapter contains the first three lectures in the book, dealing with economics and social science; Chapter 3 contains Lectures IV, V, and VI, dealing with man, society, and their relationships.

These lectures appeared before in Walras's own journal, *Le travail*. They were presented orally in the Waux-Hall (salons Pilodo), rue de la Douane, every second Sunday from October 1867 till March 1868 at 2 p.m. and announced under the title *Principes de la morale sociale*. Walras asked for the authorization for this project in a letter to the Minister of Public Instruction of 19 July 1867 (*Correspondence*, L. 114).

ii Walras's term is 'intérêt'. That cannot be translated here as 'interest', because doing so in the context under discussion would mislead the reader into thinking of the monetary return on capital or on a financial instrument like a loan or a bond. Moreover, Walras used the same word 'intérêt', without qualification, to mean precisely the latter in the appropriate contexts. Jaffé, in his translation of the *Éléments d'économie politique pure*, translated 'intérêt' in the context under discussion as '(concern for) well-being' or an equivalent expression, like '(material) advantage' or 'benefit'; this corresponds somewhat with what Walras wanted to say. It is necessary, however, to provide a truer translation. In Walras's words: 'What is this principle? It is usefulness or economic advantageousness, in other words obtaining *the best that the division of labour can yield* [*le mieux de la division du travail*]. The division of labour is the condition of human destiny; what human reason recommends being done as something favourable to the division of labour must be useful, and what reason dissuades us from doing must be something harmful. This is the subject of a first science, economics, comprised of the *theory of agriculture, industry, commerce, credit, and speculation*'. (See Chapter 3, Lesson V, where this statement appears.)

Thus, Walras explains clearly that he had in mind the optimization of returns in economic production; that is, doing what results in the most output or income for an individual, a firm, or the state, without consideration of whether the decision or activity or economic arrangement is morally right or just. 'Concern for well-being' is not exactly that and could, indeed, be the opposite of what Walras intended, inasmuch as it could mean 'concern for justice', nor is 'material benefit', inasmuch as it does not convey the element of economic optimization. We therefore translate the word 'intérêt' by 'economic advantageousness', except that, when the context justifies it, we let 'economic' be implicit, and just write 'advantageousness'. Thus, in the rest of the book, depending on the context, we have the nouns 'beauty, truth, advantageousness, justice', or the adjectives 'beautiful, true, advantageous, just'. 'Material advantageousness' is very close to 'economic advantageousness' provided that it is not construed as referring only to physical things as distinct from services. Therefore, in the contexts in which Walras is discussing the philosophy of materialism, we sometimes use the former term.

iii Citation from a fable by Jean de la Fontaine (Book VII) entitled 'Le chat, la belette et le lapin' (The cat, the weasel, and the rabbit); the translation of the fragment is ours. The weasel enters a rabbit burrow, whose owner, Johnny the rabbit, is absent for a while. When coming back the rabbit takes the weasel by surprise. Shouting and menacing he tries to get the weasel to leave the burrow. It is his, he says; he got it from his father, who got it likewise from his father, etc. The weasel was not impressed, wondering how the rabbit was justified in possessing something just by the fact that his father possessed it. They decided to bring their dispute before the wise, big cat Raminagrobis (which might mean something like 'Grin and grab it'). The cat asked them to come a bit nearer because, as he said, he was a little deaf. When they were near enough he caught them with two heavy blows of his mighty paws and reconciled them between his jaws.

iv Walras's word was 'utilité'. He used this word in a double meaning. The modern reader will possibly understand Walras's word 'utilité' only as in individual-utility maximization. Indeed, he often used it, in Chapter 5 below, for instance, and elsewhere, in this meaning, but nevertheless the word should sometimes be understood rather as 'usefulness' or 'expediency', as is the case here. The reader who is warned of this twofold use of the same word will always be able to understand from the context of the concerning passage in what meaning it is used. Using the word 'utility' in these two meanings in this translation will enhance its Walrasian flavour.

v Auguste Walras died 18 April 1866.

D vi This was, for instance, the goal of the 'Société politique de Lyon', founded in 1866. Note that in France at the time, the law schools, and later the faculties of law, were the only places where economics was taught. The present faculties of economic science emanated from these faculties of law.

vii Throughout this translation, we translate Walras's term 'économie politique' by 'economics', and his term 'économie sociale' by 'social economics'. In Walras's time these terms were already more or less in use, as may be inferred from the fact that Jevons changed in the text of the second edition (1879) of his *Theory of Political Economy* (first edition 1871) the term 'political economy' into 'economics', while maintaining – with some regret – the title of the book; see the Preface to the second edition, pages xv–xvi. Marshall also used the term economics from the first edition (1890) onwards in the title and the text of his *Principles of Economics*, and elsewhere. Sometimes Walras used the term 'économie poltique et sociale' and meant to stress explicitly that he was talking about the whole field of economics; we translated this mostly simply as 'economics'.

viii The expressions 'natural laws' and 'laws of nature' ('lois de la nature') are synonymous; the laws of gravity, for instance, are natural laws. With the term 'natural law' ('droit naturel'), Walras denotes a corpus of laws naturally innate in man and having general validity in the relations between human beings. Natural law is to be discovered by man by means of his reason; it is sometimes opposed to man-made law; for instance, the law instituted by a community.

ix In the first edition of *SSE*, Walras wrote 'à la mécanique appliquée', which he changed to 'à la construction des machines'.

x The word art has to be understood here as in the word 'artisan'.

xi The word 'sensualist' should be understood as the adjective belonging to the notion of sensualism, a philosophy maintaining that sensations and perception are our basic and most important form of knowledge. It should be considered in a neutral sense. We contemplated using the word 'sensuist' as a translation of Walras's 'sensualiste', but rejected it because the word may also mean taking pleasure in sensory experience.

xii Adolphe Thiers, *De la propriété*, Paris: Paulin, Lheureux et Cie, 1848; new, augmented edition, Paris: Lheureux, 1868. Without going into detail, we note here that the first volume of this book is titled 'De l'impôt' (Of taxes) and that volume's first chapter is titled 'De la manière d'atteindre la propriété par l'impôt' (How to obtain property by taxation); see pages 301 ff. of the 1848 edition.

D xiii According to the critical remarks made by Auguste Walras on the manuscript on which this lecture was based, it seems that Léon Walras wrote in first instance 'sur le terrain de l'économie politique et sociale', which means, in fact, no more than 'on the terrain of economics'. This was apparently erroneous in Auguste's eyes; see letters to his son dated 25 March and 7 April 1864 (*ŒÉC*, Vol. IV, pp. 623–635, in particular p. 623). Léon accepted the criticism, but did not change his text at all the relevant places.

D xiv In 1857, the Académie des sciences morales et politiques offered a prize on the following subject: 'Déterminer les rapports de la morale avec l'économie politique'. The value of the prize was 1500 Fr. (half Léon Walras's salary per annum when he started lecturing in Lausanne in 1870), and the essays had to be written in French or Latin. After all, the Academy rewarded Henri Baudrillart, professor of the Collège de France with a medal and 1,000 Fr. for his lecture notes entitled *Des rapports de la morale et de l'économie politique* (Paris: Guillaumin, 1860); François-Antoine Rondelet, professor of logic, Marseilles, with a medal and 500 Fr. for his *Du spiritualisme en économie politique* (Paris: Didier, 1859) and his *La morale de la richesse* (Paris: Didier, 1863); and Henri Dameth, professor of economics at Geneva, with an honourable mention for his *Le juste et l'utile, ou rapports de l'économie politique avec la morale* (Paris: Guillaumin). See *Séances et travaux de l'Académie des sciences morales et politiques*, Vol. 46, pp. 127–128. Consequently, the 'concours' was a victory for the 'moralists', disciples of Bastiat. One should note that here 'moral' as an adjective designates 'that which concerns the mores' ('ce qui concerne les mœurs'; Dictionnaire Littré), or the ensemble of rules observed, or that should be observed, in a society. In the nineteenth century, the terms 'moral science' and 'moral facts' normally related to the study of human behaviour or to this behaviour itself, without a normative flavour. This is, in particular, Walras's usage. The terms 'social science' and 'social facts' related only to human behaviour in society, but came more and more to be substituted for the two former terms, which conveyed gradually a more normative connotation.

xv See *ŒÉC*, Vol. VI, *Les associations populaires coopératives*.

D xvi Walras's conferences on the Social Ideal, and particularly this second lecture, provoked a dispute of which some elements were published in *Le travail* under the title 'La science et le socialisme' (31 December 1867, Vol. 2, a letter from Jean Macé and Léon Walras's answer; see also *Correspondence*, Vol. I, Letters 122–123), and 'Le socialisme scientifique' (January 1868, Vol. 2, Letters from Jean Macé, Boulogne, Charles Küss, and Léon Say, followed by 'Observations' by Léon Walras; Jean Macé sent his final conclusions in a letter to Walras dated 4 February 1868, see *Correspondence*, Vol. 1, Letter 125). Léon Walras considered this debate interesting enough to mention it in his letter of application for the professorship in Lausanne, *Correspondence*, Vol. 1, Letter 148), and he wanted all this published in his complete works; see *ŒÉC*, Vol. VI, pp. 255–269.

xvii That is, those lecturing in some French academic institution.

xviii Walras's original text translated by the passage 'such as … future' is: 'tel enfin que l'aura plus ou moins vécu l'humanité durant une période et pour des destinées à jamais glorieuses.' This difficult passage expresses the third part of Walras's characterization of 'pure and historical spiritualism'. Why he would have used the future perfect tense to describe a past state of spiritualism is unclear, as are the declarations that humanity will have 'more or less lived' in such a state, and will have 'more or less lived' for forever glorious destinies. He may have been making reference to the ideal future that would be created by the adoption of his recommendations, as suggested by these lines: 'Transform the conditions of moral experience, deduce from a new conception of human destiny the conception of a new social ideal, and, finally, achieve that ideal….' (page 60 of this chapter).

xix It is not evident whether Léon Walras was alluding to the 'philosophy of common sense' à la Thomas Reid (whose name he mentions sometimes, without going into any detail) or whether he was simply using 'common sense' with its everyday meaning.

xx This paragraph can be found only in the second edition.

3 General theory of society

Of man and society

[99] I Fourth lecture: man and human destiny from a twofold point of view: physiologico-economic and psychologico-moral

SUMMARY: The facts of *aptitude for the division of labour* and *moral personality* form the difference between man and the animal and man's physiological and psychological superiority over the latter. These two *natural* facts are therefore the basis of all *human* facts.

Man's aptitude for the division of labour constitutes a necessary condition for his existence.

Man's moral personality reveals itself, in regard to manifestations of *sensibility*, by the unselfish emotions of *sympathy* or the *aesthetic sense*.

Man's moral personality reveals itself, in regard to manifestations of *intelligence*, by the contents of the *understanding* and by the conceptions[i] of *the faculty of reason.*

Man's moral personality reveals itself, in regard to manifestations of the *will*, by the *conscience* and by liberty.

Art and *science* form the totality of man's sensory and intellectual relations with the world. *Industry* and *mores* form the economic and moral relations of people. *Beauty, truth, advantageousness*, and *justice* form the respective starting points of these four categories of human facts.[ii]

Gentlemen,

When we undertake the task of observing man and of knowing him, leaving the study of nature to the physicist and that of God to the metaphysician, we see appear, with a diversity likely to produce, at first sight, a certain degree of confusion, the sequence of quite numerous facts that must furnish the material of this science of man. The most important facts[iii] that appear in the theatre of human life are the attempts made by man to obtain his subsistence, be it in the hunting and fishing stage or in the pastoral stage, be it in the agricultural, industrial, and commercial stage; the laws instituted for settling the appropriation of wealth; the union of the sexes; public organization; peace and war; **[100]** sciences and arts; languages and religions. In the realm of nature, likewise appear, equally numerous and varied, the facts of gravitation and weight, heat and light, electricity and magnetism, adhesion and cohesion, vegetation and life. Now, before taking into consideration one of the natural facts, like, for example, that of gravitation, to search there for the object of astronomy, it is helpful to create first the nomenclature and definitions of all natural facts by means of the philosophy of physical sciences; so it would be only excellent also, before dealing with any one of the human facts as the object of social science, like, for example, the fact of society, to accomplish first the enumeration and definition of all human facts by means of the philosophy of the moral sciences.

In our situation, in particular, that way of proceeding is required.

Among the facts of which humanity is the theatre, which we call human facts, there are some that we have encountered at the beginning of these studies. They were, if you remember, those of agriculture, industry, commerce, and credit, but also those of property, family, and government. Well then, two things became apparent: first, the theories of these facts are lacking; second, and above all, the method itself to formulate these theories is lacking. We saw the facts and the theories in question being claimed in contradictory terms by two sciences, one of which calls itself economics, asserting that it proceeds in the name of the principle of economic advantageousness, and the other of which calls itself social science, maintaining that it acts by virtue of the principle of justice. It is necessary to settle this detrimental disagreement, and therefore we must examine all social, economic, and moral facts, and identify those that must be seen as related to the principle of advantageousness and those that must be seen as related to the principle of justice. Who does not know this? Man does not **[101]** only seek that which is useful and good, he also seeks that which is true and beautiful. Let us therefore consider all human facts as a whole, and categorize them with the principles of beauty, truth, goodness, and usefulness. Why should we limit ourselves to establishing the relations between work and mores? Why not establish at the same time the relations of work and mores with science and art? If that which is useful and that which is good are in agreement, they may undoubtedly also both be in agreement with that which is true and that which is beautiful; let us therefore pursue within the framework of this general harmony the special concordance between advantageousness and justice. I think, gentlemen, that you are in this respect sufficiently convinced, and I now begin the description of the world of humanity, or this philosophy of human sciences.

The way we have to follow here is not at all uncertain. The line of demarcation between nature and humanity is the one separating the physical human being from the moral one. On the one side of this line, man lives a physiological life and a psychological life that are purely animal; on the other side, he lives a physiological life and a psychological life that are human in the strict sense of the word. In the first respect, he belongs to physiology and psychology that are physical; in the second, he belongs to physiology and psychology that are moral. It is therefore incontestable that we have to seek and discover, in the distinction between man as an animal and man in the proper sense of the word, the principles of a distinction between the natural sciences and the human sciences, as well as a classification of the latter.

When, while leaving aside the study of man as an animal that breathes, digests, and reproduces, that feels, perceives, decides, and that is born, grows up, and dies, we set out to study man exclusively insofar as his essential faculties and their active manifestations are purely human, we will see the appearance of two facts that form the basis of the physiology and psychology of man: these are the *aptitude for the division of* **[102]** *labour* and the *moral personality*. These two facts are still two natural facts, but they are at the same time the twofold principle of all human facts. They form as you might say the two gates through which one passes from the domain of nature to that of humanity. Continuing my comparison, I add that from these two gates lead two different paths. Finally, completing the picture, I say that these two paths are parallel. Let us not, however, anticipate observations that will find their proper place below, and, for the moment, only require of ourselves the task of undertaking a profound study of the facts of man's aptitude for the division of labour and his moral personality.

If we do not inquire precisely what may be the physiological man but rather just what may be the physiological differences existing between man and other animals, i.e., the physiological superiority man may have over the other animals, we notice first a certain number of purely anatomical characteristics, among which the *opposition of the thumb to the other four fingers of the hand* is perhaps the most remarkable and most significant. Nevertheless, it is obvious that such characteristics only indicate a difference from animal to animal, but not a superiority of one animal over all the others; therefore, without neglecting these differences, we must add to them some more clear-cut and decisive difference. Well, there is a fact that can be recognized and established without a great deal of effort, and that, moreover, may very well constitute a physiological advantage over the beast, namely that, thanks to the way in which man is anatomically organized, and notably thanks to the fact that his thumb is opposed to the four other fingers of the hand, human beings divide the work that is done, and, with everyone devoting himself to his special occupation, they exchange the products of their labour.

Instead of being like the animals, which, when they are hungry, thirsty, etc., make different sorts of efforts, and which, their **[103]** faculties once developed, arrive immediately and directly at the satisfaction of their needs, man, confronted with numerous and divers needs, makes only one sort of effort, and, his faculties once developed, arrives only afterwards and indirectly at the satisfaction of his needs. If, for instance, a lion, a wolf, or whatever animal is hungry, it chases and devours its prey; if it is thirsty it looks for a brook and quenches there its thirst; if it experiences bad weather, it digs a hole or looks for a cave or a den and takes shelter in it. If, on the contrary, a man is hungry or thirsty he makes shoes and trades them for bread or wine; if he suffers from bad weather, he makes shoes and trades them for the use of the shelter of a house.

Such is the nature of the fact of the division of labour. It is surely a natural fact insofar as it no more depends on our choice that we divide labour or not than it depends on us to choose to be bipeds or quadrupeds, two-handed of four-handed. In other words, it is in our nature to divide labour, just as we are naturally bipeds and two-handed. There is more. Benefiting from an accurate observation made and developed by Bastiat at the beginning of his *Harmonies économiques*, and changing only some words, I say: 'Without the division of labour, our needs exceed our faculties; with the division of labour, our faculties exceed our needs.'[iv,v] Therefore, it is not enough to state that the division of labour is a natural fact and not a matter of choice. Something has to be added. It is not only involuntarily and to enable his faculties to exceed his needs that a man devotes himself to a special task. The specificity of the jobs is not a conventional practice or an optional possibility; it is, for him, the primary and inevitable condition for his existence and subsistence. From this it follows that the division of labour, taken by itself, comprises precisely the whole **[104]** physiological man, and that, consequently, this very fact contains the entire human economic destiny.

That the fact of the division of labour constitutes, properly speaking, a real superiority of man over the other animals is something I hope no one among you will try to contest. Moreover, if you believe me, gentlemen, we will rejoice in the passing of the sage and beneficial decree that forbids us the level that suffices for the beast, and we will admire the mechanism of the law according to which we are condemned either to misery and death without the division of labour, or to wealth and progress in the socio-economic state.

Having said this about the physiological human being and his aptitude for the division of labour, and turning now to the psychological human being and his moral personality, I say that if one inquires about the unmistakably evident psychological difference between man and the animals and his superiority over them, the fact of the moral personality of man leaps to the eye. It consists in the fact that man is a being whose three psychological faculties, feeling, intelligence, and free will, all have superior expressions, which are *sympathetic love* and *aesthetic sense* for feeling, *understanding* together with *reason* for intelligence, and *consciousness* and *liberty* for free will.

The animal has a mind: the facts show this, language itself declares it. The dog, for instance, is endowed with free will, intelligence, and feeling. At certain times, it wants to eat and it starts eating; it knows you and knows you are its master, and it obeys when you give it a command; when you beat it, it feels both a physical and a psychological pain and it is aware of experiencing this, expressing it wonderfully well. Likewise, man desires, knows, and feels, but there is more in his mind. Let us therefore compare carefully his faculties with those of the animal.

Gentlemen, under the name of **[105]** feeling, two profoundly distinct classes of facts are mixed up in psychological language, namely sensory experience; that is to say, the ideas at which we arrive by means of our senses, and feeling in the proper sense; that is to say, the emotions or the passive phenomena of pleasure and pain of which the mind is the theatre. As far as we are concerned, we are convinced that we have to avoid this confusion. Therefore, sensory experience has to be related to intelligence and given another name like, for instance, external experience, in contrast to internal experience; the word feeling has to be reserved exclusively for the psychological faculty we have within us to feel pleasure and pain, in a word, emotions.

Having posited this, we wonder: – Are there, over and above purely animal emotions, which we might call instinctive, other emotions in human feeling, which are a special privilege of man and an attribute of his personality? – Yes, there are, gentlemen, and it is relevant to specify them here properly.

The human being and the beast are equally able to perceive:

1 agreeable or disagreeable *sensations*;
2 pleasant or painful *feelings*.

It is a fact beyond doubt that the mind experiences impressions when physical causes act on the organs of feeling and of knowledge of external phenomena, and on the senses, impressions that are more or less agreeable or disagreeable according to the nature and the degree of energy of the causes. These impressions taken as a whole, constitute man's *physical sensibility*.

The working of physical causes is not, however, the only thing that arouses feeling. It is an incontestable fact that the mind experiences impressions upon the occurrence of moral phenomena, which act upon our consciousness, that organ of both feeling and internal knowledge.[vi] The impressions are more or less agreeable or disagreeable according to the nature and intensity of these phenomena. These impressions, taken as a whole, are given the name 'feelings' and constitute the *moral sensibility*.

[106] The feature essentially characteristic of sensory perceptions is that they are located in the sense organs. Accordingly, they constitute the category of bodily pains and pleasures, if one can thus express matters, and they are classified according to the organs to which they are related. Therefore, there are pains and pleasures for the taste, the sense of smell, the touch, the internal organs, the stomach. Notice that hearing and sight do not produce sensations in the proper sense of the word. When hearing and sight function regularly, their functioning is not noticed; therefore it does not occur to us to relate the sounds or the colours to the organs that transmit them. Though I do not know whether this observation has been emphasized enough thus far, it is nevertheless of crucial importance in philosophy, and especially in aesthetics. It enables exterior objects to impress themselves on us by pure feelings, unalloyed with sensations; it gives moral sensibility direct access to objective reality; it brings mind and nature together on the level of emotion without any intermediary. Walk in the morning in the forest or in the meadows, hear the birds singing and the wind stirring the leaves of the poplars, no physical sensation will disturb the pureness and the softness of the moral sentiment that enraptures you. This same observation explains why there are only the visual arts: architecture, sculpture, painting; or the auditory arts: music, poetry.

What distinguishes feelings from sensations is essentially the fact that the former are not located somewhere in the organism. This does not mean, however, that physiology may not have specified or must specify some day that moral feelings always go together with some modifications in our physical organism, like, for example, movements of concentration or dilations in the regions of the brain, the heart, the liver, or the spleen; but, in this case, it is certain that our consciousness, when experiencing moral feelings, does not experience the physical phenomenon accompanying them. Hence, having **[107]** not the slightest awareness of the location of the feelings within our organism, we may consider them, so to speak, as forming the category of pains and pleasures of the mind.

In states of physical or moral pleasure, sensibility expands, opens out as it were, and wants, in a sense, to assimilate the source of the sensation or the feeling. In a state of pain, on the contrary, either physical or mental, sensibility contracts, compresses, and seems to flee from or push away the cause of the sensation or feeling. This twofold, purely animal and instinctive inclination of sensibility has self-love as its principle. Because of this fundamental disposition, the common source of most of the emotions of the beast, sensibility welcomes pleasure as beneficial and moves away from pain as from something harmful. Let it be understood, moreover, that I use 'self-love' here in the large and extensive sense determined by the most necessary and legitimate considerations of self-preservation, and that I do not mix this up with egoism, which is only a degenerate form of it, excessive and criminal.

Let us therefore, without delay, give to the sensations and feeling that have their source in self-love the generic name of *emotions of self-interest*; in this way we have given instinct its due. The animal hardly knows any other kind of emotion. As far as man is concerned, things are totally different; and here we do not leave the domain of facts to enter that of hypotheses; keeping our eyes open and questioning our memories will be enough to recognize and notice in our human sensibility a whole class of *unselfish emotions* unknown to the beast.

The intense and lasting affection we have for our parents and children; the love of our country that throws us when abroad into the arms of a compatriot, and that moves us to tears at the sight of our native coast; the love of one's fellow-men, and the sympathy for the generations that are dead and those that are still to be born, to whom we have given the beautiful name 'humanity'; these are the type of passions that are unselfish emotions. They do not belong to the instinct but to the heart, **[108]** for the heart is precisely the ordinary name for the ability to be moved to act with unselfishness toward persons. It is the heart that feels friendship, an essentially noble and essentially human passion; for friendship is either completely unselfish, or impossible. The heart bears half the responsibility for love; but if we leave aside, if you wish, the animal and instinctive part of this passion, leave aside the role of the senses, how much selfishness will remain? None! And the indisputable character of love considered this way, just as with friendship, is not thinking of oneself; it is devotion to the loved one.

Thus, the faculty that crowns our human sensibility makes itself apparent by love, friendship, and affection, which unite us with our family, and by charity, patriotism, and altruism. Now, this same faculty is exercised with respect to things and to impersonal nature as well as, if not better than, with respect to persons. Put man in the presence of nature, he is moved, and especially by that eminently unselfish emotion is manifested the superiority of man's feelings over those of the beast. It might be, perhaps, that in family relationships, patriotic or altruistic brotherhood, in the depths of love or friendship, some traces of self-love could be found if one searches with a fine-tooth comb; but could one find it, for example, in the admiration and the delight we experience when seeing a starry sky over the ocean or a sunrise in the mountains? As you see, I put aside here any influence of civilization, and I neglect all masterpieces of art and their power; I want only to bring human sensibility face to face with nature's harmony: that is enough. There, where the animal remains inattentive and indifferent, man is moved, and he is moved without any consideration of self-preservation. There is yet something else of which man has more than does the animal, namely a sense of comic or tragic aspects of what is happening: he laughs over his own naivety or about the way human nature is caricatured; he sheds tears in the theatre or when **[109]** a fire or a shipwreck occurs, even when safe himself. What is less selfish than being amused because of something comic, or than being compassionate because of something tragic?

Gentlemen, those were results of observation. They establish the existence of a set of internal phenomena that are neither ideas, nor volitions, nor selfish sensations or feelings, but unselfish emotions. This type of emotion relates to a superior faculty, which is the crowning feature that raises man above animal or instinctive sensibility. In reality, this faculty, a genuine attribute of the ideal man, is quite often dormant or has degenerated; furthermore, it is unrecognized to such an extent by the psychological philosophers that we still have to denominate it after having noticed and identified it.

In ordinary language, it is called the *heart*, but only insofar as it concerns facts in connection with relations among persons. Hutcheson called it 'inward sensation',[vii] but did so from a point of view that included, on the contrary, only the facts of relations with things and impersonal nature. In his *Cours d'esthétique*, Jouffroy calls it 'sympathy'.[viii] Rather than using these designations, and for reasons unnecessary to explain to you, I think it is more worthwhile to call this faculty, essentially the one of feeling emotionally involved, by the name of *love*, which has been long reserved in philosophy to denote what is most noble and most refined in sensibility. Furthermore, if we would like to be still more precise, without introducing new words in our scientific language for expressing old ideas, we could use, if need be, the terms *sympathy*, relating to the heart, and *aesthetic sense*. Thus, the expression of emotions of sympathy would clearly be in agreement with the unselfish feelings experienced by people; and the expressions of aesthetic emotions would, without any ambiguity, be in agreement with the unselfish feelings experienced, without any concern for self-love or direct consideration of self-preservation, when facing impersonal reality.

[110] Let us now deal with the intelligence, and examine if there are in the human mind, apart from certain ideas that we have in common with the animals, other ideas that we have and that are distinctively characteristic of humans.[1]

Strictly speaking, there has never been any doubt, nor is there now, that the answer to this question must be affirmative. The problem here is not to proclaim the intellectual superiority of man over the animal, but to make clear in what sense this is so, without weakening or exaggerating it. Nearly all psychologists agree in acknowledging that man's mind stretches further and rises to a higher plane than that of the beast; the discord arises when it concerns the description of the facts. The empiricists refuse to admit that there is any intellectual faculty other than experiencing, while certain idealists, on the contrary, claim to see in reason a transcendental faculty that is in some way divine. Gentlemen, we are going to try to remain between these extremes in analysing imagination, understanding, and reason, which are the three gradations of intellectual knowledge.

To begin with, in man's intellect and in that of the beast there are:

1 outer perceptions,
2 inner perceptions.

These outer and inner perceptions form the domain of a first intellectual faculty, the *imagination*; let us examine how these imaginative perceptions are formed in the mind by means of outer and inner experience.

Taste, smell, hearing, sight, touch, in a word, the senses, are at the service of the intellect, as well as at the service of sensibility in its proper meaning, as we have just explained. Just as is true of the senses, the faculty of awareness is at the service of both the intellect **[111]** and sensibility properly speaking. Here, we have to revert to sensations and feelings, and to consider them no longer from the viewpoint of sensibility but from that of the intellect, no longer from the viewpoint of agreeable or disagreeable, sweet or sad impressions with which they may be coupled, but from the point of view of the perceptions that must follow as a result. Here we must let the imagination enter as a first faculty of the intellect, whose function consists of and is limited to receiving (*percipere*) the various essential elements[ix] of the sensation or feeling in order to make perceptions of them. Accordingly, it is the imagination that, by grouping, unifying, and synthesizing the results of the working of the senses or the outer experience, creates the images of exterior objects in our mind. This same faculty of grouping, unifying, and synthesizing the results of the working of the faculty of aware-

1 For the complete explanation of the system of the human intellect that is briefly presented here, I refer to the following works: – *La métaphysique et la science* [*ou principes de métaphysique positive*], by Mr. Étienne Vacherot, ninth and tenth discourses, 'Analyse de l'intelligence' et 'Critique de l'intelligence' [Paris: Chaminot, 1858 (second edition 1863)]; – *Les philosophes français du XIXe siècle*, edited by H. Taine, Chapter III, 'Théorie de la raison', par M. Cousin [Paris: Hachette 1857; later entitled *Les philosophes classiques du XIXe siècle;* see third edition (1868), Chapter VII, pp. 153–202].

ness or inner experience, creates in our mind the first impression of an inner subject different from the exterior objects. These exterior and inner perceptions are common to man and animal.

Now, when continuing this study, we find something in the human intellect that we do not find in that of the animal, namely concrete and abstract *notions*. These notions belong to another human faculty: *understanding*. We have to see how these notions of understanding bring the perceptions of the imagination into existence in our mind.

Show a stone, a tree, or a horse for the first time to a child. After having seen any of these objects, it will be able henceforth, when seeing another example of these things, to recognize it at once not as the same stone but as a stone, not as the same tree but as a tree, not as the same horse but as a horse. This unquestionable fact proves with final certainty that a man having seen for the first time a stone, and before having seen a second one, knows at once completely and definitively what **[112]** is a stone in the sense that he has in mind the concrete notion of this one stone, and the abstract notion 'stone'; that he is able to name and to define the stone, and that he is able to base judgements and arguments on the idea of a stone. I remember once having personally observed and noted this phenomenon in the case of a young child visiting, with its nurse, its parents in the city. Knowing the church of its village and distinguishing it from other buildings in Paris, the child said that it was 'the Mass'. Obviously, the child had in mind a very clear and complete notion of a monument after a first and single perception of one. This notion and the others of the same kind that he had acquired formed the material of his language and knowledge, and I said to myself that the difference between his and my knowledge was only a matter of more or less. In this way, a child and a man grasp an idea of the *essence*[x] of the things, and they may, once having these notions, mention and define them, and judge and reason about them. Similarly they grasp other categories of notions concerning the things, like *existence*, *quantity*, *quality*, and *relation*, and may likewise, once having these notions, make them the object of name-giving and definition, the subject of judgements and reasonings, and the material of language and science.

Therefore, we could not avoid here having recourse to an intellectual faculty, quite distinct from the imagination, whose task it is to act upon exterior and inner perceptions to draw notions from them. This faculty is the understanding. How does the understanding work? Simply by tackling the countless, confused mass of perceptions of the imagination and associating them sometimes with a *person* or a *thing* to make essences out of the perceptions, sometimes with a *form* or *mode* to make existences out of them, sometimes with a *number* or a *magnitude* to make quantities out of them, sometimes with a *kind* to make qualities out of them, and sometimes with a *cause*, an *end*, or a *law* to make relations out of them. Classified in this way by the understanding, imagination's perceptions become first **[113]** concrete notions and then abstract notions, always comprehensible; that is to say, they can be named and classified: strictly speaking, they are ideas. It is certain, indeed, that in the operation of synthesis, which is the understanding's proper task, it modifies and transforms the perceptions, without adding anything to them, in order to draw notions out of them. Once the idea is born, only its formation and moulding is done by the mind; all its materials are borrowed from experience.

The following observation concerning understanding still remains to be made.

Imagination's perceptions are no more than collections of sensations and feelings, or, if it is permitted to express matter this way, assemblages of perceptible elements; any attempt to make abstractions on the basis of perceptions will only lead to their obliteration, without the creation of any idea. On the other hand, if there are concrete notions, for instance the notions of this stone, of this tree, of this horse, one may pass from these to abstract notions, like 'stone', 'tree', 'horse', by retaining the intellectual element that is furnished by the understanding – the element that is like the mould or the form of the idea – and by eliminating the perceptible elements furnished by experience, which are so to speak its material. The intellectual synthesis that creates the concrete notion is necessary and sufficient to allow the intellectual analysis from which the abstract notion results, either in the category of essence, or in the categories of existence, quality, quantity, or relation. In all the categories of thinking, abstraction necessarily implies understanding, and understanding is sufficient to account for abstraction, and, consequently, for definition and classification. From this it evidently follows that if a man uses language and develops science, he does so because he has the faculty of understanding, and that the absence of understanding in the animal's intellect is superabundantly demonstrated by the fact that it does not speak any grammatical language and does not work out any science consisting of a group of analytical or synthetic propositions.

[114] Gentlemen, in conclusion I will say some words about *conceptions*, which form the domain of *reason*.

It is an indisputable fact that when imagination presents certain perceptions to the human intellect the latter recognizes these instantaneously as essences, existences, quantities, qualities, or relations. Similarly, it is an undeniable fact when the human intellect is given certain notions of understanding like *individual* essences, *phenomenal* existences, *finite* quantities, *imperfect* qualities, or *contingent*, *conditional*, or *dependent* relations, the human intellect conceives immediately the abstract complements of these notions: *universal* essence, *substantial* existence, *infinite* quantity, *perfect* quality, and *necessary*, *absolute*, and *independent* relations.

Let us therefore, without delay, call reason the intellectual faculty whose role it is to provide, by abstraction, these metaphysical[xi] concepts: universals, substance, infinity, perfection, necessity, absolute, and independence, and we will have achieved the analysis of the human intellect by making sufficiently apparent the intellectual superiority of man over the beast. Gentlemen, I think that we have done so without having either mutilated or deified psychological man as far as it concerns his intellect. We have done it in restricting ourselves scrupulously to introducing nothing of the mind other than its form, in compelling ourselves strictly to borrow all the content of thought from experience; that is to say, in perfect agreement with Locke's principle, nicely corrected and completed by Leibnitz: – *Nihil est in intellectu quod prius non fuerit in sensu, nisi ipse intellectus*. (There is nothing in mind that does not originate from experience other than the mind itself.)[xii] In short, we have done it by keeping just as aloof from the excessive rationalism of inborn ideas as from the powerless rationalism of transformed sensations.

[115] Having analysed sensibility and intelligence, it remains to analyse the will.

The animal's will is instinctive, ineluctable; man's will is *conscious* and *free*. This is the distinction that has to be precisely specified.

The animal feels and knows, and not only it feels and knows, but it knows that it feels and knows. Moreover, the animal has wants, and not only has wants, but it knows that it has them. After having said that, everything has been said concerning the animal. In complete accordance with the inner principles it has to use in the form of faculties, it does not feel and does not know itself; it does not belong to itself. It has an objective and it pursues it, but in so doing, it is not so much the animal who is acting but rather nature itself who is acting in it, just as nature works in a stone and in a plant. This is why we say that an animal, just like the stone and the plant, has a blind and inescapable fate, and that, like the stone and the plant, it is a thing. On the contrary, man feels and knows and he knows that he feels and knows; likewise, man has wants and he knows that he has them. For him, however, this is not all. Man does not only know that he feels and knows, but he relates his sensations and feelings, as well as his knowledge, to the sole and unique subject that he himself is, but of which he is not yet fully conscious when, as a child, he speaks about himself in the third person; and similarly, man not only knows that he has wants, but he relates his wants to that same inner subject that is *me* distinct from *non-me*. Confronted with the action of the causes that act upon his faculties and these faculties' reactions, man rises progressively above these actions and reactions because of his consciousness of his unity and his identity. He dominates his emotions and ideas, and he dominates his decisions. He feels, knows, and possesses himself. He has a destination and he pursues it, and he does so while knowing that he has a destination, and that it is he himself who has to pursue it. That is why we say that man achieves a clearly perceived and unrestricted destiny, and that he is not a thing but a person.

[116] Psychology, gentlemen, with the exception of some recent work, has until now analysed human sensibility and the human intellect very imperfectly: unfortunately, this is a too true fact. Notably, one can reproach psychology for having disfigured sensibility by completely misunderstanding the role of sympathy and aesthetics, and by having totally distorted the intellect by valuing the functions of reason too highly. And, perhaps, it understands human will even less. Not being able to dwell at length on all the errors that could be discussed here, I will restrict myself to some main observations.

When spiritualists and materialists discuss the question of the psychological liberty and the moral personality of man, they each first wonder whether or not there exists in man some kind of special faculty, like a torch illuminating the moral world, to reveal to him immediately, and in any circumstance, that this is good and that that is evil. This first dispute having been settled by placing man between the good and the evil that he supposedly knows, the supporters and the opponents of liberty and personality are at variance on the point whether man must be considered as being able to make a free choice between good and evil in any circumstance. I confess that I consider this way of putting the problem as singularly unfortunate; and I think, when all is said and done, that the spiritualists must be declared wrong regarding the two premises, without thereby declaring that the materialists are right, nor siding with the latter against the principle of the personality of man.

First, the knowledge of good and evil is in no way susceptible to a sort of instantaneous and universal revelation; it varies according to place, and progresses with time; it forms an object of investigations attempted by people with sound and lively intellects, and is neglected by narrow-minded, lazy persons. Moral science, I would say, is a science known to the scholar and to those to whom it is taught, and unknown to ignorant people and to those to whom it has not been taught. **[117]** Apart from a certain intellectual value and a certain moral culture, whether scientific or religious, regarding which it is true to say that fortunately few among us are lacking at present, one finds in man hardly more than a vague view on morality, which brings him to suspect that this or that thing he is going to do is good or bad, but which leads him quickly to regard as good that which is profitable to him, and as evil that which is harmful to him.

Second, good and evil being more or less known, it is sure that man will always prefer good to evil, or evil to good, depending on whether he will be encouraged or demoralized by the habit of virtue or the practice of vice. You will ask: Is a man to whom an amount of money is offered for committing some base act free to accept or to refuse it? Gentlemen, permit me to answer: that depends. Either the man in question is someone distinguished by ideas and feelings, living a simple, dignified, and orderly life; his whole being will rise up against the proposal of a crime, a wrong, or a moral failing. Or, alternatively, it concerns a foolish, conceited man, ambitious and vulgar, obsessed by mean passions and despicable preferences; such a person would have solicited the offer of an infamous act rather than awaited it. I challenge, I dare to say, the first of these two men to yield to temptation and the second to resist it. One may hesitate when one is young, at the age, according to the beautiful, ancient metaphor, when one is still at the junction of virtue and vice, to go little by little in one of the two directions; later, hesitation in a similar case hardly means that there is little doubt about a failure. What does all this prove? It proves, truly, against the spiritualists' opinion, that a man of high morality is, in a way, not free to behave badly, whereas, on the contrary, a man without morality is, in a way, not free to do good. But this does not prove at all, as the materialists try to convince themselves and claim that they make us believe, that man is not likely either to be reformed by habitual virtuousness, and to put himself in the **[118]** position of preferring always good to evil, or to be corrupted by the practice of vice, thereby making his doing good impossible and his doing evil always necessary. Now, this single fact is a sufficient basis upon which the whole system of human morality may be established.

There are absolutely no animals that are moral or immoral. Lambs are gentle and wolves are ferocious; neither the former nor the latter are virtuous or vicious. Among people, on the contrary, there are those who are virtuous, or of high morality, and there are those who are vicious or immoral. Thus, the fact of morality is enough to mark the superiority of the human will over that of the beast, exactly like the fact of language is enough to mark the superiority of the human intellect over that of the animal. As far as the individual level of morality concerns, this is the result of little struggles, victories won or defeats undergone under the circumstances with which everybody is confronted every day and every hour. It results also, and this is very important to notice, not only from the good or bad exercise of the will, but also from the good or bad exercise of intelligence and sensibility. If one wants to imagine the man of really high morality; that is to say, inaccessible by any idea of doing wrong, we should not only suppose him to be fully his own master, but also of a high and well-educated mind, a thoughtful and generous heart, full of strong and wise ideas originating from noble and delightful pleasures like friendship, love, art, and poetry. From the theoretical point of view, this means that the moral personality of man is brought about in combination by the three faculties of the mind as we have identified them: sensibility with sympathetic love and aesthetics, the intellect with understanding and reason, the will with self-knowledge and self-possession in volitional acts. The two latter characteristics form his conscience and his psychological freedom, which contribute equally to the moral personality of man.

Gentlemen, we are finished with this long and arduous analysis. The time has come to reap the fruits of our **[119]** concentration and patience, which are the ease, simplicity, clarity, and rigour of the definitions.

Man – not so much the animal man but man in the proper sense, the theatre of human facts – has been revealed to us by both external or physiological experience and by inner or psychological experience. Considered from the physiological point of view, he appeared to us as a being organized so as to bring his capabilities to the level necessary for his needs by the division of labour. Viewed in this way, we define him as *a worker engaged in the specialization of labour*. Considered from the psychological viewpoint, he appeared to us as a being gifted with a sensibility crowned by sympathy and an aesthetic sense, by an intellect crowned with understanding and reason, and by a free and conscious will. Viewed in this way, we define him as '*a moral person*'.

Now, man once having been defined, there is nothing easier than also defining the human facts.

First, I will consider the totality of man's sympathetic and aesthetic emotions, or the entirety of the relations of human sensibility with persons and with impersonal reality. I call this *Art*. Thusly defined, art comprises both *passions* and *natural poetry*, and also the various arts such as *architecture*, *sculpture*, *painting*, *music*, and *literary poetry*. I add to this *religion*, as far as it concerns faith and sentiment, myth and worship. The principle of the sympathetic and aesthetic relations of man with the world is the principle of *Beauty*.

Then, I consider the totality of notions and conceptions, of man's judgements and reasonings made by the understanding and reasoning power, or the entirety of the relations of the human intellect with nature, man, and God. I call this *Science*. So defined, science comprises both *language* and the varied sciences, which may be subdivided into these three groups: physical or *natural* sciences, moral or *human* sciences, and *metaphysical* sciences. This **[120]** includes both *pure* sciences or theories, and *applied* sciences or theories. We bring, of course, religion under this head as far as it concerns morals and theodicy. The principle of the intellectual relations of man with the world, or the law of science, is the principle of that which is *True*.

The exercise of sensibility and that of intelligence manifest themselves by eminently responsive or inner facts. The exercise of will, on the contrary, finds its expression in essentially active and exterior facts. These facts are those that truly constitute the accomplishment of human destiny, and by means of them, all individual destinies are directly linked to one another. They form therefore the proper object of social activity, and are the elements of the all-embracing fact that we call *Society*. Here, however, I have to make an important refinement in order to remain faithful to my analysis.

On the one hand, I identify the entirety of the efforts of people within the framework of the division of labour to prepare for achieving their destiny or to pursue their purpose of bringing their capabilities to the level corresponding to their needs, or, saying it otherwise, the whole of the social relations between the people in their quality of workers engaged in the specialization of labour. I call this *Labour* or *Industry*. So defined, industry comprises *agriculture*, *industry* in the proper sense, *commerce*, *credit*, and *speculation*: all the operations concerning the increase of wealth. This is the fact of the *economic* or *industrial* society. The law of the economic relations between the people in the society, or the principle of labour and industry, will be called that which is *Useful* or *Advantageous*.

On the other hand, I identify the entirety of the voluntary decisions and unconstrained acts of the people within the domain of rights and obligations to achieve their destiny or the pursuit of their objectives by applying the results of the development of their faculties to the satisfaction of their needs, or, in other words, the whole of the mutual relations among people in their quality of moral persons. I call them *Mores*.[xiii] **[121]** So defined, mores comprise *ownership* and *taxation*, *family*, and *government*. This is the fact of the *moral* society. The law of the moral relations between the people in a society, or the principle of morals, will be called that which is *Good*, or *Justice*.

Art and science, industry and mores are therefore the four categories to which all human facts have to be connected. Beauty and truth, usefulness and goodness are their respective principles. This classification is adequate if it comprises all human facts without exception, and if it is equally applicable to the most civilized and the most barbarian people. I believe, gentlemen, that it has this quality. There are primitive people in Africa who break their superior incisors to become more beautiful; the Tahitians squash their noses on their faces; the Botocudo Indians of Brazil put big wooden pins in their lips and ears. These beings thereby show a concern that is in general alien to the animal, namely an aesthetic feeling; they possess an art. Among these primitive people, there are those who can count to twenty by means of their fingers and toes, while giving each of the first twenty numbers the name of a finger or a toe. In this way, they place themselves high above the beast's instinct; they practice science. What I am saying about art and science, I can also say about industry and mores. Go back, if you want, to the ancient and primitive times; wander in distant, far-off lands, ask history and anthropology; in all times and in all places you will find men associated with each other, and more or less likely to be thinking about that which is beautiful, true, useful, and good. You will come across tribes and groups to whom art consists only of naïve songs, bizarre dances, and puerile or violent rituals; their science is only a crude and bizarre explanation of some phenomena of nature; their industry consists of the construction of huts and the pursuit of wild beasts; their property, family, and government consist in the practice of communism or slavery, polygamy or polyandry, of despotism **[122]** tempered by assassination and civil war. Everywhere there is a sign, however feeble, that reveals the superiority of our race by some symptoms of the division of labour and of moral personality.

We are therefore in possession of a definition of the ideal man extracted with care from an exact analysis of the real man. With this empirically based definition, we do not need more than to deduce, by means of a series of analytical judgments, all the theorems of social science and, above all, the fundamental principle of this science. That is what I am going to do, gentlemen, in my sixth and last lecture; in the next one, I shall use this principle to make clear to you the profound harmony of human destiny as we have defined it, in searching with you for the relations between art and science, between industry and mores, and, particularly in noticing the distinction between interest and justice, as well as their compatibility.[xiv] **[123]**

II Fifth lecture: on the compatibility of interest and justice

SUMMARY: Art, science, industry and morals, beauty, truth, economic advantageousness, and justice are *distinct* and not identical.

Are they compatible or contradictory?

To demonstrate their compatibility, we have to link the facts of free will, understanding and reason, and sympathetic love and aesthetic feelings to the fact of the division of labour. The facts of morals, science, and art have to be linked to that of industry.

The *division of labour* requires self-possession, by means of *free will*. The general fact of *society* and each of the special facts of *property*, *family*, and *government* are explained by the fact of man's personality and the fact

of the division of labour. *Industry* presupposes *morals*. – The *division of labour* requires the notions of *understanding* and the idea of *reason*. *Industry* presupposes *language* and *science*. – The *division of labour* requires the disinterested emotions of *sympathetic love* and *aesthetic sensibility*. *Industry* presupposes *art*.

Man is therefore fit for the division of labour only on the condition of being a person endowed with morality, and he is endowed with morality only in order to be capable of the division of labour.

Economic advantageousness and justice, in the past considered to be contradictory, may, in the future, be considered to be compatible.

Slavery, *serfdom*, and *proletarianism*.

Gentlemen,

On the basis of the analysis of human nature and the classification of the human world we have investigated in the foregoing lesson, we identify two groups of social facts and relations: *economic facts and relations*, and *moral facts and relations*; – these facts and relations are organized according to two principles: the one is of an economic nature, namely usefulness, or *economic advantageousness*, and the other is of a moral nature, namely that which is good, or *justice*; – there are two social sciences or theories of these facts and relations: the one is an economic science, which is *economics*, and the other is a moral science, which is *social science* properly speaking.

On the one hand, people try to achieve their destiny by making use of **[124]** their active faculties in *work* or *industry*, though their destiny will not always be reached in actuality. Similarly, they try to achieve their destiny by making use of their sensory and intellectual faculties in art and science, without always reaching it in reality. Each man chooses a special occupation from thousands of different, more or less difficult ones, trains himself for it, devotes himself to it, and perseveres and excels in it. So then, all people find themselves in contact with one another as workers engaged in the specialization of labour. Agricultural, industrial, and commercial production of social wealth results from this. We have here a first group of social facts. They are by no means natural facts; they are human ones. They do not take place in nature, but in man in the proper sense. They do not obey the blind inevitability of the forces of nature, but rather the drive of man's will. In this respect, man acts or does not act, and he acts in this way or that way. It is certainly not pure caprice that makes him decide to act or not, or to do something in this or that way, but a superior and vital principle. Man's liberty consists exclusively in making his actions comply with the requirements of this principle as they are revealed to him by his reflecting on it. What is this principle? It is usefulness or economic advantageousness, in other words obtaining *the best the division of labour can yield*. The division of labour is the condition of human destiny; what human reason recommends being done as something favourable to the division of labour must be useful, and what reason dissuades us from doing must be something harmful. This is the subject of a first science, economics, comprised of the *theory of agriculture*, *industry*, *commerce*, *credit*, and *speculation*.

[125] Alternatively, people achieve their destiny by applying the result of the development of their faculties to the satisfaction of *moral* needs. Of the many more or less pressing or refined wants in life, each man satisfies a certain number. Thus, all men find themselves in contact with each other as moral persons. The distribution of wealth with the object of consumption, the union of the sexes, and the administration of State affairs result from this. We have here a second group of social facts that are also human facts and not at all facts of nature. Again, they take place in man in the proper sense and not at all in nature. They also obey the drive of man's will, and not at all the ineluctability of the forces of nature. In this respect, too, man acts or does not act, and he acts in this way or that way. Certainly it is not pure caprice that makes him decide to act or not, or to do something in this or that way, but a superior and vital principle. His liberty, again, consists exclusively of making the exercise of his free will comply with the requirements of this principle, as they are made clear to him by the use of his understanding. What is this principle? It is what is good, or justice; in other words, *the best moral personality*. Moral personality is the typical feature of human destiny; what human reason urges us to do as something favourable to the moral personality must be good and what reason forbids us to do must be something bad. This is the subject of a second science, moral science, comprising the *theory of property and taxation*, *of the family*, *and of government*. Social science teaches us how all these domains have to be organized on behalf of the moral personality; it yields the instructions that man's reason draws from his psychological nature, instructions to be used in his moral activities; it is the search for the social ideal.

[126] Here, we have obtained a first certainty and solved a first problem. Industry and morals – and I may add art and science, advantageousness and justice, and also that which is beautiful and that which is true – are distinct categories and principles, none of which should be subordinated to another, except at the risk of regrettable philosophical and scientific confusion. Each of these categories represents an independent province in the domain of human facts; each of these principles forms a supreme authority in each of these provinces.[xv] Now, having said this, a question inevitably arises in our minds. Is there peace or is there war between these kingdoms and their princes? Art and science, industry and morals, that which is beautiful and that which is true, advantageousness and justice: these distinct categories and principles, non-identical, are they *compatible* or contradictory? Gentlemen, believe me that before trying to solve such a serious question, so complicated and new, we have to take time to put it with the utmost care, especially with respect to industry and morals, and advantageousness and justice.

We have defined work or industry as the entirety of the social relations between the people in their role as workers engaged in the specialization of labour. These relations are for or against advantageousness if they are for or against the best division of labour. We have defined morals as the entirety of social relations between the people as moral persons. These relations are for or against justice if they are for or against the best moral personality. Hence, it is certain that the people must be considered separately, whether as physiological beings having economic relations with each other, or as psychological beings having moral relations with each other. Well, this being so, are economic relations **[127]** that are for or against advantageousness necessarily for or against justice? And are moral relations that are for or against justice necessarily for or against advantageousness? Or, is it the other way around? Is it possible that certain relations instituted for the best division of labour will turn out to be against the best moral personality, and that certain relations instituted for the best moral personality turn out to be against the best division of labour?

Let me take, for example, the category of production in the field of economic relations, and the category of distribution of wealth in the field of moral relations. We are determined to develop the theory of agricultural, industrial, and commercial production of wealth exclusively from the economic point of view, that of advantageousness. We are equally determined to develop the theory of the distribution of wealth in regard to property and taxation exclusively from the point of view of social equity, or justice. Where will this approach take us? It is certainly possible that what is necessary for an abundant production will always satisfy the conditions for an equitable distribution. But what if, by chance, matters are otherwise! If, for instance, advantageousness leads us to prefer the labour of a serf or a slave to that of a liberated, free man, while, on the other hand, justice formally condemns serfdom and slavery; or if justice leads us to give preference to absolute communism, although advantageousness energetically opposes communal work? What if, finally, economics and social science, once completed, destroy each other, and if, the latter persists in saying that slavery is highly objectionable, and the former persists in saying it means the colonies' salvation, should we then tolerate wealth originating from such an impure source, or should we rather reject it with disgust, repeating the proud and nearly savage cry of morality: 'Let the colonies perish, rather than a principle.'?[xvi]

What uncertainty, gentlemen! And what a problem! Is there compatibility or contradiction between industry and morals, between **[128]** advantageousness and justice? Is there compatibility or contradiction between art and science, between that which is beautiful and that which is true. Is there conflict or harmony in the whole of human destiny? This is the problem that, in our times, disturbs our thinking, impedes philosophy, and with which economics and social science are struggling. I do not know whether I am erring, but it seems to me that the way we have broached the problem shows us the way to solve it. In the study of human nature, we have searched for the principles distinguishing art and science, and industry and morals; in the study of human nature, therefore, we have to search the basis for their compatibility. There will be conflict or harmony in human destiny depending on whether there will be conflict or harmony in man's nature. Let us therefore return to human nature, to the physiological nature; that is to say, to the aptitude for the division of labour; and to the psychological nature; that is to say, to sympathetic love and aesthetic feelings, to understanding and reason, to free will. Let us see whether all these faculties exist as metal cogs working against each other or as well-constructed parts of a happy mechanism.

Now, given the facts of the division of labour and of man's personality, containing as such the whole of the physiological man and the psychological man, given the facts of industry, art, science, and morality, which contain in themselves man's whole economic and moral destiny, I believe that I see precisely among all these facts a profound relationship. It seems to me that the division of labour implies man's personality, and that the psychological person is explained and justified by the physiological man; it seems to me that industry implies art, science, and morals, and that man's moral destiny is explained and justified by his economic destiny. At any rate, I am going to do my utmost to demonstrate this: it follows very clearly that what are useful, beautiful, true, **[129]** and good are related, and, particularly, that in the ideal organization of the society, advantageousness and justice are in harmony with each other.

We observed already that any animal, if it is hungry, thirsty, or suffers from bad weather, it chases a prey, looks for a stream, or tries to find a cave or a lair, and so it eats, drinks, and takes shelter. If, on the contrary, man is hungry, thirsty, or suffers from heat or cold weather, he makes shoes and trades them for bread, wine, or the use of a dwelling. So, on the one hand, when a need is felt, faculties are exercised to satisfy it directly by immediately procuring what is needed; on the other hand, when a need is felt, faculties are exercised that will lead only indirectly to its satisfaction and that cannot procure what is needed until afterwards. Consequently, there is, on the one hand, a direct, immediate and simple realization of destiny, and, on the other hand, an indirect, postponed or delayed, and complicated accomplishment of destiny. If, now, I have succeeded in making evident that, in the first case, instinct is enough for the animal, and that, in the second case, man must have, first, self-possession by means of a free will, second, the ideas and notions provided by understanding and reason, and, third, the disinterested emotions of sympathy and of the aesthetic sense, then I have connected the facts of free will, of understanding and reason, of sympathetic love and aesthetic feelings with the fact of the division of labour.

The object of the division of labour, that by which the principle of the division of labour shows itself and that to which it is applied, is making and using tools and machines of all sorts: it is, in a word, industry. We have said: without the division of labour, our needs exceed our faculties; with the division of labour, our faculties exceed our needs. We could have also said: deprived of tools and machines, man will remain the least of the world's creatures; equipped with tools and machines, he is the master and the king of the universe. Thus, without industry, man fails to accomplish his destiny, and, with industry, he is **[130]** in command of it. If I now have succeeded in making completely clear that to develop all his industrial possibilities, man must have: first, morality, second, science, and, third, art, then I have connected the facts of morality, science, and art with that of industry.

Gentlemen, we are going to try to bring this important demonstration to a good ending. To do so, we will connect successively to the facts of the division of labour and industry, first, those of free will and morality, then those of understanding, of reason and science, and finally those of sympathy, of aesthetic feelings and art. In this way, we will perhaps succeed in giving the demonstration an indisputable scientific value.

A plant becomes exhausted and wilts if it lacks air and water; if one puts air and water at its disposal, it absorbs them and is fed, and it recovers its force and bloom. If you reflect on this, you will recognize that there must exist an adequate natural intermediary force between, on the one hand, the plant's withering, and, on the other hand, the absorption of the water sprinkled over it and the air to which it is exposed. When some animal is hungry, it chases a prey and devours it; when it is thirsty, it looks for a brook and quenches its thirst. If you will give it just a little thought, you will again agree that for this animal, instinct, hence a blind, inevitable natural force, is the quite adequate intermediary between the hunger and the pursuit of the prey, and between the thirst and the search for a stream. Are matters the same for man, between the fabrication of the shoes, on the one hand, and, on the other, food, clothing, and shelter?

Certainly not. One man bakes bread, another man makes clothing, a third man constructs houses; in a word, they specialize in different occupations in order to exist and subsist; then, after having produced all these diverse things, they trade them for the diverse things they will consume. It is certainly not instinct that drives them to this labour and this trade, and helps them in those activities. A natural force **[131]** may perhaps move beings from some point towards some goal if it is a matter of always departing from the same point and arriving at the same goal, and if the points of depart and arrival are not far from each other. But a natural force would be unable to obtain any particular result by varied or indirect means. To say variety is to say choice, and liberty in the choice; to say indirect means is to say calculation, and intelligence in the calculation. Now, to say natural force is to say ineluctable force and blind force; namely, equally incapable of choosing or of calculating.

Thus, for the animal, instinct is enough, given that its faculties are naturally on the level of the magnitude of its needs, and aimed directly at their satisfaction, achieving it immediately. For man, however, instinct is not enough, given that his needs naturally exceed his capabilities, and that it is only artificially, by the division of labour, that his capabilities exceed his needs. His faculties aim at an indirect satisfaction of his needs, fulfilling them only after trade. Therefore, if a natural force, unconscious in itself and not having any power over itself, is not enough for man, he must have self-possession and free will.

Let us now go from the principles to their consequences, from potentiality to action, from the division of labour and the moral personality to industry and mores. We have to look for a logical chain between these facts. The aptitude for the division of labour brings about industry or the economic society; the moral personality creates mores or the moral society. We have just seen, however, that the division of labour absolutely needs the moral personality. Hence, we may be sure that industry strictly needs morals, that the economic society strictly needs the moral one. Now, we are going to take the fact of society in its totality; we are going to take the special facts of property, family, and government, and **[132]** we will ascertain the relations of each of these with the human personality, and then ascertain the latter's relationships with the division of labour, first to verify its moral character and then to verify its economic character.

Man, being free and responsible, is a moral person. On the other hand, any being that is not human is lacking liberty, responsibility, and moral personality: it is a thing. Having said this, it is not difficult to explain that, inasmuch as persons are pursuing a clear and free objective whereas things are fulfilling a blind and ineluctable fate, it is both a right and a duty for man to use all things as he wishes. This is why carving stones, pruning trees, eating fruits and animals are rights and a duty of mankind. Having posited this, it will be no more difficult to make clear that, on the one hand, persons, being as they are, and, on the other hand, things being different from persons, and that, inasmuch as reason makes the latter submit to the former, there is a moral solidarity between all human destinies in the work of achieving them.

In this way, the whole fact of society is explained by considering only man's personality; in other words, it is explained, and equally completely so, just by considering the division of labour.

Indeed, when an animal chases a prey when it is hungry, looks for a brook when it is thirsty, tries to find a cave or digs a hole when it suffers from bad weather, the achieving of its destiny may be just as autonomous as it is instinctive, blind, and inevitable. But when a man makes shoes when he wants to eat, and wants to drink, and wants to find shelter, is it then not clear that the free achievement of his destiny and the destinies of the people who make bread, of those who make wine, etc., are interdependent? This interdependence of the destinies of all people taking part in the division of labour and in the specialization of occupations, this material solidarity capable by its own accord of constituting society, is so evident that, I believe, there is no need to insist further on it.

[133] All acts of a being that is not a person are instinctive; they are all natural and cannot in any way be called moral or immoral. However, all free and deliberate acts of man, a moral person, draw on the character of morality; once performed, they are submitted to the sanction of justice; one may call them moral or immoral, in accordance with law or against it. That is why appropriation by an animal can never be otherwise than a natural fact, like all its other acts, and why, on the contrary, in the case of man, possession will always necessarily be legitimate or illegitimate, property or usurpation.

Property, legal possession, is a moral power; it is a right.

To say that man is free is to say that he can be an owner; this certainly also means that he belongs to himself. Only man is the subject of property rights and can never be the object of them. His body and his mind, his physiological and psychological faculties, are his; he appropriates them and this appropriation is the principle of a legitimate possession, the foundation of the right of ownership.

Man's body and his mind, his physical and intellectual faculties, belong to him; his labour, which is the functioning of these faculties, belongs to him; his wages, which are the fruit of his labour, belong to him. He has, therefore, a right of ownership of everything for which he may trade the services of his personal faculties.

It is clear: the single fact of man's personality completely accounts for individual ownership; the single fact of the division of labour likewise accounts for it.

An animal takes its prey and devours it, finds a watercourse and quenches its thirst, discovers a cave and takes refuge in it. In all these circumstances consumption follows immediately and without delay upon taking the thing; consequently, this appropriation cannot be otherwise than approved. This is quite different for a man engaged in the division of labour; such a man produces exclusively either clothing, or **[134]** comestibles, or furniture, or houses, and he must trade all these things before being able to consume; it is therefore useful, even essential and indispensable, that the possession he takes of these things be recognized and legally guaranteed; and it is even more essential and indispensable that the law recognize and guarantee the worker's taking possession of the consumption goods that he receives in exchange for his products. So, the division of labour brings us to legal appropriation, just as man's personality has led us to legal ownership. This taking possession and this ownership are nothing other than property rights as they exist in society.

Here, I have dealt only with the right of ownership insofar as it concerns the part of social wealth that consists of labour or the fruit of labour. But it is quite easy to see, after this first observation, that as far as concerns the other part of social wealth, which consists of land and raw materials, which are certainly not fruits of labour, the right of property must be of interest to man in two respects, namely either as a moral personality or as a worker engaging in specialized occupations.

Consider an irresponsible and impersonal animal whose destiny has nothing to do with any question of morality; all its acts during its life will, in a way, be purely physiological. Among all other actions, those that this animal will undertake to reproduce itself in order to preserve its species will be activities analogous to those of respiration or nutrition; they will have hardly more importance or consequence. But now, consider two responsible persons engendering a third, similarly responsible person; in that case, we leave the realm of physiology and enter into that of morality. In the former case, it concerned simply a mating, but here it concerns a marriage. The respective rights and duties of the spouses regarding each other, those of the parents regarding the child, and those of the child regarding the parents come into being, and the family is born.

[135] There, summarily, is the origin of the family from the point of view of man's personality. Now we shall see this origin from the point of view of the division of labour.

Some months, weeks, or often some days after its birth, the animal is, thanks to instinct, able to provide for its subsistence, to develop its faculties, and to satisfy its needs. From then on, it may be alone, and nothing prevents its parents from separating. That happens in fact: once the mating season is over; the affection of the males for the females, even that of the females for their young, ceases and is extinguished, and they no longer mean anything to each other. Quite contrariwise, man needs, to develop his faculties in order to satisfy his needs, an education, which takes a considerable period of time. Fifteen or 20 years on average are necessary to get, first, an elementary education and then professional training. It is thus quite late that he becomes a worker fit for a special occupation. During all this long apprenticeship, he needs his father and his mother, who must remain close to him and remain together; he has brothers and sisters who likewise need their parents. So, we might, if we wished, define the marriage of a man and a woman as 'the association of two workers to create one or more other people and prepare them for specialized occupations'. By means of this essentially economic definition, perhaps, we will be able, without too much trouble, to corroborate all the conclusions of social science relating to the family.

From the moment that the capability to achieve his destiny, to seek and pursue his goal in society, to think, to talk, to write, to work, to associate, to be owner, husband, and father of a family constitutes for every man an ensemble of rights and duties, and, at the same time, of economic necessities. It likewise becomes a right and a duty, and also an economic necessity, to inscribe those faculties explicitly in constitutions, to make them accepted and **[136]** guaranteed by laws, and to support them by force if need be. Therefore, there exists in society a threefold power: legislative, judicial, and executive; hence, in a word, the fact of government. The fact of government, like the fact of ownership, like the fact of family, results for that reason both from man's psychological nature and from his physiological nature, and is based on a double, unshakable foundation: that of the fact of moral personality and that of the division of labour.

Well! Let us see if what we were able to say about mores can also be said about science and art.

Let us admit that, in a way, there is, for man, a considerable gap between the use of his faculties and the satisfaction of his needs, to be bridged by the division of labour, an enormous distance to be covered by industry. Let us admit, moreover, that for bridging this gap and covering this distance, man needs free will and mores. Could we then believe that self-knowledge and knowledge of the world that surrounds him, the notions of understanding, and the conceptions formed by reasoning, language, and science, are not necessary?

To me personally that appears completely impossible. Saying that a man belongs to himself is also saying that he knows himself. How would a man make up his mind voluntarily, how would he act freely, if he could not, before deciding and acting, form an idea of exactly what his decisions and actions will be, their motives, their goals, the circumstances in which he forms them or accomplishes them; how, indeed, if he did not ponder them, in a word, before deciding upon them and acting? And what forethought would be possible for man without self-knowledge and knowledge of the universe around him? Thus, limited and confused representations of imagination for the animal; but, for man, intelligible notions, which can be defined and classified; for him the notions of understanding and the conceptions formed by reasoning.

However, if the division of labour, together with free will, call for understanding and reason, industry, along with the mores, no less strongly requires language and science.

[137] Here is the situation of men, each one equipped for a special occupation to which he devotes himself completely: how could it be that they would not all communicate their thinking by words? Here we have all men, making their industrious efforts to get wealth and achieve well-being: how would this take place if they had not defined, classified, and judged systematically bodies and phenomena, natural facts, their relations and their laws, and known the physical world scientifically? Here we have all men, each one pursuing freely his goal, without infringing upon other people's free pursuit of their goals, putting virtue and equity into practice: how would this be so if they had not acknowledged by a mutual agreement that man has a destiny, had not striven to learn that destiny, discovered how to achieve it, had not had a premonition about, sought after, and grasped the harmony of human facts, and had not known the moral world scientifically? Thus, in this way, the categories of language and science are presented in logical order after those of industry and mores.

Coming into the world with capabilities at the level of its needs, the animal has only to develop its capabilities instinctively in order to satisfy its needs. And to bring its instinctive will into play, it needs purely and simply its instinctive sensibility. When the animal feels its needs, it wants to use its faculties. It is therefore enough that it has emotions of self-interest, that it has agreeable or disagreeable sensations, sweet or painful feelings, sensations and feelings that always find their origin in self-love, and occur unfailingly as an indispensable warning that self-preservation is secure or threatened, frustrated or favoured by circumstances. On the other hand, man, born with needs surpassing his capabilities, has to bring his capabilities above his needs by means of the division of labour. For that reason, he must be master of himself, to such a degree that he will also be able to ensure, free and unhampered, the security and fullness of his existence. Is this all, or is there still lacking something?

[138] He must also have a sensibility different from pure and simple sensibility. The demands of hunger and thirst and so many others experienced by a man are so strong and pressing that, adding to the fact of the weakness of his senses and the frailty of his organs, they would overwhelm him rather than stimulate him to undertake the unceasing, painful, but successful struggle against nature he must make, that long, difficult, and triumphant way to moral progress. Suppose a man is starving, thirsty, naked, sometimes seized with cold, sometimes exhausted by heat and suppose him also to be the one who decides either to try to live or to let himself die; rather than struggle and overcome, he would certainly perish if he had not the drive and the enthusiasm emanating from passion and sympathy for people, and the aesthetic admiration of nature; these are the sole sources from which he is able to draw eternal hope. Therefore, in actual fact, man would not exist at all without the disinterested emotions of sympathetic and aesthetic love.

Moreover, just as sympathetic and aesthetic love are produced by the division of labour and free will, art is produced by industry and the mores.

The relations existing between an animal on the one hand and, on the other hand, nature or other animals, are either physiological or psychological and always instinctive; they are, in any event, neither economic nor moral. Man, on the contrary, devotes himself to the division of labour and has moral sentiments; he is owner, spouse, and father of a family, and a citizen; so, he keeps both economic and moral relations with nature and with other people. Hence, for him, as we just saw, he has a need to attach himself to people and things by the superior and purely human relations of sympathy and the aesthetic sense; and that is why he also has a need for poetry and the fine arts, which the animal does not know. By industry and morals indeed, man feels strongly maintained in a relatively limited circle of physical and moral activities. He is a worker who has to devote himself to his speciality; he is an owner, **[139]** a spouse, father of a family, and a citizen; he must protect his rights and exercise them, and learn his duties and fulfil them; as a worker and as a member of society, he must settle somewhere and obtain a residence. Now, how do these requirements of industry and morals harmonize with the necessity of sympathetic and aesthetic emotions? They do so by means of poetry and fine arts. Unable to come and go, absorbed in daily work, and confined to a circle in society, how can we arouse in ourselves and then satisfy that lively curiosity, that eager tenderness that we must feel, if we are men and worthy of that name, for persons and for things, for all human actions, for all natural calamities, for the moral and the physical world? How do we put up with the present, remember with pleasure or sadness the past, hope confidently in the future, love life? By frequent contact with works of art. First, let the worker be surrounded with the affections of his family, let him, on his own behalf, feel love, friendship, and the charm of polite relationships. Second, let him combine and bring together the forms, the artistic colours in the choice of his clothing, of his dwelling, and of other things that serve him daily. Finally, let him spend his leisure time with music, visiting museums, going to the theatre, with literature, and with the whole panorama of the moral and physical worlds that unfold before him. He might imagine travelling over the countryside, taking an interest in the development of the human character and the play of passions; identifying himself with heartfelt emotions; he might, untiring and untroubled himself, sympathize as if he were personally involved with emotions like jealousy, ambition, all kinds of pleasure and pain, and thus become passionate, by disinterested emotion, to act and live with an incessantly renewed enthusiasm. In this way, the category of art is closely linked to the categories of industry and mores.

Gentlemen, my demonstration is finished. I will now look for a comparison to sketch for you in a few lines **[140]** the relation between the physiological-economic man and the psychological-moral man, after having explained these to you in the greatest detail. I did not find a comparison that satisfied me more than the one that may be drawn from one of the wonderful devices created by the ingenuity of modern mechanics. It might be thought that comparing man with a machine is unbefitting. However, I beg you to let us cease the hackneyed, derisory rhetoric that is usual about this subject. Let us cease to speak about the 'mystery' or the 'enigma' of human destiny. Let us no longer define man as 'a fallen angel', or as 'a fallen god who remembers heaven'. Let us leave these emphatic and solemn absurdities to official speakers and spiritualist poets, made perhaps for charming unsteady minds, but at the bottom of which, however, the intellect of the philosopher and the moralist will find only emptiness or incoherence. God be thanked that we are able to substitute the pure light of correct ideas for that futile clatter of sonorous words.

Before having taken note of the preceding considerations, we knew that, from a physiological point of view, man is a being devoted to the division of labour, and is, from a psychological point of view, a being that is private and moral. We knew that, from an economic point of view, human destiny is achieved by industry, and, from the moral point of view, in art, in science, and in the mores. So, for instance, a locomotive is a machine for pulling in one sense, and in another sense it is a steam engine. After the demonstration we just finished, we know something else. We know that if man is capable of the division of labour, it is on the condition of being a moral person; and we know that if man is a moral person, it is in order to be able to divide tasks. We know that people are capable of undertaking industry if they bring into practice art, science, and morals; and we know that people practise art, science, and moral principles in order to be able to undertake industry. Thus, coming back to my **[141]** example, a locomotive is only a machine for pulling subject to the condition that it is a steam engine, and is a steam engine only in order to be a machine for pulling. A fireplace whose flames vaporize the water of a boiler, a boiler from which steam comes out to press the piston of a cylinder, a cylinder whose piston moves back and forth, these are the three components that make a locomotive a steam engine. Wheels that, by rolling over the rails, pull passenger trains and freight trains, that is the mechanism that makes a locomotive a machine that provides traction. And the piston's back and forth movement produces the wheels' rotation. Well, similarly, a superior sensibility attaches man to his destiny, a superior intelligence makes him understand it, a free will permits him to embark on it; these are the three faculties that make a man a moral person. A body constructed anatomically for making and using tools and machines, that is the ensemble of organs permitting man to accomplish his destiny in specialized occupations. And there are psychological faculties of man that have the same effect on his physiological faculties as does the machine's piston on the wheels. That is the close and essential relation between man's economic destiny and his moral destiny. When this relation has once been made evident, the mutual connections between those phenomena that are variously useful, beautiful, true, or good, and in particular the harmony between advantageousness and justice, follow, in a sense, automatically.

One thing, indeed, that is most completely substantiated follows from this: although it is true that there are two different beings in man, the physiological and the psychological one, it is not true that these are in constant conflict the one with the other. It is not true that the one yearns to glide on the clouds, looking up to Heaven, concerned only with the most pure and transcendental feelings, thoughts, and wants, without any consideration of labour or well-being, whereas the other tends only to crawl on the ground, face downward, absorbed by the pressure to produce and consume, without any **[142]** notion of art, science, or morality. The union of body and soul is not the forced and violent cohabitation of an angel who wants to dream with a brute who wants to graze; it is instead the fruitful and peaceful association of a worker with a moral person, the one nourishing the other, the latter supervising the former, who walks and bears the other, who sees and guides, just as in the fable of the lame and the blind. And similarly, although it is true that humanity's endeavours are of a varied nature, sensitive, intellectual, economic, or moral, it is not true that these varied kinds of efforts are in conflict and harmful the one to the other. It is not true that the development of poetry and art is harmful and corrupting, and that the progress of science is regrettable and frightening; or, if sometimes that is true, it is because science and art go astray in pursuing an imaginary moral ideal that is foreign and contrary to the economic ideal. It is not true that the energy of labour and industrial activities are disastrous for moral principles, public or private. When vice grows and spreads, it is not because the production of wealth is too abundant, but because its distribution is not equitable enough. Where both equity and abundance prevail, liberty also exists. Where liberty, justice, and wealth meet, the virtues of the family can be found. Thus, for the people as a whole as well as for individuals, the moral order and the economic order far from excluding each other, call to each other, support each other, and reinforce each other.

Distinct and in harmony are beauty and truth, usefulness and goodness. In particular, if harmony is the rational solution of the problem of the relation between advantageousness and justice and the programme for the future, inconsistency is the empirical solution of the same problem, the summary of the mistakes and blunders of the past.

Common sense deludes us in moral as in physical matters. It says to us that the sun turns around the earth, and it says to us also that iniquity is advantageous to **[143]** society. When three men must live together in a place far away on this globe, two of them will conspire to oppress the third. Those two might have been aware of violating justice; certainly, they believed at least in immolating him for the sake of economic advantage. Deceptive calculation! Useless crime! The same attack that destroys the moral person in the slave, destroys the worker in him. It is the stimulus of freedom, independence, and property, and the comfort of a family that cause work to be active, persistent, intelligent, and skilful, but not the whip of slavery. There is even more: the same process that exempted the masters from the necessity of working took away from their willpower and their moral activity the most serious goal, the most beneficial restraint. Illusory and transitory opulence, degradation of both master and slave, their common ruin, these are the deplorable consequences of giving up justice for the economic advantageousness of slavery.

And indeed, this is the history of slavery and serfdom in old and modern times. In Antiquity, slavery was put into practice, not because it was believed to be just but because it was believed to be necessary. If one absolutely wishes, one might cite some antique philosophers who believed and declared slavery neither just nor necessary, but these are only rare flashes of enlightened reason in the dark night of empiricism. The general opinion of Antiquity was that the functions of citizen and worker were absolutely incompatible. The Greeks spent their time only on politics and war; the Romans added agriculture to this, but any other type of labour was reckoned to be servile. This was the unanimous feeling in Antiquity, forcefully systematized by Aristotle in his *Politics* and in his *Ethics*. It is sometimes said that Aristotle declared slavery as legitimate, but this great philosopher did not make such a moral mistake; he only declared it indispensable. Starting from this point of view, he maintained that nature created the barbarians as beings who are not fully of the same species as the Greeks and on whom the Greeks have rights analogous to those they **[144]** have over animals. This is Aristotle's system of thought regarding slavery; personally, I see in it less the justification of slavery than its very condemnation. Similarly, until recently the plantation owners of the southern states of America maintained that the Blacks were not persons. The Barbarians answered Aristotle's theories by invading and trampling Greece and Rome under their feet, and by renewing moral civilization; and the negroes of the American south react to the contempt and insolence of their tyrants by using their new civil and political rights with great firmness of conviction and rare dignity.

Gentlemen, undoubtedly I will be accused of exaggeration and socialism if I now liken the condition of the proletariat with slavery and serfdom. But I accept that allegation; for I am, and I call myself, precisely a democratic socialist, since I see in slavery, serfdom, and proletarianism three empirical phases of a single, unique issue: that of property and taxation, or the distribution of social wealth among the people in a society.

I call 'a proletarian' a man who lives solely by his labour, and from whom taxation takes away the only part of his wage that he could possibly save with the intention of becoming an owner or a capitalist, at the same time as being a worker. I have already demonstrated that wages are the only kind of social wealth on which the right of individual ownership is rigorously established; below, in Part IV, I shall show that of all the kinds of social wealth, wages are the one on which taxation weighs most heavily. Whatever else it may be, is this imposition just? I say it is just if slavery and serfdom are just, and unjust if slavery and serfdom are unjust. If, as a rational and free man, I am a moral person, I belong to myself, and slavery is unjust. If my personal faculties are mine, their service is mine, and serfdom is unjust. If I have an absolute individual right to my labour, I have the same right to my wage, and taxation imposed on this wage **[145]** is unjust. Here we see how slavery, serfdom, and proletarianism are three successive forms of the violation of the right of individual property in the distribution of social wealth to the advantage of either individuals, or the community, or the State.

Undoubtedly, dispossessing the worker of wages is not as blatant as the oppression of labour, and certainly not as bad as the enslavement of persons. This is why the defence of taxation on wages is somewhat easier than the defence of serfdom or slavery. Remarkably, however, just as is true of the arguments for slavery and serfdom, those in favour of taxation on wages are never based on the point of view of justice but always on that of advantageousness. I have looked through many books on taxation: I have vainly looked for an author who took it upon himself to show to me how unjust it would be to put a tax on my physical and intellectual faculties in case I use them for myself; that is to say, if I remain idle. I have looked in vain for an author who explains how just it is to have me pay the price of a licence in order to have the right to put these same faculties at the service of other people, that is, to work. They say the State must live; the whole defence of taxation on wages is reduced to this. Certainly! But let us notice only that we have here a motive of advantageousness, not of justice, and let us bring advantageousness and justice together by making the State be supported in another way.

Likewise undoubtedly, the violation of the principle of the harmony of advantageousness and justice by the taxation of wages has no such appalling moral or economic consequences as those of slavery or serfdom. But it has still analogous consequences, and, I maintain, ones that are perfectly identical in themselves if not quite the same in extent. Overwhelmed by hard labour, partly robbed of the fruits of his efforts, not having the time or the means to improve mind and heart by science and art, the proletarian does not reach all his moral or economic value. And while certain people **[146]** who produce abundantly, consume insufficiently, others who consume excessively, produce insufficiently. The delicacy of the moral personality is strained and shattered by the lack of leisure in the former case, and in the latter, it seems weakened and unnerved by lack of work. In both cases, the natural equilibrium of the human machine is disturbed, and I see the people, like the locomotives I was speaking about, harnessed to too heavy burdens, quickly exhausted and disorganized; the others, not pulling anything, go off the rails and break on all the slopes.

You have seen it: in slavery, in serfdom, and in proletarianism, it is always the same question, that of ownership and taxation; the same solution, that of the subordination of justice to advantageousness; and the same results, degradation of both the worker and the moral person. So, the proletarians of our days – and you will perhaps permit me to recall here that I am not otherwise – are just the descendants and the heirs of the slaves of Antiquity and the serfs of the Middle Ages. But, while the latter were driven only by hate and revenge, planned revolt and war, and marched carrying with them devastation and murder, we think only of reconciling all rights with all interests, and we do not want to have recourse to means of emancipation other than those of free association in the sphere of individual initiative, and legal reform in the sphere of collective action. **[147]**

III Sixth lecture: the individual and the State. General formula of the constitution of moral science

SUMMARY: The laws of the social relationships men have relative to one another can and must be of the same character of scientific truth as that of the laws of the gravitational relationships among the celestial bodies.

Society is a *natural* and *necessary* fact and not at all conventional and free. Man is a moral person only in society and because of society.

From this, it follows that the realization of the ideal in moral principles presupposes the existence of these four elements: the *individual* and the *State*, *particular personal positions*, and *general social conditions*; and it must include the solution of these two problems: the problem of *order* and the problem of *justice*.

Consideration of the revolutionary maxim: *Liberty*, *Equality*. It is not absolute liberty, but the reconciliation of liberty and *authority* that constitutes the solution of the problem of order: *Liberty for the individual*, *authority for the State*. It is not absolute equality, but the reconciliation of equality and *inequality* that constitutes the solution of the problem of justice: *Equality of conditions*, *inequality of positions*.

Specific application to the question of taxation. The contribution of individuals to the State's expenditures is certainly not optional but *compulsory* and must not be proportional but *equal*.

Theory of scientific and political progress. Predominance of the State over the individual in the republics of Antiquity, and of the individual over the State in the Middle Ages; in search of balance between the two in the modern world.

Gentlemen,

Today, I am going to deal with a subject on which writers and philosophers have worked out ideas in writings that are the glory of the human mind, and that have been discussed by speakers and statesmen in political gatherings with such sagacity and expressiveness that the world will never see anything similar, but which, nevertheless, only a few contemporary thinkers, whom I consider to be my masters, have tackled as I am going to do, that is, with the intention of submitting the subject to all the rigour of scientific procedures.

[148] Just as the stars or the celestial bodies are linked to one another by their relationships of action and reaction or by gravity, so are people, or personal and moral beings, linked to one another by the relationships of rights and duties or of society. And just as there is a science, astronomy, that defines, classifies, and finds out the relationships of gravitation, there must be a science that defines, classifies, and finds out the relationships in society: that discipline is social science. Whereas the gravitational facts take place in the theatre of nature, the societal facts take place in that of humanity. The former obey the universal force of attraction, which is blind and ineluctable; the latter depend on human activity, which is a force controlled by perceptive reason and free will; the former act unchangingly with a quality of necessity and invariability, the latter are susceptible to progressive development and incessant modification. We all know that, gentlemen. But what results from this? It follows that in astronomy, after having defined and classified the astronomical facts and relationships, objective real laws may be deduced from them, while in social science, after having defined and classified social facts and relationships, subjective ideal laws may be deduced. In the first case, it suffices to say what is, and in the second case what should be. This is the difference between moral truth and scientific truth, but we believe that the truths of physical or moral science must equally have a scientific character.

Now, the first of the conditions of scientific truth is that they must be based on either a rational or an experimental demonstration, and, consequently, be true for everybody and for everybody to the same degree. It has been proved rationally and, consequently, it is true for everybody and for everybody to the same degree, that the square of the hypotenuse of a rectangular triangle equals the sum of the squares of the two other sides. It has been proved by experience and, consequently, it is true **[149]** for everybody and for everybody to the same degree, that each planet moves around the sun along a plane orbit such that a line joining the planet and the sun sweeps out equal areas in equal intervals of time. Once accepted in science, these truths are generally and uniformly acknowledged, and the person who challenges or is unaware of them will succeed only in proving his ignorance. In economics and in social science, matters are quite different. There, one highly erudite man professes positive ideas about the liberty of international trade, the issue of banknotes, and about liberal and democratic government; another man, considered to be no less erudite, is an avowed supporter of protectionism, of monopoly in issuing banknotes, and of an aristocratic and authoritarian regime. Thus, it could be said that there was still not a science or knowledge, but only economic and social literature and opinions. Henceforward, this must change, but in order that bad may be opposed to good, and good to bad in moral science, like falsity is opposed to truth and truth to falsity in the mathematical and physical sciences, it must be possible to discriminate between good and bad in matters of morality, like truth can be distinguished from falsity in mathematics and physics. If, for example, democracy is true and just, aristocracy is a mistake and an iniquity, and therefore aristocracy is not permitted; this is unlike the situation in science: it is permissible to be ignorant of geometrical theorems or the laws of astronomy. But, if democracy is the truth and is just, it must also be possible to prove this by rational or experimental demonstration, like geometrical theorems and the laws of astronomy can be demonstrated. Personally, I have the profound conviction that the knowledge of moral truth, like that of mathematical or physical truth, is the work of collective reasoning and not of individual sentiments. It is therefore not at all my ambition to enrich the moral literature with some pages in a beautiful style; I find it rich enough in this respect, beginning with Plato's and Cicero's works and continuing with those by Montesquieu and **[150]** Tocqueville; and if I thought that I could only imitate these masters, I would rather reread them and be silent. I want to add my efforts to the contemporaneous authors who claim to have founded social science, and I will furnish you a proof that you will readily accept, however dull it may be, if it is as conclusive as a geometric demonstration. This is absolutely not the time to start a polemic; I purely and simply state and indicate my point of view. It is a question of showing progress, so I am going to try to march ahead; if I succeed in advancing some steps, I will have reached my sole goal; if I fall down, another person will take my place, and so we will succeed each other until finally the science of the moral world has been established on a definitive basis, like the science of the astronomic world.

Gentlemen, society can be explained in several ways, and it is quite certain that, according to which explanation one chooses, the entire social science can be led in quite different directions. More particularly, an origin can be attributed to society that is either divine, or human, or, finally, natural. Personally, I reject the first of these explanations as something unacceptable, and contrary to the principle of the mutual independence of morality and theodicy; regarding the two remaining explanations in question, I will argue against the second one openly and side decidedly with the last one.

It was the idea of the philosophers of the eighteenth century, and it is still the idea of most of the writers of our time, that society is a conventional and optional fact, and certainly not a natural or necessary one. According to their view, a time came when man came out of the natural state to enter the social state, so this state rests on a pact or social contract. The theorists of this school neglected to tell us on what day this arrangement was made and in which archive its text can be found; to tell the truth, they considered its adoption as lost in the darkness of the past and thought that its conditions have been renewed indefinitely **[151]** and implicitly by virtue of the consent of the subsequent generations that have submitted to it. In this way, their explanation is not so much presented as the result of observation but rather as a hypothesis intended to give an account of the various phenomena of social life. However, I reject it on two grounds: first, evaluated as an observed fact, it is untrue and refuted by experience, and, second, considered as a hypothesis, it is irrational and contradictory. It is a product of the type of exclusive empiricism in philosophy, which, trusting the absolute validity of the evidence of consciousness, neglects to analyse and assess the results of inner experience, and leads to that absolute individualism in social science that finds in the individual the basis and the unique objective of societies. I have already proven it false in its premises and conclusions, but I must come back to it and reject it again when, in a sense, I cross the threshold of the theory of society.

According to this theory, man feels, thinks, and decides exclusively because of his individual sensibility, intelligence, and free will. Because of himself alone, he is a moral person, and the day he wants to become or remain associated with other moral persons, he has only to impose on himself the duty of respecting the rights of others in exchange for the duty he asks from them of respecting his own rights; these are the advantages he demands in exchange for what he consents to give up. Such are the sequences of viewpoints and erroneous consequences of an inaccurate starting point. The truth is that man only feels, thinks, and decides because of his individual sensibility, intelligence, and free will, and because of the sentiments, ideas, and moral principles of society. The truth is that only in society and because of it he is a moral person; there he is protected in his rights, even before being able to fulfil any duty, and there he receives enormous benefits, even though not yet able to make the least sacrifice for society. Consequently, he is certainly not there like a **[152]** tree that appears fully grown and is planted in the earth just as it is, but is rather like a seed that has been sown and that grows up by obtaining from the earth, by means of its sap, its trunk, its branches, and its leaves.

Saying that society has been instituted on a certain day, or saying that it is maintained every day by the consent of a certain number of moral persons, is like saying that art or science were created on some day and are perpetuated every day by the agreement of a certain number of artists or scholars; or it is like saying that the forests were created on some day and are maintained by planting every day a certain number of trees in the earth. I wonder where these trees could have grown up otherwise than in the earth itself. I wonder where these artists and scholars would have been educated if there had not been art or science before them. I wonder, finally, how these moral persons exist if not in mores and because of them. Most certainly, if one eliminates all artists and all scholars, art and science will disappear; but the reverse is true: suppress art and science and there will be no more artists and scholars. Eliminate Raphael from the history of art and art has certainly been reduced, but take away from Raphael all art produced before him, from Antiquity till Perugino, and see what will remain of his 'School of Athens' or his 'Holy Communion'. Remove Newton from the history of science and science is indisputably diminished, but eliminate science since the Chaldean astronomers until Kepler's three laws on the revolution of the planet around the sun, and tell me, please, how Newton would have gone about formulating the Law of Universal Attraction. Now, what I say about the leading experts of art and science may also be said about any moral person. Take away all moral persons and society will vanish, but suppress society and there will be no more moral persons; for each moral person is an essential element of society and society is an essential element of any moral person. Hence, we are in **[153]** the social state as Saint Paul says we are in God: – *In eo vivimus, movemur et sumus* (We do not live, or act, or exist except in him [Acts of the Apostles 17:28]). The child who is entertained with a song by its mother opens its spirit to the feelings, the ideas, and the morals of all who lived before it, and this same child, having become a man, and having reached the end of his career, when dying, hands down in his turn the fruit of his labours and of the example he has set, to the art, science, and moral principles of those who survive him.

This being so, gentlemen, a double abstraction, that will lead immediately to a double principle, will furnish us the superior law of the normal achievement of human destiny according to moral principles, or of the realization of the moral ideal by the development of man's personality in ownership, family, and government.

We must call a man considered when abstraction is made of the society to which he belongs an *individual*, in other words each moral person considered as achieving a destiny independent of all other men.

Further, we must call the society considered when abstraction is made of the people forming it *general social conditions*, in other words the social environment of individual activity.

However, the latter two terms are easy to understand when mentioning two other ones.

Indeed, we must call the natural and indispensable agent in which the general social conditions are instituted the *State*. So defined, the State will represent the totality of all moral persons considered as achieving destinies in solidarity with one another.

Finally, we must call the natural and necessary result of the individual's activities exercised within the environment of the general social conditions *particular personal positions*.

Now, the coexistence of these four elements provides the material of a twofold problem.

A problem of *order*: when trying to achieve their destiny, when do people have to act in isolation and when do they have to **[154]** act within the framework of the State? This is solved by assigning to the initiative and the action of the individual the tasks of searching for, obtaining, and sustaining his particular personal position, and by assigning to the initiative and the action of the State the task of instituting, maintaining, and improving general social conditions.

Further, there is a problem of *justice*: when must people benefit individually, and when must they benefit in common or collectively, from efforts made for the purpose of achieving their destiny? This is solved by considering as an individual benefit the individual's enjoyment of the particular personal position he has acquired, and by considering as a collective benefit the enjoyment of the general social conditions created by the State.

If you study and analyse meticulously the achievement of man's destiny in ownership, family, and government, you will always end up with these four notions: the individual and the personal position he has acquired, and the social conditions and the State that created them. Therefore, on the one hand, a man is an owner of slaves and serfs because the society gives official recognition to slavery and serfdom; he is monogamous or polygamous because the society demands monogamy or permits polygamy; he is or is not a citizen of a liberal country depending upon whether the society is governed democratically or despotically. Those are the facts of the social conditions where a man lives. Those conditions, good or bad, he enjoys or endures like everybody, and he can change them only in agreement with everybody. On the other hand, however, the same man may own some wealth and be more or less well-off and respectable because of the labour to which he has devoted himself and the way in which he has acquired his fortune; he is a more or less good spouse and father thanks to the virtues he has evidenced in his family life; he is a more or less influential and praiseworthy citizen owing to his political talents and activities. Those are the facts of the personal position he acquired. This position has been created by himself alone, and, good or **[155]** bad, he must enjoy it or put up with it alone. And now, if you observe social moral principles and make a careful critical appraisal of them, you will recognize these two causes of disorder everywhere: people acting in isolation in cases in which they should work within the framework of the State, and people acting within the framework of the State in cases in which they should work in isolation, the individual intervening in the process of establishing, maintaining, and improving general social conditions, and the State intervening in the search, the achievement, and the safeguarding of particular personal conditions. Everywhere you also will find these two causes of injustice: people enjoying individually results they should enjoy in common or collectively, and people enjoying in common or collectively results that should be enjoyed individually; the individual diverts general social conditions created by the State to his own benefit, and the State diverts particular personal positions acquired by the individual to its own profit. Therefore, consequently, you will always and everywhere encounter the following superior law of the achievement of the human destinies in a moral society: pursuit, achievement, and safeguarding *by the individual*, and *for his benefit*, of the *particular personal conditions*; establishment, maintenance, and improvement of the *general social conditions* by the *State* and for *the State's benefit*.

Gentlemen, the general formula of the separation and the reconciliation of the respective rights and duties of the individual and the State that I just stated is the same as the one provided by the French Revolution in two words in which are summarized both all the ideas that have inspired the *Declaration of Rights* and all the principles on which the *Constitution of 1791* is based; these words are: *Liberté, Égalité*. True, although three-quarters of a century have passed since the day they were proclaimed, I have to admit that we have not yet succeeded in separating them; nor have we yet arrived at reconciling them in science or politics. All our systems are torn between individualism and **[156]** communism, as was the case with all our governments, from non-egalitarian liberalism to authoritarian democracy. But I see the source of this scientific and political powerlessness in the shortcomings of philosophy, and I hope to show this to you. The sad materialist empiricism at the end of the last century allowed our fathers to proclaim liberty and equality only separately. The mediocre spiritual eclecticism of the beginning of this century did not make it possible to reconcile them in a synthesis. That is why we still cannot pronounce those two great words as the answer to a question that is henceforward solved, and why they come back daily before our eyes like a kind of enigma posed by a dogged, merciless sphinx. However, let us cause a ray of light of a new philosophy to shine on them, and perhaps we shall see them illuminated by all the clearness of a truth definitively established by science.

Imagine, gentlemen, society as an army in the field. This is, I believe, the truest picture that can be given; indeed, the approximation would become a veritable identity if, instead of being engaged in destruction and slaughter, the army in question undertook a work of peace and utility, and if, instead of obeying blindly the orders of a general, it nominated itself its leaders and decided on its own campaigns. However, a simple comparison is enough. Having posited that, I recall, first, that the individual in society, like the soldier in the army, is nothing by himself, and that he derives half of his value from the collectivity, of which he is only an element. There could no more be a society without individuals than there could be an army without soldiers; but an individual would not be able to accomplish his destiny without and outside of society, nor would the soldier be able to fight a battle on his own and defeat the enemy without the army. There is more: it is certain that a society consisting of individuals without physical, intellectual, and moral energy will not be better than an army with feeble soldiers lacking courage; **[157]** but it is also certain that individuals, however industrious, intelligent, and sagacious, without suitable social organization would not be able to do more than soldiers, however vigorous and brave, without a good military organization, without following a well-determined plan, and without superior tactics. Continuing this comparison, I now add that, consequently, the State is not purely and simply a collection of its individuals, nor is the army purely and simply a collection of its soldiers; the interests and the rights of the State are not purely and simply the interests and the rights of all its individuals in contrast with the interests and the rights of each individual, nor are the interests of the army purely and simply the interests of all its soldiers in contrast with the interests of each soldier. The army existed before the enrolment of its oldest soldier and will still exist after the departure of the youngest. Similarly, the State has its own existence, which exceeds the totality of the existences of all the individuals who belong to it. When the army marches, when it manoeuvres, and when it engages in battle, it is operating in the interests of all the people of a country, among whom only a part are doing military service; the greater part is not in the army. Well, I argue, when the State issues laws and applies them, when it builds roads and digs canals, when it opens libraries and museums, it is acting in the interest of all members of a society, of which some are living, but of which a greater number are not yet in this world. Consequently, it does not act in accordance with a right given by all the individuals composing the State, but by a right that has its origin in the nature of the State itself. Gentlemen, this is how there results from the truth that the society is a natural and indispensable fact, and certainly not a conventional and arbitrary fact, that the individual and the State are two equivalent social facts, and that in all social categories the natural laws of the State and the natural laws of the individual are equally valid.

If I now assume the philosophical point of view in order to assess the value of the revolutionary maxim, I see **[158]** immediately that each of the words liberty and equality point very well to one aspect of the natural laws of the individual and those of the State, but beside each of the two is lacking another word to point in the same way to another, no less positive and no less essential side of the natural laws of the individual and those of the State. I see very clearly, for example, that the word *liberty* expresses an incontestable right of the individual, but it seems to me that, on the other hand, the word *authority* would express a no less incontestable right of the State, and that only the reconciliation of liberty and authority would bring about the solution of the problem of order. Similarly, I see very clearly that the word *equality* corresponds with an incontestable right of the State, but it seems to me that, on the other hand, the word *inequality* would express a no less incontestable right of the individual, and that only the reconciliation of equality and inequality would bring about the solution of the problem of justice. Therefore, I will go back to these two problems, of order and justice, to seek the solution of both of them in a formulation of the reconciliation of liberty with authority, and of equality with inequality.

I bow before the holy name of liberty, and I declare that it is completely contrary to the social order in which the State invades my individual competency by weighing, choosing, and rationing my food, my clothing, and my lodging, by checking and controlling my tastes and my thoughts, and, more absurd, by forcing me to smoke its tobacco and cigars, or, certainly even more obnoxious, by imposing its religion and its beliefs upon me. I ask you only to tell me whether the name 'authority' is less august, and if it is more in keeping with social order that individuals encroach upon the State's functions and declare peace and war, administer justice for citizens, make pronouncements on the protests of some people and the complaints of others, take from Peter what he has to give it to Paul. The first of these two situations is called despotism and the second anarchy; we must escape from each of them, and, therefore, we must draw a demarcation line between the domain **[159]** of individual initiative and action, which is that of liberty, and the domain of State initiative and action, which is that of authority.

Gentlemen, we are going to find this line in a most simple distinction. There is a group order or order of unity, and there is an order on the level of elements or order of diversity. The group order is the one that wants, in an orchestra, all musicians to play the same bar; the order of diversity is the one that wants them all to play different parts. If you impose the order of unity on the parts and the bars, you tumble into an insupportable unison and ruin all harmony; but if you admit the order of diversity to the bars and the parts, you tumble into an appalling cacophony, with the harmony no less ruined. Let us apply this distinction to the problem of the social order; without further ado, we will find in it the limit of the domain of liberty and that of the domain of authority.

Man is a moral person; that is to say, he is achieving freely his destiny. Hence, it is directly contrary to the order of diversity if the State interferes, instead of and in the place of the individual, in any activity concerning pursuit, achievement, or safeguarding of particular personal positions, for by doing so it suppresses the moral personality. Man, however, is a moral person only within society and by means of society; that is to say, in a certain natural environment of the achievement of human destinies. Hence, it is directly contrary to the order of unity if the individual takes responsibility for any activity concerning instituting, maintaining, or improving general social conditions, for in this manner the moral personality is again suppressed, in this case by the suppression of its indispensable and necessary element. Liberty for the individual as far as regards positions; authority for the State as far as regards conditions; that is the principle of separation and reconciliation of the respective rights and duties of the individual and the State from the point of view of order.

By the same method, I will solve the problem of justice.

[160] I certainly respect the rights of equality, and I admit that it is quite contrary to justice if, for example, in case of the defence of the integrity of the national territory, circumstances of birth or fortune give some the right to command and leave the others only the duty to obey in the army, or even give some the right to stay at home and force others to go to the frontiers; or if nobility and wealth mean privileges before the courts; or if only the proletarians contribute to the public expenditures and not the landowners and the capitalists. However, I ask you also if inequality does not have its rights, and whether it would not be equally contrary to justice if I, who have been a productive and thrifty producer all my life, am reduced to the level of a loafer and a spendthrift. On one side, I see the aristocracy and its privileges, but what I see on the other side is not true democracy: it is rude and violent demagoguery. Let us reject the one and the other, and, to that end, let us determine the domain of common, collective enjoyment, which is that of equality, and the domain of individual enjoyment, which is that of inequality.

Here too, gentlemen, we will succeed by means of a very simple distinction. There is commutative justice and distributive justice. Commutative justice is represented as holding a scales and presiding over exchanges; it is commutative justice that wants, in the case of a race, all racers to be assigned the same starting point. Distributive justice is represented as holding a crown in its hand and presiding over competition; it is distributive justice that wants the racers to be rewarded in relation to their agility; that is to say, in the order in which they reach the finishing line. Justice is violated – the form of justice called commutative justice – if some of the competitors are given a considerable lead, or if obstacles and barriers are put in the way of others; but justice is also violated – the other form of justice, called distributive **[161]** justice – if, all participants having started from the same point, one acts as if they all arrived at the finishing line at the same time and rewards them equally, irrespective of the order in which they touched the line. If we carry over this distinction to the problem of social justice, we will, here too, immediately succeed in distinguishing between the domains of equality and inequality.

Every man is a moral person; that is to say, that all people are equally concerned with freely accomplishing their destiny. Not all people are equally sensible, intelligent, or determined; all, however, are free to progress morally by the habit of virtue, or to disgrace themselves by the practice of vice. It is therefore basically contrary to commutative justice if not all people in the State benefit from the same general social conditions; for then some are favoured in the achievement of their destiny and others hindered. But everyone, being a moral person, is for this very reason accountable for the moral or immoral achievement of his destiny. Hence, it is basically contrary to distributive justice if not all people benefit individually from particular personal positions corresponding to the difference in their merits or demerits, for otherwise neither the ones nor the others have the responsibility of achieving their destinies. Equality of conditions in the State, inequality of positions for individuals: this is therefore the formula for the separation and the reconciliation of the respective rights and duties of the individual and the State from the point of view of justice.

In summarizing, we can say that the role of the individual is to achieve freely his destiny and to feel, think, act, and work, alone or in association with other individuals, in agriculture, industry, or commerce, or as scholar, artist, or civil servant, in order to obtain a position justified by his efforts and merits. The State's role is to create the environment for the achievement of individual destinies, to assure exterior and interior safety, to enact, execute, and apply **[162]** laws, to open means of communication, to promote the progress of science and the arts, and thereby to organize the conditions of existence of the society. The right of individuals is to act freely and to obtain different (unequal) positions. The right of the State is to act with authority and to establish equal conditions. *Liberty for the individual, authority of the State. Equality of conditions, inequality of positions*. That is, in the last analysis, the highest law of the organization of society based upon order and justice.

Social science would be completed by examining successively all the categories of the moral society: property, family, and government, applying to each of these the above formula of separation and reconciliation of the rights and the duties of the individual and the State, of liberty and authority, of equality and inequality; that is to say, to determine in each of these categories the place of particular personal positions and that of general social conditions. I have to stop here and not enter into a discussion of each of these special theories. I will draw only a conclusion relating to one of them that I intend to pursue with you sooner or later: the distribution of wealth between individuals and the State through property and taxation.

As I explained to you in the first of these lessons, the way in which the theory of the distribution of social wealth is dealt with at present is as follows. The two questions of property and taxation are separated; the first one is solved by attributing exclusively to individuals all kinds of social wealth: personal faculties, capital, and land; having done this, only then does one consider the State obtaining its revenue by means of trying to take a part of the various incomes of the types of capital owned and enjoyed by individuals: wages, interest, and rent. You will immediately recognize the empirical doctrine I pointed out to you according to which the relation of the State to the individual is **[163]** that of abstraction to reality; and you will recognize it again in a minute. Indeed, having been put in this way, the problem of taxation has been solved by this twofold principle: the first principle is that which, by voluntary consent, abuses the exaltation of the individual to the detriment of the State by substituting liberty for authority; the second principle is that which admits, the gradual plunder of the State to the benefit of the individual by destroying equality in favour of inequality.

Voluntary and proportional participation of the individuals in the services of the State: who does not see in this double principle a sort of incontestable axiom? I confess, gentlemen, that I am frightened by my own boldness in disagreeing with these august banalities. Look at the thoughtlessly improvised flights of fancy in the periodicals, or the comfortably elaborated compilations in books, hear the professors in their university chairs and the politicians in their session rooms, they all unanimously let their theories of taxation begin with the double principle of voluntary and proportional contribution. Nevertheless, how can I not protest against that common sense routine, in spite of the number and the importance of its proponents. Moreover, if I have demonstrated and if I maintain that the participation of the individuals in the benefits of State services is strictly compulsory and must be rigorously equal, how could I then admit and how could I let it be said that the contribution of the individual for the payment of the cost of State services must not at all be optional and in no case unequal?

Yes, if the social State is a conventional arbitrary State[xvii] and not natural and necessary, our participation in the benefits of the services of the State and, consequently, our contribution to the cost of them, are voluntary and optional. In this case, I see in the consent to taxation the decision taken by the individual to enter into the society, the signature put by him on the social contract. But the problem is precisely to know if we are free to enter into the society or **[164]** to stay outside it, and if the conception of a social contract is not the most fanciful phenomenon or the most absurd hypothesis. I will not take up this matter again, gentlemen, but only permit myself one last thought in this respect. You remember perhaps a certain detail of the wars of the First Empire. It happened sometimes that entire battalions of the army contributed to the victory of the day only by long marches often at long distances from the battlefield, which were, however, no less decisive for that victory. The soldiers of Napoleon's Old Guard who belonged to these regiments that did not fight used to say irritably: '*We have fought with our legs*.' Well! I would have liked to see some of these men, who thought they were free to remain in society or to leave it, try to do the latter. I would have liked to see them compelled, if possible, to give back to society everything they owe to it in terms of feelings and ideas, of material and moral gains, and reduced to what they owe to themselves, which is probably not much. That will teach them perhaps that, in the great army of humanity, they serve to fill out the size of a regiment much more than they really pay with their persons, and that in the battle of life they fight above all with their legs.

Similarly, I have no hesitation regarding the place of the principle of proportionality. Certainly, if the State is just a pure and simple collection of moral persons, all unequal, I admit that it is practically the same as a company of shareholders, all holders of a more or less considerable number of shares, and that both the benefits and the costs of State services are distributed in proportion to particular personal positions, just as the dividends or the losses of an industrial or commercial enterprise are distributed in proportion to the shares of capital. But if, quite on the contrary, the State is a group of moral persons considered all as being equal, I want it to be compared with a community of members all having the same rights and duties. That is the whole problem, and, **[165]** before tackling it for you, I submit it for your reflection. According to my adversaries, it is to our advantage that the State lives on revenue obtained proportionally to the amount of capital or its income of which we are the owners. Personally, I say that this statement is a morally unacceptable insult to the principle of equality. I state that there are no rich or poor people in the State, but citizens having all the same rights and duties regarding the general social conditions. As individuals, it may be that we are living in palaces or in sheds, but as citizens under own roofs we all have the right to be under the protection of the State, and, consequently, we have all equally the duty to participate in the defence of the State and our houses. This is, I believe, the tradition of the Revolution and the ideal of democracy.

Here, however, gentlemen, you must not misunderstand my thoughts and think that I have in mind the State taking from individuals an amount of money per head without check or measure. Remember that for me the individual and the State are two equivalent social types, and that the State manifests itself at the same time and on the same grounds as the individual for getting its share, when the distribution of social wealth among the people in society has to be carried out. Here is how this will be done: one of the two natural types of social wealth – the personal faculties and their labour – is assigned according to natural law to individual property and enjoyment; the other natural type of social wealth – land and its products – is assigned according to natural law to common, collective enjoyment via taxation. Then, the people of the society all unquestionably contribute an equal part to the costs of State services, just as they definitely participate equally in these same services. This is how I understand the application of the principle of equal and compulsory contribution.

It is no less true that my socialism tends to be in favour of the restoration of the State to correct the **[166]** encroachments of the individual, not so much, in our country, at least from the political point of view. In that regard, I think, the requirements of order claim rather a restoration of liberty against the dominance of authority. In addition, I favour a restoration of the State in place of the encroachments of the individual most certainly from the economic point of view. In this regard, I think that the demands of justice energetically require a restoration of equality in place of the encroachments of inequality. Presently, there is no country anywhere on earth where the respective rights and duties of the individual and the State are properly balanced and equilibrated. The most advanced people of the ancient and the new world are those where, because of the very active and forceful temperament of the individuals, the role of the State is quite imperceptible; the most backward nations offer us the appalling and regrettable sight of a State that is deprived of its natural resources and no longer functions in a natural way, that only subsists, so to speak, on theft and is in a way always committing abuses. Is that a reason for rather sacrificing authority to liberty than inequality to equality? What equality would remain if individual inequalities were suppressed? We would have equality of virtue and vice, of merit and shortcomings, which means the very negation of both equality and justice. Moreover, what liberty would remain to us if the authority of the State were to disappear, other than the liberty of the strong to crush the weak? That would mean the very negation of liberty and order. Let us seek in our minds and our hearts, if it cannot be found around us, the idea and the image of the protective, beneficial State, respectable and respected. But let us never compromise our national independence just because we see, here and there, that armies are used to oppress citizens rather than to defend them against an invasion by foreigners. Let us not put our lives and goods in danger for the alleged reason that there are poor countries where the police, not doing anything against the criminals on the highways, permit themselves to do all kind of reprehensible things to honest people in their homes.

[167] As liberty and equality both have their prestige, both have their exclusive admirers, but it is difficult to see them vowing to one and the other an equal and faithful adoration. Some person may believe especially in liberty, and as liberty brings about inequality, he will renounce both equality and authority. He will destroy the State in favour of the individual; the society is no more to him than an association into which each person enters to obtain his assets, or an insurance by which one protects himself against risks. This is absolute individualism.[2] Another person may tend especially to equality, and as equality results from authority, he will renounce both liberty and inequality. He will absorb the individual into the State; the whole society is to him a community where each person depends on everybody and no longer belongs to himself. This is absolute communism.[3] I declare that I am absolutely not without respect or appreciation regarding these strong-minded men who logically deduce all the consequences of a given principle: it is from a rigorous study of their systems that I have drawn the complete conception of my own. I could not say so much about the confused and incoherent doctrine that believes in absolute liberty, without admitting, however, that its inevitable result is inequality that tends to absolute equality, without, however, wanting authority, which is the unavoidable agent of equality; that destroys the State without saving the individual; that pursues the levelling of personal positions in the upheaval of social conditions. Finally, it is a doctrine that takes over only the errors of individualism and communism, and combines only their abuses.[4] All the same, after these different possible experiments, only one thing remains to be tried: harmony between liberty and authority in order, and between equality and inequality in justice, the separation and the reconciliation of the individual and the State by the separation and the reconciliation of individualism and communism.

Gentleman, you know that the earth moves in space in a complex way that is the resultant movement of two simple ones **[168]**, one of which is a daily rotation around its axis, and the other an elliptic displacement around the sun. From this combination, there results for each point of the globe a sort of cycloidal movement. Similarly, man displays in society a complex activity that is the combination of two simple activities: an individual activity and a collective one. The resultant is the achievement of man's destiny. Now, the individualist, relating each activity of a man to his individual activity without taking account of his collective activity, is acting like the astronomer who would relate the whole terrestrial movement to the earth's daily movement without taking account of its annual movement, while the communist, on the contrary, relating each activity of a man to his collective activity without taking account of his individual activity, is acting like the astronomer who would relate each movement of the earth

2 That of Mr. Émile de Girardin.

3 That of Mr. Louis Blanc.

4 Proudhon's doctrine.

to its annual movement without taking account of its daily movement. As for us, after all, who relate human activity partly to individual activity and partly to collective activity, we are doing nothing other than the astronomer who relates the earth's movement partly to its daily movement and partly to its annual movement. Like the astronomer, we perform this decomposition in abstraction, and, just like he does, we formulate scientific laws from abstract facts. He states that the daily movement of the earth is a rotation around an axis, and we state that liberty is the motive power of individual action, which results in inequality of the positions. He states that the annual movement is an elliptic movement around the sun, and we state that the purpose of collective activity is the equality of the conditions brought about by the authority of the State. In astronomy and social morals, the method is the same and the result is identical; if therefore science is carried out in the first of these cases, then, it seems to me, the same is done in the other case.

[169] The only difference is this: the earth carries out naturally and inevitably its double movement of circular daily rotation and annual elliptical displacement; man, however, discovers and directs freely his double activity, individual and collective. Man is a planet who forms himself his trajectory in the moral world. This takes place by means of a twofold effort and a twofold progress: the effort of human reasoning, seeking the social ideal, and the effort of human will, which achieves this ideal; the progress of scientific ideas and the progress of political facts.

Mankind has changed its ideal several times. The one realized in the republics of Antiquity, under the influence of the philosophy of sense and of nature, consisted certainly in sacrificing the individual for the State and liberty for authority. Of course, I abstract here from the phenomenon of slavery I have already judged and that forms the essential basis of antique civilization; I start from the moral relations of free citizens among each other. These relations are not those of absolute communism – human nature itself would be mutilated if it put these extreme systems into practice – but they show a marked predominance of collective over individual activity. In Athens, Sparta, or Rome, the words 'city', 'republic', and '*public affair*' have a sense and a scope that they never have for us: they express precisely the absorption of the man by the citizen, of the individual by the State. Where in present-day common sense the individual is everything and the State simply a collection of individuals, in the antique common sense it was quite to the contrary: the State was everything, and the individual, simply a fragment of the State, was nothing.

The ideal of Antiquity, as history confirms, was noble: it grew, it lived, it perished; another one replaced it: the spiritualist ideal of medieval feudalism. Incontestably, this ended up sacrificing the State for the individual, and, in particular, equality for inequality. Here it was not absolute individualism that arose, for this is **[170]** equally as impossible as absolute communism, but one had to close his eyes to the evidence not to see the usurpation by the individual of all the functions and rights of the State. Who made war and peace? Not the nation with its army, but the princes and the barons with their mercenaries. Who dispensed justice? There were no magistrates, independent official organs of a single law, but rather private persons, partial and impassioned enforcers of a thousand arbitrary and capricious customs. What shall I say about the abuses of taxation? Truly, I feel all the oppressive and obnoxious aspects of the State's violation of the shrine of individual liberty; but who does not also feel all that is disorderly and monstrous in this invasion of the individual into the public domain? And who would not prefer the severe discipline of Antiquity to the horrible chaos of the Middle Ages were it not for the fact that through them we have made our way to the equilibrium of the modern times?

Fortunately, we do not have to choose either Antiquity or the Middle Ages; we have to pursue the ideal of which our fathers caught a glimpse, the one that combines liberty with authority in order, and equality with inequality in justice. That is what we are going to do, despite everything. If man taken separately is free to abandon the achievement of his destiny, humanity taken as a group is not free to go against advantageousness and justice; that is to say, against its own nature. We are now in the time of the year where winter makes place for spring, after which summer and autumn will come. Nevertheless, it is possible that tomorrow the wind blows from the north and continues so for two days, that the temperature falls several degrees and that some sprouts are frozen and wilted. But with no less certainty, I predict that the sun and its heat will soon be felt, that flowers will bloom on their stalks, that fruits will mature on the trees. Gentlemen, from the heights of philosophy and history, I consider with the same composure, and, so to say, with the same indifference, **[171]** the short-lived victories of force over right and of reaction over progress. It may be that, sometimes on this point and sometimes on that point, a wind of persecution bends thought, that a cloud obscures the sun of liberty, but it is impossible that scientific and liberal socialism will not harvest its grapes. Human reason will not cease to move from error to truth; the will of humanity will not cease to move from evil to justice; and reason and will shall not cease to govern the twofold human activity in the moral world, individual and collective, just as the earth itself will not stop its double revolution, annual and daily, through the vastness of celestial space. **[173]**

Addendum

The foregoing *General Theory of Society* had to be followed by a *Theory of Property and Taxation* consisting of two parts titled respectively *Of social wealth* and *Of the distribution of social wealth among the people in the society*, each comprised of three lessons.

From this, it may be concluded that I was aware that before furnishing the theory of the distribution of social wealth among the people in the society, I had yet to furnish the theory of this social wealth, explain its nature and origin, list its kinds, and state its laws. I was also aware that this endeavour would be rather difficult; the difficulty, however, has largely surpassed my expectations. The fact of value in exchange, which is the general fact common to all social wealth, turned out to be of a mathematical nature, obeying mathematical laws that may only be stated and demonstrated scientifically when stated and demonstrated mathematically. I set myself determinedly to work, and, after a period of 14 years, I succeeded in finding this new mathematical science and in setting forth its features in two works: *Éléments d'économie politique pure* (1874–1877) and *Théorie mathématique de la richesse sociale* (1873–1882). The *Éléments d'économie politique pure* deal with the matters that had to form the subject of the first three lessons above. The last one of the seven memoirs in the *Théorie mathématique de la richesse sociale*, the one titled 'Théorie mathématique du prix des terres et de leur rachat par l'État',[xviii] deals with the issues that had to form the subject of the sixth and last lesson. In the present book below is presented a 'Theory of property'[xix] that had to form the subject of the fourth and fifth lesson. Thus, I have completely treated my subject, although in a different form.

This would not have prevented me, if I had been able to do so, from treating it also in the way I originally intended. Just as the system of the astronomical world can be explained by stripping from astronomy in the proper sense its mathematical apparatus in order to present a descriptive astronomy, in the same way the system of the economic world can and must be explained by stripping from pure economics the mathematical language and method in order to present a sort of **[174]** descriptive economics. In proceeding in this way, in both cases rigorous demonstrations are renounced and the exposition is restricted to peremptory statements. However, first, it is evident that those who demand demonstrations are free to find them where they are presented; second, it is certain that stating and explaining a true system must offer something plausible, attractive, convincing. My mathematical theory of social wealth has met only with scant attention and success in France; perhaps I would have had more disciples if I had proved less. A scholar who calls himself an economist and who is not a mathematician can never be convinced that mathematics is indispensable for the explication of economics; on the contrary, however, he can be made to accept quite easily a clear and categorical statement that he will readily believe is a demonstration. The same may be said, a fortiori, about the general public. I am also certain that the creation of mathematical economics must bring with it the creation of descriptive economics. I would gladly have made a first attempt at this, but one man alone cannot do everything. I leave, therefore, to the young French economists who will follow me the duty of fulfilling that task by writing, in lieu of my doing so, the *Théorie de la propriété et de l'impôt* in an oratorical and popular form. Those who try to do this will find, like me, that no type of work yields, in all respects, more satisfaction.

Notes

i Conceptions and concepts are two different words in French and in English. Walras used 'conceptions' here, and 'concepts' in other places where that word is appropriate. A concept is a general idea or understanding, especially one derived from specific instances. True, it is frequently used in informal speech as a synonym for 'conception', but in good usage, concept is used for a general abstract idea. For example 'the concept of democracy' means the general idea of a democratic state. 'Conception' is used to refer to a particular mental picture or understanding of a concept: 'Our conception of democracy', meaning our understanding of the concept 'democracy'.

D ii Walras based this lesson on a note, entitled 'Du sens esthétique; de l'art; et des opinons en matière de l'art', consisting of 55 sheets written in 1859 and preserved in the Fonds de Lyon, FA I B 7/4; the part utilized here corresponds with sheets 9–15. The note remained unpublished until it appeared in *ŒÉC*, Vol. XIII, pp. 19–46. It corresponds with Auguste Walras's unpublished text entitled 'Du vrai, du beau du bien', Fonds de Lyon, FA III A 13 03 (not in *ŒÉC*), which contains critical remarks on a paper by Victor Cousin under the same title (*Œuvres complètes de Victor Cousin*, Paris: Hausmann, 1840–1841, Vol. I). The text is included in Léon Walras's personal library together with numerous other works by Victor Cousin, undoubtedly inherited from Auguste. Cousin was a leading academic philosopher and was apparently one of the authors who inspired the Walrases.

iii The corresponding word in Walras's text is 'fait', meaning something found in reality. Jaffé, in his translation of the *Éléments*, translated 'fait' as 'phenomenon' when used in the sense above. Though understandable, this choice seems questionable because Walras could, of course, have used the word 'phénomène', but he did not do so. Moreover, when using the word 'fact' instead of 'phenomenon', we keep more of the Walrasian flavour of the text.

D iv Frédéric Bastiat, *Harmonies économiques*, Chapter IV; p. 85 in *Œuvres complètes de Frédéric Bastiat*, Paris: Guillaumin, 1851.

v Bastiat wrote literally: 'Dans l'isolement, nos besoins surpassent nos facultés. Dans l'état social, nos facultés surpassent nos besoins.' He did not mention thumbs, etc. His sentences, and their rephrasing by Walras, are not good French or English; indeed, they do not make literal sense, although the reader knows what Bastiat and Walras were saying. The French or English word, in the context of human abilities, means 'mental or intellectual powers or capacities possessed by the human mind'. Therefore, the literal sense of Bastiat's and Walras's phrase 'our needs exceed our faculties' is 'the amounts of goods and services that we need in excess of our senses of smell, of touch, our alertness, our intellectual capacity, etc.', which does not make sense. In English and in the French versions, 'needs' cannot exceed faculties or the reverse; they are of ontologically different orders; they are incommensurable. It would be better to say 'our needs exceed the productive power of our faculties', or the strictly correct expression: 'what we need is in excess of what we can produce' and the reverse, but that is not what they wrote. In order, therefore, neither to improve nor to fail to convey the meaning of the sentences, his repetition of Bastiat's maladroit construction is best rendered by using the word 'faculties'.

vi The French word that Walras used here is 'conscience', and he called it an 'organe'. 'Conscience' in French and English are not false friends in certain contexts, but in the present connection, they are. Conscience in English is the faculty of recognizing the distinguishing between right and wrong regarding one's conduct, and of belief that one should choose what is right. In French, the word has that meaning, but, unlike English, it also has the meaning of immediate knowledge or recognition of one's own mental activity, which is the sense in which Walras used it in his sentence. Consciousness has a physiological basis, of course, but it is a state, not an organ, so Walras evidently attached a broader meaning to the word 'organ' than his French and English contemporaries or successors.

D vii Francis Hutcheson, *A System of Moral Philosophy*, London, 1755; reprint, New York: Kelly, 1968, p. 6. Walras wrote: 'Hutcheson l'a nommé "sens interne".'

D viii Théodore Jouffroy, *Cours d'esthétique*, Paris: Hachette, 1843; p. 15 in the edition of 1845.

ix In the two editions of *ÉÉS*, Walras's word was 'moments', but in the original texts (1867–1868) he used the word 'mouvement'.

x I.e., the property or properties it must have if it is to be what it is.

xi Walras should have used precise language, and different adjectives to describe some of the words. We could agree that perfection is *meta*physical, as is 'the absolute'. As for 'universals', however, although they are not physical entities, calling them 'metaphysical' is not a good use of language because it implies that they deal with matters above and apart from the physical world.

xii In fact, it was Locke who said: 'Nihil est in intellectu quod non prius fuerit in sensu.' And it was Leibniz who restricted this sensualist assertion: 'Nisi ipse intellectus.' In Walras's translation 'There is nothing in mind that does not originate from experience other than the mind itself', the word 'experience', corresponding with 'sensu', seems to us as chosen a little for the good of his cause.

xiii Walras's word here is 'mœurs', which, as Walras's definition explicitly indicates, in most contexts translates as the word 'mores'. The French and English words therefore mean the accepted habits of life, customs, manner and ways, and usages of a particular social group. The French and English words also mean, in certain contexts, moral attitudes, moral principles, the rules of conduct approved and practised in a society. When Walras wanted to make clear that he had in mind the latter group of behaviours, he used the adjective or noun 'moral'. In those cases, we use the words 'moral principles', or the shorter word 'morals', or the related appropriate adjectives.

xiv The reader will see in the next two lectures that Walras indeed dealt with all the subjects mentioned in this closing sentence. However, he did not do that as systematically as might be expected; all those subjects are inevitably more or less intermingled in the two lessons below.

xv To recapitulate: the provinces are industry, morals, art, and science, and their principles are, respectively, advantageousness, justice, beauty, and truth.

xvi It is said that this was Robespierre's answer to those who wanted to maintain slavery in the West Indian colonies in the debate in the *Convention nationale* which led to the abolition of slavery in 1794.

xvii Writing 'État' (state) with a capital is a consequence of a belief in the transcendent importance and status of the state, or, for some, a mentality of adulation of the state. To reflect Walras's French orientation and usage accurately, we therefore capitalize the word as he did.

xviii See Chapter 8 below.

xix Chapter 5 below.

4 Method of reconciliation or synthesis[1,i]

[175] I Principles of the method of synthesis

The solution to what is called the socio-economic question, which is not the entire social question, depends on two quite different kinds of preliminary considerations, both equally essential: purely economic considerations and purely moral considerations. Here is exactly what I want to say in this respect. Solving the problem of the economic organization of society means, summarily, determining the conditions for: 1. the most abundant production possible, and 2. the most equitable distribution possible of social wealth among the people in the society. Now, before making that determination and in order to make it, there are two things that must be known: what is social wealth and what is man in society. If, therefore, the economists and the socialists have not yet solved the question of the socio-economic organization, then they have undoubtedly neglected to develop **[176]** those two foundations of social economics as patiently and rigorously as is necessary. And if there is one thing that certainly should not be done, it is to be too hasty, as so many others are, to defend existing solutions or recommend new ones; we must rather carry out a slow and painstaking development of the principles.

I am not going to deal here with social wealth and the diverse problems of the determination of prices in the market, of the relation of the prices of products to the prices of productive services, etc. Leaving pure economic theory aside to focus on moral science, I shall deal exclusively with mankind, with civil, polit-

1 [Appeared in] *Revue Socialiste*, 15 April 1896. [12th year, Vol. 23, no. 136, pp. 385–406.] This paper is very old: I wrote it in 1868. In 1872, I used it for a series of six lessons entitled *Exposition et conciliation des doctrines sociales* presented in Geneva, which have remained unpublished. I have taken this piece from those lessons and inserted it in the *Études d'économique sociales*. I was persuaded to offer it to the *Revue Socialiste* by the fact that my colleague and friend Georges Renard has nicely formulated the doctrine of the reconciliation of *individualism* and *communism* in matters of politics and economics in his 'Études sur la France contemporaine' [in A. Savine (ed.), *Le socialisme actuel en France*, Paris, 1888, pp. 132 ff.] I thank him for acknowledging that I had the same idea 20 years before him. To be fair, however, I must confess that I took a good deal of it from the old Saint-Simonists with whom I kept company when I was young.

ical, and economic society, and with various problems of socialism and liberalism, of utilitarianism and moralism, of communism and individualism, of liberty and authority, of equality and inequality, etc. All in all, I want to explain a new method to clarify these problems and to set up a system of social morals.

This method is essentially one of reconciliation. It might be called a *syncretic* method, for it brings clearly to mind the method used by Pic de la Marandole, Bessarion, and their friends in the sixteenth century to bring about a fusion of the Platonic and Aristotelian doctrines; unfortunately, syncretism has fallen into disrepute by its regretful application to the reconciliation of protestant sects. It would even be less suitable to call it the *eclectic* method. Lacking a more secure criterion than common sense, eclecticism proved to be decidedly inadequate and superficial; while claiming to open new ways, it never failed to fall back into its old ruts. The method we are talking about here is quite different and superior, if not in principle (for its principle, taking everything into account, does not differ more from eclecticism than from syncretism), at least in its application. Before pronouncing sentence between the opposed doctrines and, if need be, refusing to come out in favour of either party, our method prepares their cases for judgement as follows. In each controversial matter, it first seriously tries to indicate the differences between the several points of view; then, by well-explained reasoning, it declares each of the respective **[177]** systems in question right or wrong from each of these points of view; finally, it concludes by rejecting the wrong parts of the doctrines and synthesizing the true parts. If we absolutely must use a Greek word, we will call it the method of *synthesis* or the *synthetic* method.

It would not be impossible for several of my readers to be in favour of and adherents of the method of synthesis without having adopted it and practised it by preference; it was perhaps, in a way, fixed in their mind and has inspired important conclusions without their recognizing it and without their seeking a name for it. If a person is used to reading a great deal and does so without introducing his own systematic concerns, he uses it unconsciously. Let us read in this way if we want to benefit a great deal from our reading. Let us place ourselves in the hands of the author when we open a book; let us not raise objections from the first pages onwards; on the contrary, let us rather make an attempt to be convinced and coached by him; only after having finished the book let us, if necessary, take up one by one all the points that we have temporarily conceded to him. If there is only a single point on which the author was right, it at least will not escape us: it will be like a well-cut stone that lies among a number of uncut blocks, and that we will reserve for the construction of our building. To inform yourself as much as possible about everything that has been written or said on a question before dealing with it on your own, and, in consequence of this approach, to investigate all opinions without opposing them with prejudiced personal opinions, that is basically what synthesism means.

This procedure is above all felicitous and fruitful in matters of philosophy and morality. Indeed, in philosophy and morals, matters are different from, for example, those in mathematics and physics. In philosophy and morals, we do not see scholars who agree on a great number of old facts and established laws and who only discuss among themselves new facts and laws yet to be formulated; and we do not bring **[178]** science from a certain level of development to raise it to a somewhat more advanced state. No. What one finds in philosophy and morals are theories completely opposite to one another, from the first principles on to the last inferences; and what we have to do, if we want to have a theory of our own, is to call everything into question from A to Z. Among the sciences, there are those which must be worked out bit by bit, like advancing step by step toward a goal, and those which must, from the beginning onwards, be achieved by a single stroke, like reaching a target by throwing successive darts at it. None of the darts thrown by thinkers and writers has until now touched the target of the social-economic question; but, if one could place a dart in the exact centre of all the others, would it not then be in the very centre of economic and social truth?

Thus, in reviewing all the philosophic systems, we will certainly recognize what is true and what is false in each of them; and eliminate from each of them what is false and keep only what is true. There is truth in materialism, for we know nature or the physical being only through our sense-organs. There is truth in spiritualism, for we know man or the moral being only through consciousness. Materialism is wrong insofar as it wants to deduce knowledge about man wholly from knowledge of nature only. Spiritualism is wrong insofar as it wants to deduct knowledge about the physical being from knowledge of the moral being. We must make a synthesis of materialism and spiritualism. In this regard, is there not a problem with empiricism and idealism exactly like that with materialism and spiritualism? There is truth in both empiricism and idealism, for if it is certain that we know man's nature, the physical being, and the moral being, only through experience, it is no less true that we understand God, the metaphysical being, only through reasoning. The place at which empiricism and idealism become exclusive is where the one claims to deduce the knowledge of God from knowledge **[179]** of nature and man, and the other claims to deduce the knowledge of the physical and moral being from the knowledge of the metaphysical being. What still has to be accomplished here, as good philosophy, is the synthesis of empiricism and idealism.

When one passes from metaphysical philosophy to moral philosophy, one finds these same systems. In social moral thought, the question of idealism and empiricism is called the question of *socialism* and *liberalism*. We will reconcile socialism and liberalism by introducing the distinction between *science* and *politics*. We will show that, in regard to scientific truth, socialism is right, and, in regard to political truth, liberalism is right. In social moral thought, the question of materialism and spiritualism is called the question of utilitarianism and moralism. We reconcile utilitarianism and moralism by introducing the distinction between *industry* and *mores*. We shall show that with regard to industry, that is to say the relations between persons and things, it is utilitarianism or the doctrine of economic advantageousness that is right; with regard to mores; that is to say, the relations between persons among each other, it is moralism or the doctrine of justice. We will prove, in passing, the harmony between advantageousness and justice or the harmony in human destiny. Finally, a third question remains, a question that is one of neither method nor criterion but of social science as such: the question of *communism* and *socialism*. Now, we will also reconcile communism and socialism, doing so by introducing the distinction between social *positions* and social *conditions*. It will be seen, with respect to social conditions, that equality is a matter of justice, and authority a matter of order, and that communism is right; and, with respect to social positions, that liberty is a matter of order, and inequality a matter of justice, and that reason sides with individualism. The study and the solution of these three problems will constitute none other than the exposition of the synthetic method, if not the most rigorous exposition, at least the most accessible one. **[180]**

II Synthesis of socialism and liberalism

Does a social truth exist? In other words, can we conceive of and must we pursue a perfect social organization, either from the point of view of justice or from that of utility? We observe that this is not precisely a question dividing socialists and economists. The socialists say: ‘There is a social question; this question has not been solved and our society is imperfect. We must strive for a perfect society and, thereby, solve the social question.’ Now, what is the economists’ answer? They say: ‘There is no longer a social question because this question has been solved scientifically, if not politically.’ Some say: ‘It has been solved regarding economic advantageousness but not regarding justice.’ The others say: ‘It has been solved from the point of view of both justice and advantageousness.’ Strictly speaking, the discussion between economists and socialists has always been about the state of the solution of the social question, not on its existence. Let us, therefore, temporarily put aside the economists; we will see them again later on our path. The socialists, who admit the existence of the social question and of social truth, are opposed by the liberal school, which denies them.

This is what Mr. Edmond Schérer said in his article in the *Temps* of 30 December 1862, reviewing a series of articles by Mr. Adolphe Guéroult. Mr. Schérer observed and showed the opposition between liberalism and socialism, the one believing in the *perfectibility* pure and simple of the society and the other in its possible *perfection*. I criticized this article in my three letters entitled ‘Socialism and liberalism’.[ii] I still think that this article could not be better inspired, not because one cannot define liberalism and socialism in several other ways, but because it is done this way: before the question of how one must do social science, the question is put whether there is or is not a **[181]** social science. However, having discussed this question with Mr. Schérer, I will discuss it now with Mr. Prévost-Paradol, another no less unwavering liberal. This champion, I must say, is sometimes not so very impressive; but since there is an abundance of divergent points of view, we can benefit from multiplying our examples. Within the genre of the liberals, there are several types; there are, among others, those for whom the simple statement of the social question is a reason for gaiety; this is a type worth knowing. Mr. Prévost-Paradol belongs to this school, and so, in his reply, in the *Journal des Débats*, to an editor of the *Constitutionnel*, he rejected a manifestation of the socialist mind (one would not have expected to see the socialist cause in the hands of the *Constitutionnel*) by a manifestation of the liberal mind, expressed in the following excessively impertinent and disrespectful way:

> We do not want to leave this writer, who is, after all, ingenious, instructive, and worthy of the attention of those who are interested in our political history, without quarrelling with him. In one of his articles in which he does us the honour of challenging us, Mr. Giraudeau blamed us for not having provided 'the solution of the social problem'. We could hardly believe our eyes when reading this false charge. There are persons who are able to speak naively of the *solution of the social problem*. There are others who are living with it and for whom those four words mean spirit, talent, justice, patriotism, and reason. However, M. Giraudeau is not among the latter. He is undoubtedly not serious when he asks us to produce, as a lost object, the solution of the social problem, whereas we never bragged about solving it and never expected cheap popularity by promising it. However, why does not Mr. Giraudeau, in the improbable case that he is one of those who expect the solution of the social problem soon, urge the government to implement it? If it exists, why keep this wonderful secret so long? Why not publish it and post it up on the walls? For 16 years, numerous **[182]** fellow-citizens have expected each morning to find it in the *Moniteur*! But, instead of being helpful in the fulfilment of this rightful expectation, Mr. Giraudeau turns suddenly to us, who have never talked about the matter, nor deluded anybody about it, and peremptorily imposes on us the task of finding the solution of the social problem. This is almost a bad trick on the part of Mr. Giraudeau, and, anyway, it is an oratorical procedure unworthy of his normal method of discussion; but we bear no grudge against him. This moment of neglect has undoubtedly been caused by a moment of embarrassment. The *solution of the social problem* is the *cream pudding* of the writers of his school; it makes for a noisy argument and takes the place of reasoning. It is a sort of poetic padding that indicates the absence of the Muse rather than the bad faith of the writer.[2]

The tone of these lines is certainly not the proper one for science. Only a person who always pokes fun at everybody does not understand how foolish it is to speak so lightly about such serious subjects. However, after all, why could science not be taken up in any tone? Somebody who does not go straight to the

2 *Journal des Débats*, 27 September 1868.

right point of truth and reason makes a fool of himself rather than of its adversaries. In the above passage, Mr. Prévost-Paradol wanted to depict the socialists in the most comic way: 'persons who are able to speak naively of the solution of the social problem'. But he could, if he wished, have also depicted the liberals, and perhaps himself, in a manner hardly less entertaining. Let us be careful not to be seduced by the charm of his irony. But let us also be careful not to feel resentment or irritation by seeing him make fun of our most cherished ambitions. Let us preserve the calmness characteristic of cultivated and impartial readers. And let us be as free from that fanatical enthusiasm with which most sectarians cover up the narrowness of their systems as from the self-conceit under **[183]** which certain stylish minds hide their complete ignorance in matters of social and political economics. With such an attitude, we will guess in the first instance that, between liberals and socialists, right ideas and wrong ideas may cancel each other out, so that the opponents find themselves face to face in the same situation as two armies, each having its right wing in the forefront and its left wing broken through, and nevertheless both armies claim victory. Consequently, we will presently try to make a distinction between the points on which socialism and liberalism are respectively in the right and in the wrong. And, finally, we will not hesitate to bring about the reconciliation of these two opposing doctrines in a third one formed with the sound and resilient parts of both. These are, if you will recall, the point of departure and the goal of socio-economic synthetics.

Let us first attentively look for what is well founded in the attacks by liberalism; we will find it. Remember the Saint-Simonians addressing themselves successively to Napoleon I, Louis XVIII, Charles X, Louis-Philippe, and Napoleon III, proposing an exchange of good offices; remember also the disciples of Fourier in search of a million francs to found their first phalanstery, or Mr. Louis Blanc who expected the Republic of 1848 to create his social workshops; Mr. de Girardin, he too, with his plans prepared, did not address himself to the public to convince them to demand the application of these plans by the authorities, but addressed himself instead to the authorities to impose their application on the public. Consider Mr. Proudhon: after having explained his system of free credit by reciprocity, or the substitution of the partnership of work for the partnership of capital, he exclaimed: 'Lacking spontaneous action on the part of the citizens, the authorities must set things in motion, and, within one day, one hour, all these revolutions can be achieved.'[3] Is it too much to say that, after such words and such **[184]** pretentious confidence and violent totalitarianism, the liberals have rained too much mockery upon their adversaries? Free credit by 'reciprocity', or 'substitution of the partnership of work for the partnership of capital', and all those reforms and revolutions that, by lack of spontaneous action on the part of the citizens if they are too idiotic and too lazy, strong and intelligent authorities are expected to achieve within one day, one hour, are these not, in fact, the solution of the social problem reclaimed like a lost object, the marvellous secret that

3 [In:] *De la justice dans la Révolution et dans l' Église*, troisième étude, 'Les Biens' [Brussels/Leipzig, 1860].

can be published, posted on the walls, and that we hope to find one of these mornings in the *Moniteur*?[iii] In the sense, the humour is certainly not lacking savour.

So be it. Now, however, after having tasted all this sufficiently, let us make another assumption: instead of being incited to oppose an empiric who, not satisfied by just stating his doctrine, demands also an immediate despotic application of it, now, on the contrary, let the same mockery be addressed to a certain scholar who, satisfied by having produced his theories, leaves them completely to the profound discussion and the free initiative of his fellow-citizens, who can reject or adopt them. Is this mockery completely inappropriate? Well! It is Mr. Prévost-Paradol who states he has never boasted of having resolved the social problem! In our turn, we could hardly believe our eyes when reading this misplaced defence. Did not we all read that astonishing book *La France nouvelle*,[iv] where the institutions and principles suitable for the French democracy are established point by point? If its dimensions had been reduced from those of a thick volume of 20 chapters into those of a constitution of 50 articles it would have been a complete and definitive work. However, liberalism is really much too modest! Mr. Prévost-Paradol has not promised us the solution of the social problem! He has done more: he has found it. Or, at least, if he has not given *the* solution of the social problem, he has given *a* solution of the social problem, namely his own solution of the problem of the political organization of society. **[185]** Is this, therefore, a reason why socialism is unable to give its own solution of the problem of the political organization of the society? Mr. Prévost-Paradol says in substance on this subject: 'We have a democratic society but we do not have a democratic government; here is the theory of this government.' Undoubtedly, this is a bold assertion. Well, it seems to be forbidden after this that some writer could say in his turn: 'We have a democratic government, but we do not have a democratic society, and I am going to give you the theory of such a society.' And it would not be permitted for a third author to say: 'We have neither a democratic society, nor a democratic government, and I am investigating the theory of such a society and of such a government.' We do have a democratic society! And what do you [Mr. Prévost-Paradol] really know about it? With respect to production and distribution of social wealth, our society achieves the ideals of utility and equity! How would you establish this? What, in particular, is your theory of property and taxation? On which theories of rent do you base the theory of individual landownership? Do you admit, with Adam Smith, Malthus, Ricardo, Jean-Baptiste Say, that rent is the specific income of land? Or do you maintain, with Carey and Bastiat, that rent represents only interest on capital? Where, when, and how has liberalism answered these questions? Where, when, and how did they show that they even suspected their existence? However, in spite of all this, they believe they have the right to deduce *ex professo*[v] the conditions for suffrage, the organization of local, regional, and national assemblies, the establishment of ministerial responsibility, the way justice should be administered; and we, on the other hand, should be put into the madhouse if we try likewise to deduce the conditions of property and taxation, and the relationships of labour and capital! Ah! However, would the constitution drawn up by our liberals be the only document accepted for publication in the *Moniteur* and for posting on the walls? In this case, it would be the *Moniteur* itself that would have the appearance **[186]** of a *cream pudding*, and make liberalism far more laughable than Molière made the marquis [in *L'Impromptu de Versailles*].

It seems to me that, after this, one will easily see when socialism is right or wrong compared to liberalism, and when liberalism is right or wrong as contrasted with socialism. When socialism limits itself to stating the social problem, and tries to formulate and solve it, it is right as contrasted with liberalism; socialism is wrong when it goes so far as to propose an immediate and authoritarian application of whatever solution of the problem. Liberalism is variously wrong or right in the two cases. It is wrong when it permits itself to deny the social question; it is right when it rejects the substitution of authority for liberty in matters concerning the solution of this question. Here, there are two things that must be distinguished: theory, that is to say *science*, on the one hand, and, on the other hand, practice, that is to say *policy*. In matters of policy, liberalism is right as contrasted with socialism: it is intolerable if whatever solution, even though it be social truth itself, claimed to impose itself upon us against our wishes. On the other hand, in matters of science, socialism is right as contrasted with liberalism: it is absurd to prohibit our investigations of the social problem, either in its entirety or in one of its elements. It is absurd to declare as an incontestable axiom, as does French liberalism, that we have a democratic society, and that only a democratic government is lacking; in other words, to propose, as it does also, liberty under the condition that we will not use it to attack property, family, or religion. However, if there is one thing for which liberty makes us wish, it is precisely to discuss religion, family, and property; and if we ache for democratic government, then it is precisely for the purpose of using it to obtain a democratic society, and certainly not, as the French liberals should like (I do not speak of the liberals in other countries, whom I do not know sufficiently), to obtain, for some of their party, influence in their canton and success in Parliament.

[187] Having discovered the difference, we leave Mr. Prévost-Paradol, who is decidedly not important enough, and go back to Mr. Schérer, and we say this to him:

> It is indeed, as you stated it yourself, a question of perfection versus perfectibility. The socialists want a perfect science and a perfect society; theoretically and practically they want the absolute. You and the liberals content yourselves with an imperfect society and with imperfect science; practically and theoretically you content yourself with what is relative. As for us, permit us, even though being content with perfectibility as far as it concerns society, to want perfection when it concerns science. In practice, the quality of being relative is enough for us; theoretically, we must have the absolute.

Yes: I say to you that in matters of science we may boldly be socialists. In science, we are in the field of ideas, of the ideal, of perfection. Nobody can prevent us from defining, that is to say, from deriving by abstraction from experience the ideas of social wealth, capital and income, productive services and products, workers and capitalists, entrepreneurs, markets and prices, and the idea of the reasoning and free man in society, engaging in the specialization of labour. Now, on the basis of these ideas, we can and we must establish the theory of production, and that of the distribution of social wealth among the people in society. For instance, we will show in which cases liberty of labour and exchange bring about both abundance and proper proportions of products in the production of social wealth, and in which cases it does not succeed in this respect; and from this, we deduce the limits of individual initiative and State intervention in agriculture, industry, commerce, and credit. Likewise, we will show that collective ownership of the land, combined with private property of personal faculties, satisfies equality of conditions and inequality of positions in matters of the distribution of wealth. These conditions are absolute because they can be applied to any society of people producing social wealth and distributing it among themselves. They constitute the true social economics.

[188] In matters of policy, on the contrary, we must be conscientiously liberal. In politics, we are in the field of the facts, of reality, of imperfection. Here, we are confronted with such and such conditions of social wealth or such and such conditions of man in society. There are land, personal faculties, and capital in more or less significant quantities of more or less satisfactory quality; we meet with French, English, German, Belgian, or Swiss people, with Europeans or Asians, living under the circumstances of this or that climate, and under the regime of such and such traditions. Given these facts, we will let ideas enter into the discussion in different ways. Some ideas will deal with order because of misuse of authority, and others because of abuse of liberty; some will deal with justice because of excess of equality, others because of excess of inequality. These applications will be relative because, whereas science is universal and permanent, policy is local and accidental, being French, English, German, Belgian, or Swiss. They form the opportunity for policy.

III Synthesis of utilitarianism and moralism

As a result, we state that, whereas relative or pure and simple perfectibility is the principle of policy, absolute or rigorous perfection is the principle of science. Now we are in the domain of science; so, in this field we are looking for the absolute, for perfection. Partial utility or near-justice is not enough for us; we must have complete utility and full and total justice. We consider the liberals and the empiricists as wrong, and the socialists and idealists as right. Let us concentrate now on a second question: Is this ideal an ideal justice? Or is it an ideal usefulness? Here we find ourselves in the company of the moralists, or spiritualists, and the utililitarians, or materialists.

[189] In order to construct the theory of the production and that of the distribution of social wealth among the people of a society, we must know, as I have said, two things: what is social wealth, and what is the meaning of mankind being in society? This latter requirement is indispensable, not only for constructing the theories of *industry* and *property*, but also for constructing those of the *family* and *government*. So, for making the economic or moral theory of society in general, and for doing this *a priori* and rationally, a preliminary operation is necessary: to find the definition of man by abstraction from experience. The empiricists disbelieve in the possibility of such an operation. According to them, man varies from country to country, and from century to century; there is no such a thing as 'man in general'. As they say, there are only French, Germans, etc. To this, we answer that behind these differences relative to place and time there is an essential unity; that, if it were true that there is no 'man in general', but only French, Germans, there would be no French, or Germans, but only Pierre, Paul, Wilhelm, Friedrich. Let us try to define 'man'. It is certainly a delicate operation, but if we succeed in doing it, it will be certain that it is not impossible.

From the physiological point of view, man has an aptitude for the division of labour, and he manifests this aptitude socially by *industry*.

From the psychological point of view man is a being endowed with sympathetic love and an aesthetic sense, with understanding and reason, and with free will, expressing socially these faculties in *art*, *science*, and *mores*.

The totality of these four categories: art, science, mores, and industry, forms human destiny. And this destiny is achieved in societies in which a newly arrived person finds the acquired knowledge of previous generations, and when leaving it, leaves behind the results of his own efforts; these societies themselves are born, grow, and die. Do we go beyond observation and experience? No. Do we ever see the living man as we see animals, in complete **[190]** individual independence and without any social solidarity? No. Will we ever meet people having no art, science, mores, or industry in whatever form in the most far-off lands and in the most backward states? No. Because the line of demarcation between animals and people, like that between vegetation and animals, or between minerals and vegetation, is not clearly cut, we will undoubtedly see certain animals having rudiments of either art, or language, or family, or industry, or even of society, but we will never find among them the four social categories existing together and having an effect on one another, such as is the case with humanity. Hence, without leaving observation or experience, raising ourselves above reality only by scientific abstraction, we may say: man is a creative, intellectual, moral, and industrious being, and for that reason, he is *sociable* and *progressive*.

These four social categories: art, science, mores, and industry, are essentially distinctive by their very definition; the more you observe them the more marked the distinction becomes. First, between art and science, on the one hand, and mores and industry, on the other, there is a very clear line of demarcation: art and science are passive, in a sense, whereas mores and industry are active. We experience sympathetic and aesthetic emotions, and we have our notions and conception, our ideas, whereas we make moral and industrial efforts. Next, there is a great difference between art and science: emotion is individual, ideas are collective. Finally, there is no lesser difference between mores and industry.

Industrial facts result from the human will, from human activities applied to impersonal nature; these are relations between things and persons introduced to subordinate the purpose of the things to the purpose of persons. Moral facts result from the human will, from activity of humans applied to other humans; here we have to do with relations between persons and **[191]** persons with a view to the coordination of people's interrelated destinies.

So, mores and industry are no less distinct than science and art. Each of them has its principle as well as its goal. Let us therefore give a name to each of these principles. Let us call *beauty* the principle of art, *truth* the principle of science; let us call *goodness* the principle of mores, *usefulness* the principle of industry. We will say: beauty and truth, goodness and usefulness are distinct and not identical.

The question of usefulness and goodness, or of advantageousness and justice, is thus only a special question within a more general one: that of what are variously beautiful, true, good, and useful. Moreover, it is solved by making a distinction according to the synthetic method. There are, on the one hand, materialists or utilitarians; they want to subject the totality of all the active relations of humanity with the world to the exclusive point of view of what is useful or advantageous. On the other hand, there are the spiritualists or moralists, who want to subject the totality of these same relations to the exclusive point of view of what is good or just. We must, however, make a distinction between the active relations of persons with things and the active relations of persons with persons, between industry and mores. The relations between persons with things should be organized with a view to the subordination of the purpose of things to that of persons. Here, materialism is right and spiritualism is wrong. The relations of persons with persons should be organized with a view to the coordination of the destinies of persons; goodness or justice is the criterion of mores. Here moralism is right and utilitarianism is wrong.

Let us therefore leave technical arts, the theory of agriculture, industry, commerce, and credit to the point of view of advantageousness. What have farmers, industrialists, commercial people, or bankers to do with justice? Let us leave, to this same point of view, applied economics, which is basically the first of arts, the art of arts, that is to say the theory of **[192]** agricultural, industrial, commercial, and financial production of social wealth brought about within the framework of the division of labour among the people of the society. Conversely, let us keep for the point of view of justice the theory of the family or the theory of our relations as parents and children, and as husbands and wives, the theory of government or the theory of our relations as voters, representatives, administrators, citizens, officers, soldiers, subjects of jurisprudence, and judges; and, last but not least, the theory of property and taxation or the theory of the distribution of social wealth among the people of a society. Here, justice must reign supreme.

Is this justice a theological, revealed justice? Absolutely not: it is a positive, scientific justice. This morality, it must be said, is an independent morality. I may or may not share all the metaphysical and moral opinions of the supporters of independent morality; that does not matter here. I believe with them that morality in general and social morality in particular can and must be independent of theodicy and metaphysics. In this respect, I have had, for many years, a little known great philosopher as a master, namely The Deerslayer, the admirable poetic creation of Fenimore Cooper.[vi] According to The Deerslayer, everyone must act in conformity with his gifts; that is to say, in conformity with his aptitudes, with the qualities with which he is endowed. So, it is good that the Indians act in conformity with their gifts and go out hunting and fishing, meet around the council fire, and go on the warpath, use trickery, throw tomahawks, and take scalps. It is good that the white man, too, acts in conformity with his gifts, which are being honest and faithful, being as human and generous as he is brave and bold. This doctrine is exactly mine; but I go a little further. Beyond the Indian, even beyond the white man, who is often no more than a redskin with a white skin, I see man in the proper sense, the moral person, and I say that all is well if he acts in conformity with his gifts, which are reason and liberty. I am not one of those who believe that God has written His law **[193]** in a book, like we write our ideas in our books; I believe that the law has been written only in the great book of physical and moral nature, but I find it printed there in indelible characters.

Mores form the totality of the relations of persons among themselves; industry is the totality of the relations of persons with things. At least, this applies to industry in the strict sense: it is evident that industry in the strict sense has only to do with things and that the theories of the various industries, or the technical arts, have nothing to do with justice. This is not rigorously the case for industry in general; that is to say, for the production of social wealth by the people of a society, and for its theory, which is applied economics. Here, the people do not only enter into relations with social wealth, but they enter into relations with each other as workers who specialize, and one may wonder if these economic relations, governed by advantageousness, are in accordance with moral relations, governed by justice. This is the problem of the contradiction or harmony of advantageousness and justice that presents itself immediately after the problem of the nature of advantageousness and of justice, and their distinction.

Can this question be solved only a posteriori, by its consequences? It seemed to me that one could solve it a priori, by its principle; I tried to do this, and here is how I went about it.

I establish successively: – that if blind and unavoidable instinct is enough for the animal, whose faculties are by nature at the level of its needs, perceptive and free will is necessary for man, whose needs, in a state of isolation, would surpass his faculties, and whose faculties surpass his needs only in a social environment, and by means of the division of labour: briefly, industry presupposes mores; – that if, for the same reason, representations of the imagination are enough for the animal, the notions of understanding and the conceptions of reason are necessary for man: briefly, industry presupposes language and science; – that if, finally, emotions of self-interest are **[194]** enough for the animal, superior, disinterested emotions of sympathetic love and aesthetic sense are necessary for man, always in proportion to the specificity of the occupations: briefly, industry presupposes art. If this is the case, would it not be certain that there is no mutual incompatibility between usefulness on the one hand, and, on the other, goodness, truth, and beauty; that art, science, and mores, created and developed for their own sake, turn, on their own accord, to the advantage of industry?

There is a book by Mr. Cousin that is like a manual for eclectic spiritualism (for eclecticism succeeded in penetrating into the most distant corners of spiritualism), entitled *Du Vrai, du Beau and du Bien* [On Truth, Beauty, and Goodness].[vii] The theory of truth in the book presents rational conceptions as innate ideas; the theory of beauty draws the aesthetic emotions from sensibility to transfer them to the intellect; regarding goodness, I have nothing to say, other than that it is completely separate from usefulness. Is this omission not symptomatic? And when spiritualism wants to explain our destiny to us without speaking about the division of labour or about industry, do we then not have the same thing as trying to explain what a watch is while leaving out mention of its face and hands? In this way, I say, one must react against exclusive spiritualism; and in this respect I am of the same opinion as the Saint-Simonians, the Fourierists, and the other socialists. If we want to resolve the problem of the destiny of man in society, we must at least consider this destiny in its entirety, and not mutilate it arbitrarily by separating the physiological and economic destiny of man from his psychological and moral destiny.

Although agreeing with the utilitarians up to a certain point, I do not follow them to the last part of their system. I make important concessions to the utilitarians. I leave the technical arts: agriculture, industry, commerce, to the point of view of usefulness. Furthermore, that does not create difficulties. There is more: I leave to the same point of view industrial economic production; that is to say, the organization of agriculture, industry, and commerce on the basis of the division of labour. Moreover, here I am with the utilitarians **[195]** opposing the moralists who want to enthrone the viewpoint of goodness in applied economics. Finally, I go even further: I admit that art, science, and mores are, in a way, mediating conditions for the achievement of our human destiny, whose immediate object is industry. This would be, indeed, the result of the synthesis to which my analysis is leading. But even this is not enough for utilitarianism, and at this point I leave it. It is not enough for utilitarianism that art, science, and mores work together, harmoniously but independently, for the success of industry; they must be dominated by the latter and absorbed into it. Ask a utilitarian what is the point of view of industry. It is usefulness. And the point of view of mores? It is usefulness. And the point of view of science? Still usefulness. And the point of view of art? Always usefulness. By virtue of this unsystematic point of view of usefulness, one asks nowadays art to instruct us, science to moralize, and mores to make us rich. These are tyrannical and unsupportable claims. When confronted with natural or social phenomena, it is the artist's right to listen only to his aesthetical emotions, and to reproduce these on the canvas or in his drama in order that we may share them. Likewise, it is the scholar's right to obey only his rational or experimental convictions and to make these part of his theories in order to persuade us to accept them. A painter composes a landscape; a mathematician studies the properties of a curve. What if we ask them: 'What is the use of this?' They will have the right to answer: 'We don't know. The one is beautiful and the other is true.' And indeed, the utility of the painting is indirect, and that of the theorem also. Well, regarding mores, it is the same as with art and science. Justice cannot turn a deaf ear to usefulness; and, far from being condemned to remain in misery, if we do not want to renounce equity, it is, on the contrary, by suppressing iniquity everywhere that we will certainly arrive at wealth. However, it is no less necessary to seek justice for its own sake. Utilitarianism, which subordinates justice to advantageousness, pursues unity **[196]** at the cost of variety; it carries out a synthesis without an analysis; it does not reconcile the two things, it merges them; it does not solve the problem, it suppresses it.

IV Synthesis of communism and individualism

If we needed more quotations to pass now from the questions of socialism and liberalism, and of utilitarianism and moralism to the question of communism and individualism, we would not take them from Mr. Schérer or Mr. Prévost-Paradol, or from writers of the generation immediately before them, like J.-B. Say or Bastiat; we would have to go back to Plato and Aristotle. The dispute between these two philosophers became quite intense, and continued without interruption on the communist side up to Babeuf and Cabet[viii] and their disciples, and on the side of individualism up to those socialists, and, even more, up to those economists who want to suppress the State, together with the government that represents it, and replace it by insurance companies to which everyone could subscribe to protect himself against risks of all kinds. We will find here the economists as socialists-individualists, and, in fact, they are nothing else. Their so-called liberalism is only exclusive individualism ready to be imposed despotically if the occasion presents itself, as we saw in 1860 at the time of the trade agreement with England.

Chronologically, communism precedes individualism. In the nearly barbaric societies, where war is very important, attack and defence take place collectively, it follows naturally that existence and security are not considered as possible for the individual otherwise than within the existence and the security of the State. Therefore, the collective element predominates over the individual element. Afterwards, on the contrary, by a normal reaction of the individual element against the collective element (this reaction was brought **[197]** about mainly under the influence of the development of industrial activity), one has come to the point at which, in a sense, the existence and the security of the State are subordinated to the existence and the security of the individual. Anyway, scientifically, when seeing these exclusive tendencies, the role of the synthetic method is clear beforehand: by making evident where the two doctrines are right and where they are wrong, it must try to find the distinction that permits their synthesis.

Now, the determination of the respective rights and duties of the individual and of the community or the State will be done from a double viewpoint: first, from the point of view of the initiative or action to exercise those rights and duties by, respectively, either the individual or the community; second, from the point of view of the enjoyment or benefit that is to be drawn by, respectively, either the individual or the community, from the results of social activity, isolated or collective.

The first of these two problems can be put as follows: When must people act individually or in isolation; that is to say, *freely*? When must they act in common or collectively; that is to say, *authoritatively*? We have here a problem of *order*: the problem of *government* or the political organization of society, the problem of liberty and authority. Strictly speaking, the problem of the *family* is included in the problem of government so defined, for it does not consist of anything else than drawing the line between the liberty of the individual and the authority of the State in matters of the union of the sexes and the education of children. Because of its importance, we consider it as a separate problem.

The second problem may be put as follows: When must people enjoy life in common or collectively; that is, *equally*? When must they enjoy life individually or in isolation; that is, *unequally*? This is a problem of *justice*, the problem of property and taxation, or the economic organization of society with the purpose of distributing the wealth among the people, the problem of equality and inequality.

[198] These are the two social problems, or rather the two facets of the social problem.

A remarkable fact to observe in passing, a logical upshot of the exclusive positions taken, is that the socialists and the liberals mostly want to recognize only one of the two facets of the social problem. It seems that, for the socialists, the problem of order, which consists in not letting liberty infringe on authority nor authority on liberty, is of secondary importance, and that the whole social problem consists essentially of the problem of justice. Talk to most of the socialists about the question of government, of the structure of public power, and they will listen to you with only half an ear and answer you hardly or not at all. They are concerned with another matter, and would readily say that any government is good if it assures an equitable distribution of the wealth among the citizens. There are exceptions undoubtedly, and their number increases from day to day; I refer to the tendencies that have dominated until now. In reality, the social problem is so vast and so complicated that it is difficult to assimilate it in its whole extensiveness and to grasp it in all its details.

For the liberals, on the contrary, it seems that the problem of justice is already and necessarily solved by existing facts, in the sense of inequality against equality, and that the whole social problem consists solely of the problem of order. Speak to a liberal about the question of property and taxation and he will hardly hesitate to say to you that for him any system of property and taxation is good as long as the game of reciprocal action of individuals and the State is appropriately organized. See, for example, Mr. Prévost-Paradol. He will say that inquiring into the solution of the social problem from the point of view of the political organization of the society is excellent, but investigating this same solution with a view to the social and economic organization of the society would make him die laughing. And there you see from what scientific and philosophic height liberalism makes fun of socialism. However, what theory **[199]** of property and taxation does it profess? None. Does it declare, at least, that there exists a theory of property and taxation that is in accordance with the principles of social morality and those of economics? Absolutely not. Does it guarantee that property and taxation will be established according to this theory? Not in the slightest. And what does liberalism think about the present relations between work and capital in industry? Nothing. You do not really know liberalism if you believe that it deals with such nonsense. And what does it deal with? Well, I will tell you: it is exclusively political; and since it is completely ignorant of political and social economy, liberalism believes that the best thing to do is utterly to despise it. Liberalism deals with the form of monarchism and it deals with the form of republicanism. It wonders if there should be one single legislative chamber or two; and it declares that 'experience is in agreement with reason'[4] to show that we must have two chambers and not just one. Learn that there is also a truth, both rational and experimental, that in the Senate there must be reserved by law ten seats, reserved for two members of each of the five classes of the Institute.[ix] And so forth.

Synthesism proceeds differently. It does not sacrifice the problem of order to that of justice, nor the problem of justice to that of order. And it hates to sacrifice either the individual to the State or the State to the individual, just as much with regard to the problem of order as to the problem of justice. With what, then, is synthesism concerned? It is to know when individualism is right or wrong in contrast with communism, and when communism is right or wrong in contrast with individualism. Here once more, not wanting to repeat word for word what I have said elsewhere, I will restrict myself to summarizing the demonstration that can be found in the sixth lesson of my *Théorie générale de la société*.

Man exists only in society and supported by society. The real human, as opposed to an abstraction, is man in society. The individual and the State are **[200]** two abstractions necessary for science. The individual is a man isolated from the society of which he is a member; the State is the organ of the society distinct from any of the people who are composing it. As opposed to socialism, individualism is right when it declares that the individual has the right to achieve his destiny in *liberty*. However, it is wrong when it denies the State the right to establish with *authority* the social environment for the achievement of all people's destinies. That is the truth about the problem of order. Regarding the problem of justice, communism is right as opposed to individualism when it declares that the people have the right to be placed on the level of perfect *equality* in the social environment of the accomplishment of their destiny; however,

4 *La France nouvelle*, p. 105.

communism is wrong when it denies that the people have the right to benefit *unequally* from the good or bad accomplishment of their destiny.

So, there are two things to distinguish here: the general social *conditions* and the particular personal *positions*. Regarding the positions, individualism is right and communism is wrong. It is contrary to order that the community determine the positions of the individuals. And it is against justice that the community benefit from the positions earned by the individuals. Regarding the conditions, communism is right and individualism is wrong. It is contrary to order that the individual, and not the State, determine the conditions. And it is contrary to justice that the individual uses the social conditions instituted by the State to his own exclusive benefit. *Liberty for the individual; authority for the State. Equality of conditions; inequality of positions*, this is the completed revolutionary motto and the fundamental formula for the constitution of social science.

Making clear what the particular positions are in all the social categories, what the general conditions are, and, consequently, what the roles of liberty and authority are, and where equality exists and where inequality exists: this is the crucial object of social science. One cannot imagine what light will penetrate into the obscurity of socio-economic controversies as a result of this simple distinction.

[201] In Antiquity, the individual was absorbed by the State; in the Middle Ages, the State was dismantled to the benefit of the individual; in our times, we must equilibrate the rights of the individual and those of the State. From the political point of view, perhaps we have rather to liberate the individual; from the economic point of view, it is urgent to restore the State. In our society we have allowed monopolies to be formed that are citadels from which capital exerts tyranny and despoliation on industry and credit. On the other hand, there are, in our society, three categories of persons who are living on incomes that are more or less certain: these are the landowners, who live on rent, the workers, who live on wages, and the capitalists who live on interest; and there are three categories of persons who have nothing, and who subsist on what is given them or on what they take: these are the beggars, the thieves, and the State. The State is ruined, and this transpires to the profit of the landowners. They withhold the State's share of income, and become rich without working or saving, because of the sole fact of the continual surplus-value of the land and its produce. They do so to the detriment of the workers, who provide for the State's subsistence, and become poorer from day to day as public spending increases. From the economic point of view, the solution of the social question lies therefore in the reconstitution of the State, with respect to both the production and the distribution of the wealth among the people of the society. This is, at least, my opinion: in addition, however, if that is going too far, I say gladly that I will stop at this point. All in all, it is perhaps less urgent to solve the social question (for who could flatter himself to succeed alone in achieving such an undertaking?) than to determine correctly the method of solution. So, I restrict myself for the time being to recommending in this respect the method of *synthesis*, and, as its first application, the creation of liberal socialism. Let us be truly convinced that we will not be able to solve in one day a problem the solution to which humanity has sought for thousands of years. Let us, we scholars and professors, use the right we have to **[202]** elevate ourselves above considerations of time and place. Let us observe from these summits the elements of social wealth and the progress of humanity. Let us see how humanity in the past passed through the stage of hunting and fishing, the pastoral stage, the agricultural stage, and through theocracy, slavery, and feudalism, and let us try to see humanity in the future, entering the industrial and commercial stage. Let us show to humanity its purpose, by devising for it the rational blueprint of an ideal society to be constructed out of all the pieces belonging to the latter stage; and let us leave to the politicians and statesmen, who are concerned with the present and have the responsibility of taking local and temporary circumstances into account, the task of bringing us to the ideal by modifying, from day to day and one by one, the empirical conditions of the real societies in which humanity currently finds itself. Saying it once more in another way, we have to consult the sky and the compass; they have to be at the helm and direct the operation; in this way the ship will certainly advance in the direction of the port.

Notes

D i The *Revue socialiste* of 15 April 1896 prefaced Walras's article as follows:

> The *Revue socialiste* intends to let Léon Walras explain the most important points of the socio-economic system he advocates and has taught during more than 30 years, in France and elsewhere. The author's name, nowadays known in all the universities on earth, is sufficient to have spared us the need for any comment. Nevertheless, we think that we must remind the reader that this *Revue* feels honour bound to publish all socialist doctrines that have truly scientific value, and that it has taken on itself the task, among other tasks, to re-establish the French socialist tradition. We are therefore happy to be able to stimulate discussion of the ideas of a scholar who declared himself a socialist from 1868 onwards, who did not cease to be so while using his own individual method, and who during many years has been condemned to a sort of repression in his own homeland because of the intolerance of official science in our country.
>
> (The Directors)

ii Chapter 1 of this book.

iii *Le Moniteur universel* was the official newspaper during the Revolution. Founded in 1786, it existed until 1901 under different names, but was always known by the name *Moniteur*.

iv Lucien-Anatole Prévost-Paradol, *La France nouvelle*, Paris: Lévy frères, 1868.

v Walras seems to suggest that the liberals consider themselves as the true and legitimate professionals in these matters.

vi Deerslayer is Nathaniel Bumppo's nickname. He was the chief personage in James Fenimore Cooper's (1789–1851) *The Deerslayer or The First Warpath* (1841). The book was widely read in France in its French translation when Léon Walras was a boy. The novel is situated in western America in 1757. Fenimore Cooper wrote other novels in which Bumppo played a role, set in the same time and place. Well-known among these works is *The Last of the Mohicans* (1826).

vii Paris: Didier 1853. Auguste Walras commented at length on this book.

viii François-Noël Babeuf (1760–1797) was a French revolutionary whose doctrine ('babouvism') was a variety of communism. He was executed because of his leading role in the 'conspiracy of the equals' against the Directorate. Étienne Cabet (1788–1856), a theorist on French politics, was classified among the 'utopian socialists'.

ix The members of the Institut de France are scientists, scholars, artists, and writers. They are grouped into five scholarly societies or Académies which meet periodically: the Académie française, founded by Richelieu in 1635, and the Académies des beaux-arts, des inscriptions et belles-lettres, des sciences, and des sciences morales et politiques.

Part II

Property

5 Theory of property[1]

[205] 1. The present article is aimed at filling a gap between my *General Theory of Society* (1867–1868 [Chapters 2 and 3 above]) and my ‘Mathematical theory of the price of land and its purchase by the State’ (1880 [Chapter 9 below]). Wanting to do this both succinctly and correctly, I present the theory in geometrical form. This is the true form of the science of justice, if this science, like that of space, consists of analytical deduction of relationships and laws concerning ideal types abstracted from reality as definitions.

2. DEFINITION – *A person’s right to own a thing is his right to apply it to the satisfaction of a want, even by consuming it.*

Each right is a moral relationship between persons; that is to say, a moral power of certain persons to which corresponds a moral obligation for certain other persons. The person invested with the right of property of some thing has the moral right to use this thing for the satisfaction of a want he feels with respect to it, and the other persons have the moral obligation to respect this right. Moral persons may consist of individuals or may be collective bodies. Therefore, individuals, families, or associations, on the one hand, and communities, counties, or States, on the other, may have property rights.

Things regarding which property rights are exercised are both useful and limited in quantity; they are *scarce*, and, taken together, form *social wealth*. Social wealth is composed of *durable goods*, and *income goods*, which can be used only once; **[206]** in other words, *capital goods* and *income goods*. We may classify them under the following seven headings.

1 *Land*.
2 *Personal faculties*.
3 All other existing capital goods that are not landed capital or personal capital. We call the existing capital *artificial capital*. It includes buildings of any kind, furniture, clothing, art objects, luxuries, instruments, tools. All those are capital goods; they outlast their first use.

1 *Revue Socialiste*, 15 June and 15 July 1896.

1 *Land services*, the daily services yielded by land.[i]
2 Services of personal faculties or *labour*.
3 The services of artificial capital, which we will call *capital services*.

All these services are incomes (to the owner of the capital that yields them), and are finished after their first use. Certain services have direct utility and are used as *consumer's services*; the other services have only indirect utility and are used as *productive services*.

4 *Products*, resulting from combining productive services.

Certain products are income goods, like food, combustible substances, or raw materials; the rest consist of artificial capital. When necessary, we will use this circumstance to classify artificial capital as products.[2]

3. LEMMA I – *The owner of a thing is the owner of its service*.

He who can do more can also do less. Someone who has the right to consume a thing immediately has the right to consume it over time, i.e., to consume only its service. Thus, the landowners will be the owners of their land services, the owners of personal capital will be the owners of their labour, the owners of artificial capital will be the owners of their capital services. There is no need to develop a natural law theory of the ownership of items of the categories 4, 5, or **[207]** 6 of social wealth; that will result from ownership of things in the categories 1, 2, 3, and 7, as will be established.

4. LEMMA II – *The owner of a thing is the owner of its price*.

A person who has the right to consume a thing has the right to sell it. He will be the owner of the thing bought or received in return for the one he gave up, either in direct barter or in an exchange made in a market in accordance with the mechanism of free competition, i.e., by bidding up or underbidding; provided, at least, that this mechanism does not favour him at the expense of his counterpart. It should therefore be demonstrated here that free competition does not favour the buyers to the detriment of the sellers, nor the other way round. Some readers will perhaps think that this is self-evident. I am not of that opinion: I consider this matter as one of the most delicate problems of which mathematical economics furnishes the solution; moreover, I believe it is the crux of the scientific theory of property. I will therefore dedicate the lines that follow below to those who do not want trickery in the moral sciences, any more than they want it in the physical sciences, and who want to get rid of metaphors like 'development of man's personality', 'imputation of life to things', etc., which form the most solid foundation of present-day social economics.

Let us first consider barter. In Chapter IV of his *Theory of Political Economy*, Jevons recognized and pointed out the essential quantitative elements of economic exchange as it takes place in the market in the case of the barter of corn

2 On this classification and on the mechanism of production, see my *Éléménts d'economie politique pure*, lessons 17 and 18. A summary can be found in the study on Gossen in the present volume.

for beef between two individuals, A [possessing only corn] and B [possessing only beef]. I make use of his analysis of the phenomenon, a little modified and with some additions where necessary.

An arbitrary price of corn in terms of beef is tried, the inverse being the price of beef in terms of corn. Given these prices, each exchanger determines both the quantity he wants **[208]** to offer of his good and the quantity he wants to acquire of the other good. He will take this decision with the intention to obtain *the greatest possible satisfaction of his wants*. Mathematics shows that the condition for this maximum is that, when barter has been carried out, *the ratio of the intensities of the last wants satisfied, or the raretés,*[ii] *of the two commodities be equal, for each exchanger, to the price of one commodity in terms of the other*. However, normally, the barter will not be carried out in general at the first attempt, because normally the quantity of a commodity offered by its owner will not be equal to the quantity of that commodity demanded by the owner of the other commodity. In this case, another price of corn in terms of beef will be tried, the inverse of another price of beef in terms of corn, which will be higher if the effective demand for corn is stronger than its effective supply, and the effective supply of beef is stronger than its effective demand; in the opposite case, the newly proposed price of corn in terms of beef is lower. At this new price, the two exchangers will make new decisions, always consistent with the condition of maximum satisfaction of their wants. Mathematics shows that proceeding in this way, the *equality of supply and demand of the two commodities* will eventually be reached. Exchange will then take place. Since at this moment, because of the condition of maximum satisfaction, the ratio of the *raretés* of the two *commodities* is equal to the price of one commodity in terms of the other, this ratio is the same for each exchanger. Hence, the ratio of the *raretés* of the two exchangers is also the same for each commodity.

For example, if A ends up with an intensity of the last want satisfied of corn equal to 7, and B with 3, and if A ends up then with an intensity of the last want satisfied of beef equal to 14, B will end up with an intensity equal to 6. Since we have

7: 14:: 3: 6,[iii]

we will have also

7: 3:: 14: 6.

[209] With respect to both beef and corn, A will be further from satiation than B [in this example]. Jevonian barter is therefore an operation by which the two exchangers bring the satisfaction of their wants to the maximum that is compatible with the condition that one of them offers as much of his commodity as the other demands, and demands of the latter's commodity as much as he offers of it. The maximum is therefore a relative one, respecting each exchanger's right of property over his commodity. It is an individualistic barter: it is carried out by the free will of the individual seeking his advantage in complete liberty. The trading leaves unchanged the *inequality* of wealth and welfare that existed before the barter as a consequence of possessing greater or smaller quantities of a commodity that is more or less useful or more or less limited in quantity. It takes place in the domain of *justice*, neither of the two exchangers owing anything to the other once the trade has been completed.

Compared with this type of barter, there is another one, presented by Gossen on pages 83–85 of his *Entwickelung der Gesetze des menschlichen Verkehrs und der daraus fließenden Regeln für menschliches Handeln* (1854).[iv] According to Gossen, the two commodities should be distributed between the two exchangers such that *the intensity of the last want satisfied of any commodity is the same for both exchangers*. Under this system, corn should be distributed between A and B so that both will end up with a *rareté* equal to 5, and beef should be distributed between them in such a way that they will each end up with a *rareté* equal to 10. Hence, this type of barter, equally well-defined as the preceding type, is an operation by which the exchangers' satisfaction of their wants taken together is brought to an absolute rather than a relative maximum, no account being taken of the quantities possessed of the commodities; in other words, abstracting from the exchangers' property rights over their commodities. This is a *communist* exchange: it cannot be expected to take place without the *authority* of the State, and it will lead to the *equality* that would result from the equality of the wants combined with the equality of the means to satisfy them. It takes place in the domain of *fraternity*. Imagine two brothers sitting at their father's table; he distributes the food **[210]** to them in such a way that both leave the table equally satisfied. However, it is obvious that the two exchangers are no longer all square with each other. To make this clear, we suppose that we start from the result of the Jevonian mode of exchange and want to arrive at the result of the Gossenian mode. We have then to take some corn and some beef from B to increase the intensities of his last wants satisfied respectively from 3 to 5 and from 6 to 10; this corn and beef will be given to A to decrease the intensities of his last wants satisfied respectively from 7 to 5 and from 14 to 10. Therefore, in the Gossenian world, B makes a voluntary or compulsory concession to A.

Here follows a geometric illustration of this twofold analysis.

GG_a and VV_a are A's utility curves for corn and beef,[v] represented in a system of coordinates: the *quantities* are measured vertically and the *intensities of the last wants satisfied*, or, briefly, the *raretés*, are measured horizontally. O*a* is the quantity of corn possessed by A. OG_a and aR_a are the intensities of, respectively, the first want for corn, and the last one if A consumes all his corn. The surface OaR_aG_a is the *total satisfaction of the wants*, or, more briefly, the *effective utility*, obtained in that way. GG_b and VV_b are B's utility curves for corn and beef respectively. O*b* is the quantity of beef in his possession. OV_b and bR_b are the initial and marginal intensities of wants of corn satisfied. The surface ObR_bG_b is the *effective utility* corresponding to B's consumption of his whole quantity.

According to Jevonian barter, and under those conditions, the two commodities' effective supply and demand would be equal at the price $\frac{1}{2}$ of corn in terms of beef, and the inverse price 2 of beef in terms of corn. The quantity $ax = Ox'$ of corn would then be exchanged for the quantity by = Oy' of beef, and we would have

$$\frac{x\varphi_a}{y'\psi_a} = \frac{1}{2} = \frac{x'\varphi_b}{y\psi_b}.$$

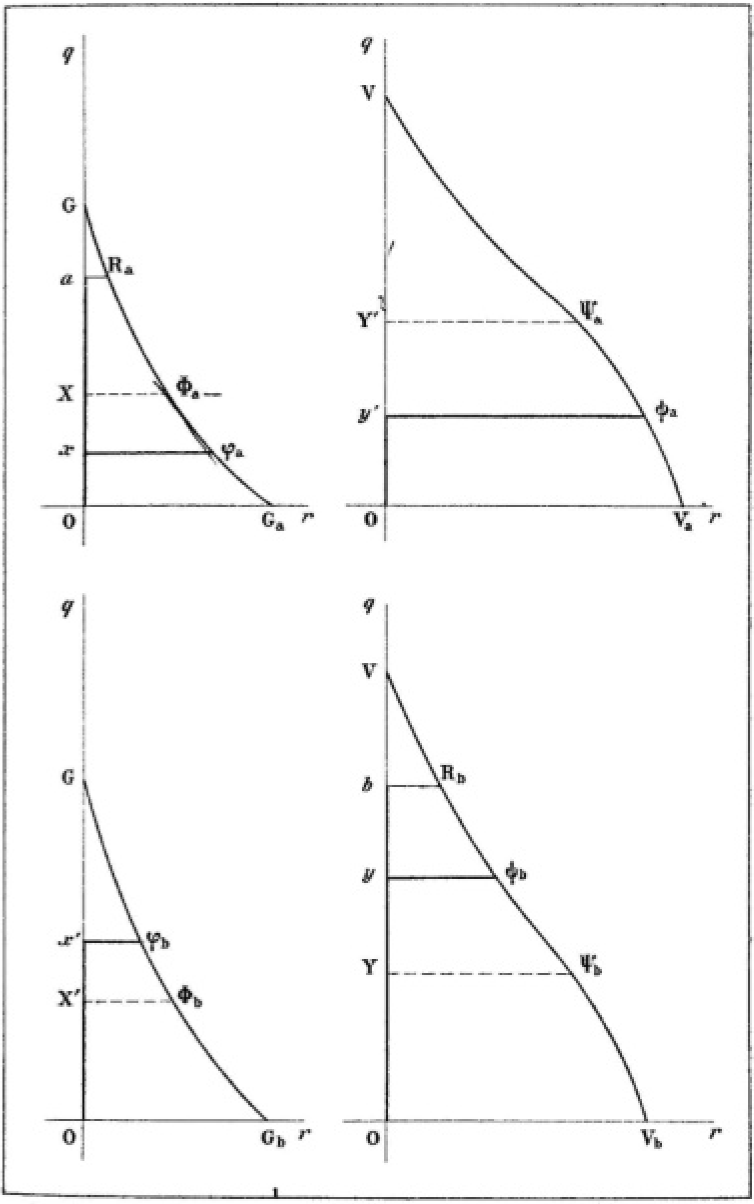

Figure 5.1 Jevonian and Gossenian barter.

Hence,

$$\frac{x\varphi_a}{x'\varphi_b} = \frac{y'\psi_a}{y\psi_b}.$$

[211] According to Gossenian barter, i.e., after having taken aX = OX′ of corn from A to give it to B and bY = OY′ of beef from B to give it to A, we would have

$$X\Phi_a = X'\Phi_b,\ Y\Psi_b = Y'\Psi_a.$$

Hence moving from Jevonian to Gossenian barter, the quantities $x'X' = xX$ of corn and $yY = y'Y'$ of beef should be taken from B and given to A.

Here we have the two irreconcilable doctrines that are contending to be the theory of property; a choice between them could already be made. I do not tackle this question yet, which would be complicated by the question of where the corn and the beef come from. What I am maintaining now is only that *if* A *and* B *have the right to eat all their corn and meat, respectively, they are entitled to barter part of it according to the first of the two systems under discussion*. As far as the second system is concerned, I do not condemn it at all; I will instead define its character. Actually, Gossenian barter is not a form of barter but of pooling the two commodities preparatory to sharing them. Here is an example from my memory of such a fraternal sharing of commodities. In 1846, at the Collège de Caen, we 30 boarders, every day at four o'clock in the afternoon, sat around the table in the small refectory. We each had a piece of dry bread furnished by the school. Some of us, on occasion these persons, on occasion those, had received pots of provisions from their family. All the others gave them their piece of bread and they got it back spread with butter or jam. This was the rule; it was followed on condition of reciprocity, but without noting who owed whom; and that was in Normandy, the region of strict law! These sorts of customs should be encouraged when it concerns children, and will be maintained by young people and adults in many cases. In the end, however, society is not a picnic; concessions, acceptable as politeness when voluntary, would be turned down as being mortifying if they were imposed by law. I **[212]** do not know why people are supposed to be so readily willing to benefit from all sorts of favours. I personally, when I speak in their name, always am guided by the same motto: *To everyone that which is rightfully his, neither less nor more*. Moreover, in social wealth there are elements providing, on the one hand, for Jevonian pleasure by ownership, and, on the other, for Gossenian collective pleasure.

It is now a question of passing from barter to economic exchange by introducing several competing exchangers into the market, under the conditions that there will be for all exchangers only one price per commodity, that money serves as a means of payment, that productive services are transformed into products at minimized costs, and that we are sure that these conditions will not favour the buyers to the detriment of the sellers or the opposite.

1. The condition that *there will be a single current price in the market* is certainly a condition of justice. If there were at a certain time several current prices for a commodity, the sellers would have the right to move from any place where the price is low to the place where it is highest, and the buyers, in reverse, from the latter place to the former. The outcome of these movements would be that the various prices would be adjusted to the same level. It is perfectly correct to quote the unique price immediately. At this price, when it has become the current price, it is perfectly correct that, if an exchanger gives 2 units of a commodity in exchange for 4 units of another, the one who gives 5 receives 10, and so forth.

2. The *intervention of money* does not disturb at all the conditions of justice in exchange if the money does not change in value between the moment it is received and the moment it is spent. The fixity of, or the regular variation in the value of money in two places at the same time, and particularly between two points in time at the same place, is therefore indispensable for the exercise of the right of property.

3. The condition that *the products be manufactured as cheaply as possible* is also a condition in accordance with justice. If the consumers themselves manufactured the commodities, they would have the right to produce them in such a way that it would cost them as little as possible; consequently, they would buy the necessary productive services at current prices **[213]**. The entrepreneurs do this for them. Consequently, we do not need to dwell any longer on the circumstance that the condition in question would diminish total effective utility by decreasing the price of certain productive factors, any more than we need to dwell on the reduction of the absolute maximum of effective utility to the relative maximum compatible with justice, which can likewise result from the condition of uniqueness of the price.

Therefore, the landowners, workers, and capitalists will be the owners of the money they receive in the market for services in exchange for their land services, labour, and capital services, and will be the owners of the products they receive in the market for products, in exchange for their rent, wages, and interest. The entrepreneurs will be the owners of the land services, labour, and capital services they receive in the market for services in exchange for their money, and will be the owners of the money they receive in the market for products in exchange for their commodities, and by means of this money, they will continue to operate their enterprises. An entrepreneur's right to his business profit, linked to his possible loss, is also comprised in his proprietary right to the price of his products, greater than or less than his average cost. We therefore do not need to develop a theory of natural law of property rights with regard to items in category 7 of social wealth: that results, just as for categories 4, 5, and 6, from the property rights regarding the items in categories 1, 2, and 3.

That is not all. Artificial capital goods are products that belong, in first instance, just like consumable incomes, to the entrepreneurs who produced them, and, subsequently to the landowners, workers, and capitalists who bought them. Hence, we need not establish property rights in natural law to items in category

3 either; they will result from property rights to items in categories 1 and 2. We have only to develop a theory of property rights in natural law with respect to land and personal faculties. That theory follows.

[214] 5. THEOREM I – *PERSONAL FACULTIES are, by natural law, owned by the INDIVIDUAL.*

In other words, each person belongs to himself, because anyone, that is, any rational and free being, has the right and the duty to pursue and achieve personally his destiny, and is responsible for this pursuit and achievement. Here applies the principle of inequality of positions, prescribing that we enjoy life in proportion to our efforts.

With the introduction, at this place, of the notions of personality and rights and duties, which belong to social morality, I would like to remark that I am not relating them to a metaphysical conception of liberty, but to a scientific observation of human nature; this observation is not only psychological or subjective, but also historical or objective. Comparing animals with man, I note that the former usually live separately, in a family, in a group of families, or at the very most in a simple, undeveloped society, a way of life for which instinct is sufficient, whereas man survives thanks to the division of labour and lives in an economic and moral society, a lifestyle for which sympathy and a feeling for aesthetics, understanding and reason, consciousness and self-determination are requisite. The aptitude for the division of labour, sympathetic love and the aesthetic sense, reason, and free and conscious will are faculties that became apparent, and are developed in industry, art, science, and mores; all these aptitudes and their manifestations are related and reinforce one another reciprocally. The moral person is born and grows up in society. Having the purpose of forming the theory of the ideal society, I do not define him as he appears before us, but as he can and must be. So defined, he has the right and the duty to pursue his destiny, and is responsible for this pursuit.

Now, when we say from the economics point of view that man is a moral person having the right and the duty to pursue his destiny, we are saying that personal faculties **[215]** belong to the individual. Moreover, being the owner of his personal faculties, the individual will be the owner of his labour (Lemma I), and of both his wage and the products, either consumable income or new capital, acquired by means of this wage (Lemma II). He will work how and when he pleases, living prosperously or not, according to whether or not he succeeds in gaining a high wage and become rich or not, according to whether or not he saves and accumulates capital.

This is strict *justice*. Justice is not the only principle underlying human relations, but it is the first one, because it is a *compulsory* principle, and a *reciprocal*, *bilateral* one. Each duty, as a consequence of justice, is a response to a correlative right; each right claims a correlative duty. If I have lent an amount of money to someone, at the redemption date, I have the right to receive it back from him, and he has the duty to repay me. If he had lent it to me, he would have had the right and I would have had the duty. The rights and duties of this type are defined and upheld by the laws.

However, in addition to the relations resulting from their economic and social destinies, there are relations between men because of their moral and individual destinies. A second principle presenting itself here is that of *association* and *insurance*. We may say rightly that society as such is a natural association, and that an association is an artificial society. From this definition, follow the characteristics of the principle. It is *reciprocal*, just like justice, but optional, and not compulsory. It depends on me to be part of an association or not, to be insured or not, according to whether or not it is in my interest or convenient for me. For example, once in an association or insured, I am on an equal footing with my fellow associates or the other insured persons. Suppose that we have formed a consumers' association or a credit association; then I have the right, like the association's other members, to buy and to borrow at fixed conditions. Suppose, my house burns down: the fire insurance company owes me compensation in proportion to the premium I have paid. **[216]** Suppose, an illness or unemployment strikes me: the mutual aid fund has to pay me a benefit proportionate to my contribution. The importance of this principle is easy to discern; it shields against a multitude of possible events for which pure and simple justice cannot provide. With strange stubbornness, the economists have always chosen not to understand and accept it. True, the socialists have sometimes tried to put it into practice, but they were at fault in wanting to use it in the place of justice, a fundamental error. The right and the duty of association and insurance are a right and a duty created by my desiring them. Undoubtedly, once created, this right and this duty are subject to the ordinary conditions of justice. It is certain that society, which cannot be based on my desires, cannot be based on the principles of association and insurance.

Finally, there exists a third principle, also pertaining to the category of relations resulting from the individual and moral destiny of men. It is the principle of *fraternity*, *devotion*, *and charity*. It is the complement of the other two principles, and is neither obligatory nor bilateral, but *optional*, like association; moreover, it is *unilateral*. The duty of devotion, the duty of charity, is a duty that has no corresponding right: there is no right to devotion, and no right to charity. Suppose, before my eyes, a man falls into the river; there is no written law that can oblige me to jump into the water and get the man out of it; justice is not involved in this case. What is more, if there does not exist a contract of mutual rescue between this man and me, association is not involved in this case either. Nevertheless, the man is drowning! What principle will rescue him? It is fraternity that calls me, from the depths of my feelings; this is an individual principle, not a social one, and, moreover, it is eternal like humanity itself. Suppose, if you so wish, that the ideal society has been achieved in the most complete way, law and order reigning unchallenged; suppose now that association and insurance are developed as highly as possible, all quantifiable risks being calculated. There is no longer anybody who has anything more to claim from the natural and obligatory society, or to expect **[217]** from artificial and optional societies; nobody is unhappy any longer, except because of a mistake by nature or because of his own fault. Nevertheless, we have not yet achieved the ideal. Fraternity is needed for that, and, even then, there will be underprivileged people: the disabled, whom we owe our affection, and guilty persons, for whom we must feel sorry. I say, of course, that we must do so according to moral law and not society's laws, according to our conscience, not to the civil code; society cannot be based on fraternity or association, but only on justice. Justice puts people on equal footing as far as concerns rights and duties. Fraternity does not do so, at least, not if it means financial support. There is no longer equality between the man who gives charity and the one who receives it, between the man who contributes to support of the needy and the one who benefits from it. You may say that there will always be rich and poor men, and that fraternity will always have its object; so be it! However, if justice has to be violated in order that fraternity can exist, if it is necessary to have rich and poor people in society in order that the former have the opportunity to give charity and the latter to receive it, I protest against this inversion of principles. Moreover, what will become of this charity? You will order it to be given if need be; but by ordering it, you destroy it. Fraternal communism is only praiseworthy if it remains free; this is why it can often be heard: 'That would be the organization of society to pursue, if human nature were more perfect.' We may assert that man – as observation reveals him to be, i.e., in the first place, free and responsible, having to undergo the good or bad consequences of his activity or laziness, of his virtues or vices, and, in the second place, susceptible of feeling affection and sympathy, rendering his aid in the name of fraternity – is superior to a vague and perhaps contradictory ideal, because, finally, the highest degree of unselfishness is declining the sacrifice that someone would make for you. But, additionally and be that as it may, we have to **[218]** conceive of man not as it pleases us to fantasize him, but as he is in fact, in order to deduce the typical man. It is for him that we organize society. He is the moral person: he is the individual owning his personal faculties.

6. THEOREM II – LAND *is, by natural law, the property of the* STATE.

In other words, the land belongs to all the people together because all reasonable and free persons have the same rights and the same duty to pursue personally their goals and accomplish their destiny, and are, for the same reason, responsible for this pursuit and accomplishment. Here applies the principle of the equality of conditions, which requires that we are all able to benefit equally, by exerting our efforts, from the resources that nature offers us.

Now, when we say from the economics point of view that man is a moral person in society and only through society, that all people in society are similarly moral persons and must be able to benefit equally from the natural resources that are available, in order to pursue their goal and arrive at their destiny, we are saying that the land belongs to the State. Being the owner of the land, the State will be the owner of the produce of land (Lemma I), of the rental payments, and of the products, either consumable income or new capital goods, that it buys by means of the rent (Lemma II). The State will exist by means of those incomes, demanding nothing from the individual, neither in the form of taxes, nor as a loan, and leaving, moreover, capital goods to future generations, not only maintained but enlarged, increased, and multiplied, just as preceding generations will have left it to the present State. The land does not belong to all the people of one generation; it belongs to humanity; that is to say, to all human generations. If society were a conventional, free association, the parties contracting to establish it could decide to share the land in equal parts among themselves; however, if society is a natural and **[219]** necessary fact, any alienation of land is against natural law, because it wrongs future generations. In legal terms, humanity is the owner and the present generation is the usufructuary of the land.

Until now, humanity has gone through five abstract economic states or regimes whose combinations, taking place in the form of more or less regular overlappings, constitute the real states or regimes: 1. the primitive state, the state of *hunting and fishing*; 2. the *pastoral* state; 3. the *agricultural* state, in which humans start to cultivate the land and where hunting, fishing, and breeding livestock are no longer anything more than special elements in the general organization of agriculture; 4. the *industrial* state, in which manufacturing industry finds an important place alongside agricultural industry; 5. the *commercial* state, in which the various nations are no longer content with their own products only, and procure each others' products by means of trade; this state follows closely after the industrial state. In the hunting and fishing state and in the pastoral state, land belongs to the community. The official defenders of individual landownership usually maintain that in these two primary economic states such an ownership 'does not exist'. This is completely wrong: it exists where there is a community. The savage people and the pastoral people are divided into tribes, each of which considers itself as having rights over a certain more or less extensive territory, and pushes back intruders from neighbouring tribes by force of arms. So, the ownership is not established by the individual, but by the nation. And on the national territory, each individual has the right to hunt, fish, or graze his herd. Briefly, in these states, wealth is limited, but it is more or less rationally distributed.

It is, in general, only with the beginning of the agricultural regime that societies have shared the land among individuals, evidently being of the opinion that distributing ownership was necessary for distributing cultivation. It would not be difficult **[220]** to show, with the historical facts, that by introducing, over the course of time, a separation of their members into property owners and proletarians, which adds inequality of conditions to inequality of positions, these societies paved the way for the troubles that led to their decline. However, it is even more interesting to observe how most of them, obeying the nature of the things by a deep instinct, have taken care to use, in payment for public services, a greater or lesser amount of the product of the land and of its rent that was obtained in the agricultural state.

This is made apparent from the Hindus, Egyptians, Jews, and other people who organized their society with the system of theocratic government and social castes, inasmuch as their class of priests, which is the governing class, either possesses the land or takes a part of its income corresponding approximately to the value of its produce. This was certainly also seen to be the case, if the matter is considered attentively, with peoples like the Greeks and the Romans, who started secularizing government by establishing society on the basis of slavery. Here, the slaves are the farmers and the manufacturers; they work. The free citizens spent their time at the *agora*, the forum, and the fields, discussing public affairs, voting, litigating, judging, and fighting. The slaves take the place of the artisans of the Orient, and the free citizens that of the priests; the latter devote themselves to public service, and are therefore the owners of the land. However, it is perhaps in the feudal system that the allocation of the product and the rent of the land to public service is most obvious. At that time, the principal public services are justice in times of peace, and military service in times of war. The feudal lords are both judges and military chiefs; and they are, at the same time, the owners of the land. We know how the high-placed noblemen share both their functions and the land that was their recompense with their vassals; we know how, under the feudal regime, churches, universities, and hospitals are endowed with land. That regime fell. As the nobility weakened **[221]** and the bourgeoisie became more and more important, public functions passed from the hands of the former to those of the latter, or, to say it better, became a State affair. Unfortunately, in relieving the feudal aristocracy of public functions, the land, the income from which had been payment for those functions, was, by negligence, not taken from them. There was an occasion to avoid this error, when the Revolution succeeded in taking over the possessions of the Crown, the Church, and the emigrated nobles. Unfortunately, there was a failure to retain them; the lands were sold for far less than their true worth. Because of this, existing as we are between a social order that has fallen apart and another that has yet to be reconstructed, we find that we are confronted with the social question.

That is a quite remarkable fact! Some societies progressed to the agricultural state, but having remained half-pastoral, evaded the error of dividing up the land by restricting themselves to distributing among their members only the use of the *forest*, the *pastures*, or the *cultivable land*, at regularly organized meetings. A considerable number among these societies, finding in justice a durable principle, succeeded in maintaining this regime up to the present time. Such are, to mention only one group, the communities of the original kernel of Switzerland, who remained the owners of their *Allmenden* [common land]. Some well-meaning economists, like Laveleye,[vi] have tried to lead us back to this social structure, but they have neglected something: we are now in the middle of the transition from the agricultural state to the industrial and commercial state. Now, in the latter regime, there are, besides the agricultural population, an industrial population, a commercial population, a group of professional people, and a group of civil servants. This means there is one group out of five to feed the whole population; so, henceforth, agriculture should be completely transformed, becoming intensive rather than extensive, being practised on a large scale, using large amounts of capital; this twofold condition, technical and economic, is completely in contradiction with the system of the *Allmend*. Then, what would the non-agricultural people do with their plots of cultivable land, pasture, or forest, and where **[222]** would the State find the revenue it needs for its numerous and important public services in the industrial and commercial state? Let the State, as the owner of the land, rent it out to agricultural entrepreneurs and use the rent to support those public services that are free. In this way, the requirement of equal conditions will continue to exist alongside that of unequal positions, and justice will be satisfied in both its forms.

7. In this system, the State, the province, and the community, the various levels in a society, would be the owners of the artificial capital they created or received as gifts or bequests. The individuals, families, and associations of all kinds, the various levels of individuality, would likewise be the owners of the artificial capital obtained by their savings or obtained through donation or inheritance. Being personally very individualistic, I am inclined, on the grounds of individualism, to consider this, as much as possible, as an absolute right. Nevertheless, it should be observed that scientific theories of the family and of association do not yet exist; that I do not know the line of separation between the rights of the individual and the State in these categories; and that I must put to one side the question of the intervention of the State in matters of donations and bequests from an individual to his family, his church, or to any private person or any organization.

8. Subject to the above reservation, we have here the theory of property based on justice. From the point of view of economic advantageousness, it is important that personal faculties, their labour, their wages, the capital saved from wages, including its services and interest, belong to the individual, because in this way there is given to a person, in order to motivate him to work, to save, the stimulus of want and of the desire to consume, and because then – without extreme cruelty, inasmuch as the place and role of intelligent fraternity will be retained – room may be given to the power of natural selection, unquestionably one of the greatest facts – if it can be raised from the status of a hypothesis to that of a proven truth – that has been brought to light by physiology in our century,[vii] **[223]** and thanks to which, humanity as it exists now will tend to approach its present ideal, and perhaps will conceive of another, higher one. Moreover, in order that the totality of personal faculties and the totality of their product belong to the individual, the State certainly must be the owner of the land to obtain through its rent the means to exist, and the funding for the capital goods it needs. And indeed, conceding the land to the State solves the problem of taxation by abolishing it.

Hence, in the name of both utility and equity, I let fall into the individual domain, along with their personal faculties, all the capital goods created by means of wages. I consider it an urgent matter that a society that has arrived at the industrial and commercial state possess a enormous amount of capital goods used in agriculture and industry. Now, this capital can only be created through individual saving, and I imagine that, without individual ownership of capital saved and its interest, there would no more be individual savings than there would be labour without individual ownership of personal faculties and their wages. Here, as in other cases, I trust in the motive of private interest, in the stimulus of needs, and in the desire for present or future consumption as incentives. Perhaps a day will come when humankind will work and save driven solely by love for his fellow-man, or thanks to a strong instinct, as ants and bees do. However, at variance with the fraternal communists and Fourier's followers, I take for granted that we are not yet there, and that, for the long period that lies ahead for humanity, we have to take man as having an animal base with a human superstructure, first and foremost an egoist, and then an altruist. I am confirmed in this opinion by the fact that communism has already moved into a more modest house. By becoming collectivism, it has acknowledged the necessity of individual ownership of personal faculties and wages. I hope that, eventually, it will acknowledge individual ownership, not of all capital goods, but of those created by means of individual savings, and of the interest on the capital. Alongside **[224]** individual saving, collective saving should take place. I do not think it advisable to suppress one of these two sources of capital formation, namely the most abundant one up until now, to keep only the one of which we wish that we were able to say no more than that it has dried up completely nearly everywhere. The State has enough to do today to learn how to save for public capital from its rental earnings without taking individual savings from production to waste it in the most appalling way.

On the other hand, I assign land, rent, and capital created by means of rent to the collective domain in accordance with the same utility that reserves personal faculties, wages, and capital created by means of wages to the individual domain. However, there is a direct utility to consider in this connection: that of the agricultural industry as it has to be conducted in the industrial and commercial state. We have seen that there are five classes of people to be fed in this state, instead of only one, as in the agricultural state. Agriculture should no longer be extensive but intensive, and requires technical knowledge and capital on a large scale. These conditions can only be completely fulfilled under farm leasing, which is the normal form of association of productive services, and in which an entrepreneur, after having rented a large piece of land, hires many personal faculties and a considerable amount of capital, in the market of services. The arrangement of sharecropping is typical for the agricultural state. As soon as the landowner's share becomes less than half of the gross product, and the farmer's more than half, the arrangement of farm leasing becomes necessary because the farmer, whose liberty should be in proportion to his responsibilities, is exposed to increased risk. A landowner may be, at the same time, an agricultural entrepreneur, but this is a practical detail that is of no concern to theory. However, making this exception a rule by declaring individual landownership to be in the interests of agriculture means turning our backs to the **[225]** goal, and thwarting the beneficial effects of free competition by preventing the land from being used as is most advantageous for society. If large properties are favoured, we will see parts of the territory becoming parks or hunting-grounds as a consequence of ill-considered vanity; if small properties are favoured, we will see them delivered up to the most outdated farming methods as a consequence of ignorance and traditional practices.

9. Hence, both economic advantageousness and justice demand that the price of the service of land goes to the State and covers its expenses. This was, in a nutshell, the idea put forward by the Physiocrats Quesnay and Turgot, whose only fault was giving too wide an application of their theory of a single tax on the produce of land by considering land to be the totality of social wealth. I felt doubly privileged that I was led, by the most serious motives, to the doctrine taught by the men who founded economics in France, and, second, that I was consequently banished from economic science by those who have brought it to the point of collapse and discredit where it is now. Thirty years ago, there were two theories of property in French economics: that of the individualistic moralists, who based property on man's personality, while denying the value of the land, and that of the individualistic utilitarians,[viii] who recognized the value of land, while considering property as necessitated by production. Contemporary economists no longer have any kind of theory of property. They form the *liberal school*, the *school of liberty and liberalism*, and are adversaries of *statism* and *State socialism*. Here we have what suffices for everything and by means of which free competition and free trade, private monopolies for the exploitation of mines and the use of railways and the issue of banknotes, individual landownership (and why not slavery?) all follow pell-mell from the principle of freedom of industry. It is certain that we can find all this in election pamphlets, academic reports and speeches, presidential addresses, inaugural leaflets about commercial alliances, and other writings that 'defend the existing society' **[226]**; however, it is no less certain that these have only a remote connection with the scientific search for truth. That is why, going back to the previous generation to find people to whom I can speak, I turn to the economists-individualists, either utilitarians or moralists; to the former, I say not only that production does not necessitate individual landownership, but rather that it excludes individual landownership; to the latter I say that if their theory of property rests on the fact that land has no value,[ix] it is meaningless because value does not find its origin in labour, but in *rareté*, utility combined with limitation in quantity. The same thing can be said with respect to individual landownership in Bastiat's doctrine, as well as with respect to slavery in Aristotle's doctrine: the doctrine is ruined by the attempts to strengthen it. If the barbarians are not human, slavery rests on an unshakeable foundation; if they are human, it is untenable in the eyes of justice. The same applies to the appropriation of land by individuals, if it can have intrinsic value.

Both interest and justice demand, moreover, that the price of the services of personal faculties is paid to the individual so that he can make a living. The authentic communists, from Mably to Louis Blanc, would deny the individual the ownership of his labour and his wage. Present-day collectivism claims to grant it to the individual, but does it do so under conditions that are philosophically and economically acceptable? I will discuss these conditions carefully, because it seems to me that by rectifying them suitably, we should arrive at a rational distribution of social wealth.

10. First, consider Marxist collectivism. It is completely based on a twofold mistake in the field of economic theory: first, only labour has value, and the normal value of any good is nothing other than the quantity of work it embodies;

second, all types of labour may be reduced to only one type, whose unit can serve as standard of measurement of value. This mistake has now been cleared away; it was **[227]** partially made by Adam Smith, but he did not retain it; Karl Marx, on the contrary, pursued its deductions and consequences with rigorous logic. Modern economic theory demonstrates that value is derived from *utility* combined with *limitation of quantity*, and is proportional to the *intensities of the last wants satisfied*. These intensities are mathematical ratios of utility and quantity, or, more precisely, 'differential coefficients of *effective utility* considered as a function of the *quantities consumed*'. In addition to *labour*, or the services of personal faculties, there are two other productive elements: *land services* and the *services of artificial capital*, which are useful and limited in quantity and have value. The value of commodities is equal to the sum of the value of labour, land services, and capital services needed for their production. Moreover, there are several types of labour, like there are several types of land services and capital services, which differ in either their utility or their limitation in quantity; these types are comparable with one another, as far as their value is concerned, as are land services and capital services; but different types of labour cannot be reduced to a common denominator by means of their quantity; that is to say, by their duration.

I am not going to repudiate these two errors, nor Marx's doctrine, which follows from them, in accordance with which rent and interest are considered, instead of as being the prices of land services and capital services respectively, as exploitation by the capitalist-entrepreneurs to the detriment of the worker-consumer. It seems to me more interesting to show the problems of putting this theory into practice, or, in fact, to show the practical impossibilities Marxist collectivism stumbles upon because of the defect of its foundations.

To preclude exploitation by the capitalist-entrepreneur, Marxism puts all enterprises into the hands of the State. So, its organization of production is subordinated to that of distribution. Although I personally leave these two categories independent of each other, I do not raise **[228]** objections to this point because I also believe that, in cases of incompatibility between advantageousness and justice, the latter should take precedence over the former.

The State-entrepreneur buys labour in accordance with its quantity; that is to say, in exchange for a certain duration of labour delivered in kind, it promises an equal duration of labour in the form of products. Here the difficulty of the estimation of the quantity of work becomes evident. Marxism does not estimate it simply by its duration; it distinguishes *simple* labour, which does not require any apprenticeship, and *complex* labour, which requires a more or less long apprenticeship; and for the estimation of the quantity of *complex* work, its duration is multiplied by a coefficient proportional to the duration of the schooling. Refutation of this system would be very easy. Two different workers having the same training do not necessarily do identical work during the same period of time. However, I pass over this point also, mainly because it is not essential. Marxism could renounce its second error, while keeping the first one, by letting the prices of the types of labour be determined in some *numéraire*-good like gold or silver by the mechanism of bidding up and underbidding, while maintaining only the principle of selling the products at their fixed average cost in wages, not including rent or interest. There are collectivists who followed that course.[3]

Be that as it may be, the State has manufactured products of types (A), (B), (C), (D)… in quantities A, B, C, D…, and it has issued, during the time of production, a total amount T of *pledges* in *numéraire*-labour or *numéraire*-money. The State is the only entrepreneur, and, moreover, the sole owner of all the means of production; that is to say, of all the land and all artificial capital. Hence, it does not pay anything and **[229]** asks nothing for the services of this land and capital; nevertheless, since artificial capital is subject to deterioration because of usage and to being destroyed by accident, provisions for *depreciation* and *insurance* must be made. Here a secondary question arises. Do the consumers of all products have to pay for depreciation and insurance of the capital goods, as well as the costs of public services, or will the depreciation and insurance be paid only by the consumers of the products for the manufacture of which the capital goods have been used? I suppose this question solved in one or the other of two ways. The State has to increase the average cost in terms of labour of all products in the first case; in the second case, it has to increase the price of some products. In both cases, it fixes the prices p_a, p_b, p_c, p_d … such that

$$\mathrm{A}p_a + \mathrm{B}p_b + \mathrm{C}p_c + \mathrm{D}p_d + \ldots = \mathrm{T}.$$

On the other hand, the workers-consumers, having before their eyes the list of products (A), (B), (C), (D) … with their prices p_a, p_b, p_c, p_d…, may choose quantities A′, B′, C′, D′… to consume with a view to the greatest satisfaction of their wants, such that

$$\mathrm{A}'p_a + \mathrm{B}'p_b + \mathrm{C}'p_c + \mathrm{D}'p_d + \ldots = \mathrm{T}.$$

We have, therefore, necessarily

$$(\mathrm{A} - \mathrm{A}')p_a + (\mathrm{B} - \mathrm{B}')p_b + (\mathrm{C} - \mathrm{C}')p_c + (\mathrm{D} - \mathrm{D}')p_d + \ldots = 0,$$

but not necessarily

$$\mathrm{A} = \mathrm{A}',\ \mathrm{B} = \mathrm{B}',\ \mathrm{C} = \mathrm{C}',\ \mathrm{D} = \mathrm{D}'\ldots$$

We have only

$$\mathrm{A} \gtrless \mathrm{A}',\ \mathrm{B} \gtrless \mathrm{B}',\ \mathrm{C} \gtrless \mathrm{C}',\ \mathrm{D} \gtrless \mathrm{D}',\ldots,$$

3 See in this respect: Karl Kautsky, ‘La répartition des produits dans L’État socialiste’ (*Revue Socialiste*, July 1886 [vol. IV, no. 19, pp. 594–603]); Georges Renard, ‘Le socialisme actuel en France’ (*Études sur la France contemporaines*, 1888 [Paris: Albert Savine, pp. 132 ff.]); Émile Vandervelde, ‘Le collectivisme’ (*La question sociale*, January–February 1896).

with the condition that if the demand for certain products is greater than their supply, the supply of certain other products must be greater than their demand. We leave it to Marxism to explain to us how it will bring about equality of supply and demand for each product. **[230]** This is precisely the problem of economic equilibrium in production, where it is obviously not enough if products are offered for sale for 100 million, *after having distributed 100 million of pledges* in *numéraire* (labour or money). We must also make sure that *it will not happen that we have on hand ten million of some product of which only one million is demanded while having for one million of another product of which ten million is demanded*.

11. I am quite willing to suppose that, by means of meticulous bookkeeping and daily reports, the Marxist State is perfectly informed about the products it has in stock and the quantities that move in and out of the stocks, and knows, therefore, for which of the products (A), (B), (C), (D)… supply is already or promises to be superior to demand, and, conversely, demand already is or threatens to be superior to supply; consequently, the State has nothing more to do than to shift productive services from one set of products to the other.

The State, as sole entrepreneur, is no more able than are our competitive entrepreneurs to transform workshops and industrial machines into agrarian buildings and tools, but to a certain degree it can influence the quantities of artificial capital by constructing new capital goods for the branches of industry to be further developed, instead of making provisions for the amortization and insurance of types of existing capital goods used in branches that are to be reduced in size.

Similarly, the State cannot make tailors and bootmakers out of masons and watchmakers, but it can divert young workers from training to build houses or to make watches to training to make clothing or shoes. I observe only that, under the regime of the determination of prices in *numéraire*-money by bidding up and underbidding – which may be put into effect in case of the State as sole entrepreneur as well as when there are competing entrepreneurs – **[231]** the workers will move by themselves from industries where products are superabundant, and where, consequently, wages are decreasing, to those where there is a shortage in production, and where, therefore, wages are increasing. However, under the regime of the determination of the prices in terms of *numéraire*-labour, the State, not changing the wages at all, must engage in some coercion.

Finally, in a similar vein, the State can, to a certain extent, allocate land destined for a particular product to one or another purpose, but here the strongest objection can be raised. We have only to consider products with high utility in whose production only a little quantity of land services is involved to drive Marxism into the complete impossibility of making supply equal to demand. Let the average cost in hours of Château-Lafitte wine be one hour of simple labour per bottle, at which price one million bottles are demanded in the whole country, without considering the demand from abroad. The vineyard can supply only 20,000 bottles; who will drink the Château-Lafitte?

Nobody. I do Marxism the honour of believing that it will not resort to arbitrariness in distributing the Château-Lafitte (i.e., the government and its friends drinking the Château-Lafitte), or to chance (raffling off the Château-Lafitte). Only one solution remains then: there will be no more production of Château-Lafitte. This is a harsh but logical solution. Marxism asserts that only labour has value and it denies value to land services; consequently, it claims to deliver free land services, which are useful and limited in quantity, to the consumers. But saying that a useful thing *does not exist in such large quantities that everybody can have as much as they want* is saying, in other words, that *its demand at price zero exceeds its supply*; you have decided not to attach a positive price to it; the only answer is to suppress it. Apple trees and hops will be planted in the vineyards of Château-Lafitte, in those of Château-Margaux, and in all Médoc, in Burgundy, in Champagne, and this will permit us to supply cider and beer in the total quantities that will be demanded **[232]** at the average cost in wages of these beverages. Let us at least hope this; otherwise, we will all be drinking water.

Hence, Marxism must abandon the idea of producing all agricultural or industrial products for which land services are needed that do not exist in such large quantities that their distribution at their average cost in labour would be possible. Similarly, it must also renounce delivering as consumer services all land services whose quantities are insufficient for distributing those services gratuitously. The products and services that must accordingly be suppressed are quite numerous because the suppressed demand for the scarcest goods will be spread over less scarce goods, which have then to be suppressed as well. Obviously, this will bring about a considerable loss of effective utility, equal to the decrease of the sum of the satisfaction of wants of those who would have been able to consume superior products and who have to consume inferior ones; for instance, those who could have drunk wine and who must now drink cider or beer. Hence, there will also be a no less considerable loss of effective utility due to the suppression of certain personal services resulting indirectly from the suppression of so many land services. The incentive to use and develop human faculties will partly disappear with the disappearance of luxury goods. Man, as he is at present, works to be able to obtain enjoyment. We can be sure that there will be less distinguished doctors, less great artists, less notable managers when the reward for hard work will only be drinking beer or cider and eating cabbages or potatoes. And that is not all. How, in the Marxist system, can the State as sole entrepreneur know beforehand which products should be placed on the list and which should be eliminated? To settle this point, it requires not only the elements of supply, which can be calculated if necessary, but also the elements of demand, which are to be found in the needs of the consumers, who cannot communicate them to the State for the reason that they may change from one moment to another.

[233] This uncertainty about the relation between supply and demand once production has taken place is not a problem in the system of the determination of prices in markets, because it has then only to be left to price variations to equilibrate supply and demand. However, this is not the way it works in the Marxist system, where the price has to be invariable and where part of the output must be thrown on the scrapheap in case of a shortfall in demand. And if, in this system, the State is completely unaware of the limits of its field of production, how will it start its activities? Certainly, the economists have not scientifically demonstrated the principle of free competition; fortunately for them, free competition puts economic production more or less in order; they go into ecstasies over its marvellous way of organizing, which fulfils their task. Socialism, however, must proceed differently: it must particularly distinguish itself from 'economism' especially in the respect that it must know economic science, and it must explain why and how this or that principle will bring about and maintain equilibrium of supply and demand of services and products; it will, therefore, leave the literary phase to enter the scientific phase. This is what Marx's collectivism did not do: even more unfortunate than economism, which represents to us a system as functioning well that functions badly, communism represents to us as well-functioning a system that will not work at all.

12. There are two ways to bring about the equality of supply and demand of products: supply can be influenced by controlling production somehow, and demand can be influenced. Marxist collectivism limits itself to the first device, which is consistent with its principle. If, as Marx liked to imagine, there is just one production factor for all the products (A), (B), (C), (D)…, namely simple work, the prices p_a, p_b, p_c, p_d … of these products are just the respective quantities of simple work entering into the production of one unit of (A), (B), (C), (D) … and the equation

$$\textbf{[234]} \quad (A - A')p_a + (B - B')p_b + (C - C')p_c + (D - D')p_d + \ldots = 0,$$

may be reduced to the equation

$$(\alpha - \alpha') + (\beta - \beta') + (\gamma - \gamma') + (\delta - \delta') + \ldots = 0,$$

whose terms denote simple work. If we then suppose that $\alpha > \alpha'$, $\beta < \beta'$, $\gamma > \gamma'$, $\delta < \delta'$…, we only have to move to (B) any excess that we have of (A), and to take from (D) what is lacking of (C), and so forth. In this way, pure economics is greatly simplified. Theoretical chemistry would similarly be simplified if we supposed that all substances consist of only hydrogen in different molecular states; however, we would then stumble upon some problems in the chemical industry; this is why it would be better to recognize the multiplicity of chemical elements. The same applies to pure economics. If, as is the case in reality, the various products (A), (B), (C), (D) … result from combining an indefinite number of productive services of various types of land, persons, and capital that are not perfectly substitutable one for another, the prices of these products measured in one of them, say (O), are the respective quantities of (O) that will be exchanged against one unit of (A), (B), (C), (D) …. The increase of these prices in case of excess of demand over supply, or their decrease in case of excess of supply over demand, will be the essential mechanism of the establishment of economic equilibrium and the distribution of the products, working both on demand to make it increase or decrease, and on supply to make it increase or decrease in accordance with the increase or decrease of the prices of the services that occurs as a result of the increase or decrease of the prices of the products.

It is not easy to give in a few lines a precise idea and, especially, a faithful representation of this equilibration of the economic system by means of increasing or

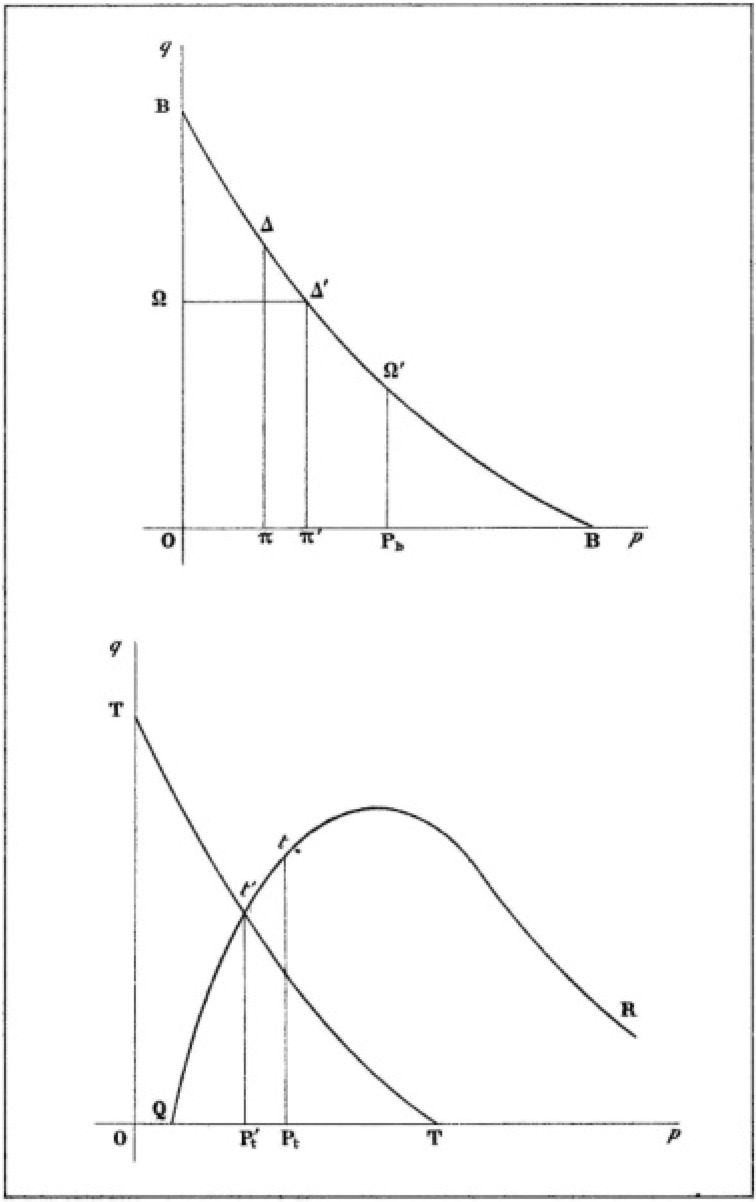

Figure 5.2 Equilibration of the economic system.

decreasing the prices under the hypothesis that the productive services are numerous and **[235]** varied, because there are actions and reactions of services and products on another. However, here follows a geometric illustration that neglects only secondary details, and that will nonetheless be quite rigorous if you would be so kind as to imagine the diagrams as floating, as if they were oscillating while they were being photographed.

These *curves of demand* and *curves of supply* are represented on two axes: a vertical axis of *quantities* and a horizontal one of *prices*.

The curve BB is associated with one product, say (B). OΩ is a random quantity that has been produced and offered in the market at Oπ, a random price that is cried. At this price the quantity demanded is πΔ. So, demand being superior to supply, the price is increased from Oπ to Oπ′, at which price supply and demand are equal; this price is the *price*. However, the average cost OP_b being greater than Oπ′, there is a loss for the entrepreneur and the quantity produced decreases from OΩ to $P_b\Omega'$, whereas the price increases from Oπ′ to OP_b. Then there will be equilibrium in the market for product (B). This applies similarly for the other products.

The curve TT is a demand curve for a service, (T), for example, which may be assumed to be one of the services entering into the production of product (B). Curve QR is the supply curve of the same service (T). At the price OP_t, chosen randomly and cried, supply is greater than demand and the price is decreased from OP_t to OP_t', at which supply and demand are equal. There is then equilibrium in the market for service (T). This applies similarly for the other services.

The essence of the new economic science is showing how the demand curve BB of product (B) and the supply curve QR of service (T) are connected with the utility curves of this product and this service, and how the demand curve TT of service (T) is connected with the demand curve of product (B), together with the demand curves of all other products. The new economics substitutes a scientific law of the allocation of **[236]** products for the so-called *law of supply and demand*, which constitutes the whole theoretical science of the official economists, just as the two expressions *laisser passer* and *laisser faire* form their entire applied economics, which led them to pile up mountains of nonsense and untruths. This problem of the allocation of products is extremely complicated. Only the study of the *intensity of the last want satisfied*, or the *final degree of utility*, or *Grenznützen*, can furnish its solution. We cannot hold it against the socialists or the economists who preceded us that they did not find this solution. On the other hand, we may criticize the French contemporaneous economists for having published, at this time, some *Dictionaries of Economics* in which this notion is highly conspicuous by its absence.

So, a high rent may materialize for the land of the Médoc, just like a very high wage for the personal faculties of an Alexandre Dumas, Sr. or a Mario. (I do not choose my examples from among my contemporaries in order not to violate their privacy.) However, we now pose, and solve with the greatest care, the question of the ownership of productive capital, as I have tried to do throughout this study. Since the land of the Médoc has been given to all of us, the high rents for its service will belong to the State, and, thanks to these rents, it will provide free public services for all. Since the personal faculties of the Dumases and the Marios have been given to each of them, the high wages paid for their services belong to these persons, who will use them to drink Château-Lafitte. As for us, we will read *Monte-Christo* and listen to *Il barbiere di Siviglia*. Under these conditions, the distribution of social wealth is assured, and it is just.

If the collectivists were willing to adopt this improvement of their system, we would be in agreement, they and I, about the starting point, since they would then accept individual ownership of personal faculties and I am accepting collective ownership of land. We would then have to discuss the question **[237]** about the ownership of artificial capital, and perhaps I might be able to convince them, first, that the services of these capital goods cannot and should not be free any more than those of personal faculties and land, at the risk of the impossibility of distributing them, and, second, that the capital services must be owned collectively when created by the State by means of rent, and owned individually when created by individuals by means of their wages. The collectivists fear that putting a part of capital into the hands of individuals will lead, in the new society, to a renaissance of the financial feudality that oppresses us now. I do not fear that, because in the new society as I conceive it, the true causes and conditions of this feudality will have been suppressed, namely *individual landownership* and *monopolies*. Landownership permits the owners of land to sell land services at a price that is proportional to their *rareté*; that is to say, at a price that is steadily rising in a progressive society. Monopolies, be they natural, or artificial because of privileges or coalitions, permit the entrepreneurs of certain industries that are concentrated in their hands to fix the quantities to be produced with a view to an excess, indeed the maximum excess, of the price over the average cost. Look in America for the sources of the enormous fortunes of multimillionaires formed in a few years and you will find speculation on the increase of the value of land, and the operation of businesses without competition; most often you will find these two conditions combined. Look closely in our country, and you will find the same things. Marx's theory of capital collapses with its theory of value. In a sound society, without private landownership and without monopoly, individual capital goods can in general result only from individual savings; that is, from an excess of wages over consumption. They are not the result of exploitation by entrepreneurs of the owners of productive factors or of the buyers of products, because the likelihood of profits and the risks of losses are correlative, and, apart from the effects of inventions **[238]** and improvements, will ultimately offset each other. Hence, in such a society, we should imagine the mass of capital that does not belong to the State as being, in the hands of workers, in small fractions, in the form of shares and bonds of various firms, of bonds of cooperative enterprises, which adds to present well-being, assuring security for tomorrow, preparing for future retirement; all this thanks to private initiative, as it should be, without any interference from the State except, if need be, to give disinterested and benevolent support.

Note that the organization of production is then no longer subordinate to that of distribution, and may be taken up from the sole point of view of abundance, the correct proportion of the products, and the equality of the price to the average cost; that is to say, from the point of view of social economic advantageousness, the point of view of social justice being irrelevant. Indeed, in Marx's system, where prices do not vary and have no influence on supply or demand, only the State, the sole producer, is able to know (if it really could) from which branches of production it should withdraw labour and toward which branches of production it should move labour. Now, industrial collectivism is necessary. However, in the system of demand by bidding up and of supply by underbidding of products in the products market and services in the services market, where the price increases and decreases form automatic incentives and disincentives, both individual entrepreneurs and the State as collective entrepreneur may theoretically withdraw from branches where the average cost of the products in terms of services exceeds their price, to move to those where the price exceeds the average cost. We may decide in favour of either individual or collective production for reasons derived from the advantages of production itself. In this connection, I would leave the production of public services exclusively to the State, **[239]** and I would request its intervention in the operation or the constitution of natural and necessary monopolies on the basis of production in the public interest; that is to say, the products should be sold at their average cost and not at the price of maximum profit; however, I claim for individual initiative all the enterprises in which free unlimited competition does not meet with obstacles.

If such an arrangement were possible, I would not at all dislike declaring myself a collectivist, both in matters of production and in matters of the distribution of wealth. However, inasmuch as it is not certain that concessions will be made, and inasmuch as the collectivists' doctrine is more or less compromised by Karl Marx's errors; and, after all, inasmuch as the word *collectivism* does not express exactly the idea to which I feel attached – which is the idea of a synthesis of rights and duties of the State and the individual in all economic and social matters – I continue, until further notice, to present my theory under the name of synthetic socialism, or *synthesism*.

Notes

i As indicated in detail in Table A.1 in Appendix A, Walras idiosyncratically used the word 'rente' for 'land services' and 'profit' for 'capital services'.

ii We leave Walras's term '*rareté*' for marginal utility untranslated. He explained its meaning on many occasions when he used it in this book.

iii This proportionality, written in old-fashioned notation, would now be written as $7: 14 = 3: 6$ or $\frac{7}{14} = \frac{3}{6}$.

iv See Chapter 9, below.

v In the French text, the two goods are 'grain' and 'viande', which explains the symbols used. Note that we have here reproduced Walras's original figure.

D vi Émile-Louis-Victor de Laveleye, *Le socialisme contemporain*, Brussels: Mucquardt, 1881.

vii In the first editions, the passage 'unquestionably … been' reads: 'unquestionably the greatest fact, along with the fact of the existence and role of microbes, that has been'.

viii Walras's term is 'individualists-utilitaires', which we cannot translate as 'individualists-utilitarians'.

ix In his first edition, Walras wrote, instead of 'land has no value', 'all value is derived from labour'.

6 The social question[1]

[240] Mr. Charles Secrétan, who recently most forcefully and successfully tackled the problem of women's rights,[i] has now dealt with the Social Question in a booklet that is just as forceful and brilliant as the preceding one, and that will certainly have the same impact. He summarized his study and concluded it as follows:

> At the point at which the intellectual understanding of the mass of the people has ceased to develop, democracy will necessarily, either by legal means or by force, try to obtain a distribution of wealth that procures the worker a reasonable existence and security for tomorrow. This problem is unsolvable by its nature, or, at least, the means to solve it have not yet made themselves apparent. It is unsolvable because it is not well formulated. The wealth to be distributed is not an existing reality, as it is vaguely conceived to be in the popular imagination; it is created incessantly by labour, and the first condition that a reasonable distribution of the daily labour's products must fulfill is not the satisfaction of the demands of consumers, not even the most equitable and moderate ones, but assurance of the continuity of production of the necessities of life, which tend naturally to increase. This production is impelled by the force of circumstances; that is to say, either by slavery, or by the personal interest of the workers, which presupposes private property, inheritance, inequality of wealth, ownership of machines and factories, the conflicts among capitalists, entrepreneurs, and workers; in a word, all the important features of economic organization that people complain about. The suffering of the working class can only be met by palliatives, partial remedies whose effectiveness requires reciprocal trust and general benevolence.

1 [Written with reference to] *La question sociale*, by Charles Secrétan [Lausanne: A. Imer, 1886, 96 pages]. – *Gazette de Lausanne*, 22 July 1886.

This article converted Charles Secrétan to the principle of the nationalization of the land. Let me be permitted to insert it here as a memory of that victory gained over one of the noblest persons I have known, one of the persons most constantly and passionately concerned with the problem of human destiny and of social organization.

Those are easily demonstrable truths; they can be **[241]** put within the grasp of minds of an average level of intelligence. It is urgent, it is of capital importance that the masses soon come to understand them, to accept them, to be firmly convinced of their necessity. The safety of us all is at stake.

However, in order that these elementary economic truths, which are so painful to accept, be acknowledged, so that these obvious facts will triumph over the illusions misleading the suffering classes and intoxicating them to the point of fury, it is crucial above all that those who understand the truths teach them and are listened to. In order that they be listened to, it is necessary that they inspire confidence; the people must believe in their sincerity, their honesty. Practically, this is the whole social question. Obviously, those who try to explain to the wage earners the necessity of resigning themselves to be employees as long as they have not acquired, by means of their savings, the instruments of production, will be suspected of speaking in their own interest; this suspicion is not baseless. They really speak in their own interests, but they speak at the same time in the interests of all of us, and most particularly in the interests of the working class, whose members they are addressing. How will they succeed in convincing them? It is not the superiority of their reasoning that will make them triumph over the socialists' utopias. It is confidence that is needed. To gain confidence, one has to prove that one merits it, and this proof can only be given by means of facts. For extinguishing social hatred, the only resource is love. Protection of the society requires that economic truth is fathomed by the mass of the people. The only preachers of truth who have a chance of being listened to by the people are those who have proved, not through their speech but through their personal sacrifices, through their way of living, that they are absolutely devoted to them. – This activity may be collective (good works, support by foundations); it may be individual (concern and warmth shown to individuals). – The point is to bring light into the most biased minds. To do so, one must dissipate the people's distrust, a moral victory that can only be obtained by contact with individuals, at the price of much effort and great sacrifices. The envied class has to put its benevolence beyond any suspicion, like a number of industrialists already have done under the influence of religious conviction, or because of an innate generosity that is more skilful than any calculated act. Each person will be listened to by those whom he has helped with such perseverance that no doubt can be cast on the sincerity of his feelings towards them. There are now many well-off people who understand their duties with respect to the poor, and who try hard to fulfil them. These men, sometimes despised, mostly unknown, are the **[242]** best props for our dilapidated house; they are postponing a catastrophe that nevertheless seems to come nearer from day to day. However, if their number were ten times greater, as is possible, and if the friends of the working class would devote themselves to instructing them, working as hard as possible to make their situation clear to them, the social threat would be warded off, and the social question would be solved in the only way possible.

> We are not able to describe or predict all forms of the affectionate relations that could be established, or have already been established here and there, between the affluent class and the working class. There is no need to describe or predict them all to understand that such a task will involve expenditures of which the greatest part will have to be borne by the bourgeoisie, while respecting scrupulously their new friends' dignity. Fear should not replace affection, but the imminence of danger could at least make us think, and thinking may lead to an understanding of their duties by some who are at present making matters worse through the bad uses they make of their fortunes. Whatever may be the lack of incentives to produce a real improvement of morality, it is certain, in our opinion, that all possibilities of appeasement and progress of social relations depend on an increase of average morality; the initiative for which must necessarily be taken by the rich class. They should first take care that their wealth be tolerated; then they can justify it by showing its usefulness for everyone. But they should make haste, and stop relying on their power, because they no longer have it at their disposal.[ii]

This demand addressed to the rich class, to obtain pardon for their wealth by spending it on philanthropic projects, instead of making bad use of it, which makes the social wounds worse, is sufficiently unambiguous. At the same time, it is sufficiently severe but also quite just, at least if we consider the course of events in certain countries. Furthermore, Mr. Secrétan's conclusion seems to us appropriate and significant, but it seems to us not to stress sufficiently the value of economic reform for the solution of the social question.

The first condition to be fulfilled by a rational distribution of products is neither 'the satisfaction of the demands of consumers', nor 'to assure the continuity of production'. The theory of the distribution of social wealth has its own purpose, **[243]** its own point of view, its own criterion, just as does the theory of production. The latter establishes the conditions for a transformation of productive services into products in the most abundant way possible, while taking account, in the best way possible, of the variety of wants asking to be satisfied. The former establishes the conditions of a just ownership of the productive services, and an allocation to each of us of a part of the products in relation to the value of the productive services that we provide. Despite all the information that we now possess, these conditions have yet to be determined by science and, consequently, to be established by law.

Far from disregarding such an important problem, Mr. Secrétan has, on the contrary, a section (V) devoted to it that is one of the most interesting parts of his work. Too impressed with the sound notions of Ricardian economics, like all students of Mr. Melegari, to adhere to the erroneous theory presented 38 years ago by Bastiat and still supported by Mr. Leroy-Beaulieu, according to which land and land-services have no value,[iii] he is, with all most reputed economists, of the opinion that products result from the services of land, human faculties, and artificial capital; that is to say, from the services of land, the work of personal faculties, and the services of capital goods. With several of those same economists, he believes that from the point of view of justice, the ownership of personal faculties being attributed to private ownership and enjoyment, the land should be owned and enjoyed collectively or by communities. At the same time, however, also with these economists, considering the requirements of a fair distribution subordinate to those of abundant production, he hands over all social wealth to the individual without any part reserved for the State:

> Inasmuch as the primary need is that there be enough bread, and the primary condition of well-being that there be an abundance of it, we consider private landownership as justified, if there does not exist another tried and tested mode of ownership that yields an output superior to the one that can be expected of the present regime, and that does not infringe upon the **[244]** liberty of the workers.
>
> (p. 26)

> Without stating it categorically, we will postulate as an incontestable rule that no means of repairing the wrong done to propertyless individuals by private ownership of land will be considered as just and feasible if it led to a decrease of the total efficiency of economic labour....
>
> (p. 30)

We regret that an economist, who is the exception of also being a philosopher, makes this sacrifice of justice to interest without more hesitation.

The same rational theory that assigns, in principle, land and its produce to the State, assigns, in principle, personal faculties and wages to the individual. Let us suppose that a country exists, as has been the case, where, instead of handing over all social wealth to the individual, it is entrusted to the State, making the latter the sole owner of all the land, and, moreover, of the vast majority of personal faculties. Let us further suppose that, in that country, there are theorists who, after having eloquently stated the natural right of the individual to belong to himself, immediately add:

> Inasmuch as the primary need is that there be enough bread, and the primary condition of well-being that there be an abundance of it, we consider slavery as justified, if there does not exist another tried and tested mode of ownership of personal faculties that yields an output superior to the one that can be expected of the present regime.
>
> We will postulate as an incontestable rule that no means of repairing the wrong done to propertyless individuals by the appropriation of their persons will be considered as just and feasible, if it led to a decrease of total amount and efficiency of economic labour....
>
> (p. 30)

We would like to know how Mr. Secrétan would welcome such a type of statement. However, in fact we know that perfectly well. The reservation carefully made at the end of his first sentence: *that does not infringe upon the liberty of the workers*, specifies clearly that he prefers liberty with poverty to wealth with slavery, thus placing, at any rate in this case, the moral order before the economic order. Very well. But why, in the inverse case, make so **[245]** deliberately the former subordinate to the latter? This is something to which, as far as we are concerned, we can never agree.

We are reasoning subject to the supposition that we must necessarily choose either between wealth and liberty or between wealth and equality. However, is this contradiction between justice and interest correctly demonstrated? Certainly not in regard to the question of ownership of personal faculties, inasmuch as, on the contrary, free men's labour is more productive than slave labour. Has it been better demonstrated in the case of the question of the ownership of land? Not at all; and perhaps, with regard to this second point as with regard to the first one, it would be found, through an effective search, that there is perfect harmony between the conditions for an equitable distribution and an abundant production of social wealth.

We might undertake to raise several other points against Mr. Secrétan since, as much from the point of view of the conditions under which productive services are combined in industry as from the point of view of the distribution of products according to ownership, neither science nor law have said their last word; from which it follows that the social question will not find its solution in the moral question as completely as he believes. However, we do not want to insist on that matter, because, first, we would, as a result, attribute an idea to the author that is indeed that of his conclusion, but not exactly the one in his book, where, in many places, he shows himself as being less exclusive and more innovative; second, though he may have considered only one aspect of the social question, the one he did consider is essential and original. To solve the social question, we have to make much progress in the conditions of the production and distribution of wealth, and we have, moreover, to make much progress in the conditions of instruction, morality, energy, and insights into our condition as individuals. That having been done, it can be believed that the degree of mankind's happiness will be higher than it is now, just as it is now higher than it was in the past. It is certain, however, that it will not be perfect happiness, as our anarchists suppose. **[246]** Not only will philanthropy always be able to be practised, but also from now on it will be a means of social progress that is infinitely superior to oil and dynamite. Furthermore, it will then not be inappropriate for philosophy to enlarge its role somewhat, always on the sole condition of not completely despising our other resources.

Notes

D i Charles Secrétan, *Le droit de la femme*, Lausanne: Benda, 62 pages. Secrétan died the year before the *Études d'économie sociale* appeared.

D ii Charles Secrétan, *La question sociale*, Lausanne: A. Imer, 1886, pp. 74–79. This passage forms the end of Section X of the booklet, which has twelve sections.

D iii F. Bastiat, *Harmonies économiques*, Paris: Guillaumin, 1850, pp. 387 ff.; Paul Leroy-Beaulieu, *Le collectivisme, examen critique du nouveau socialisme*, Paris: Guillaumin, 1886, 'Le collectivisme agraire', book I, chapter V, 71–84.

7 On intellectual property[1]

[247] Among useful things are ones the quantity of which, though not infinite, is unlimited; that is to say, is enough to satisfy all our wants, like, for instance, the air in our atmosphere. There are other useful things that exist in limited quantities; that is to say, things that are not available for everybody or do not exist in unlimited quantity for everybody, like, for instance houses, furniture, clothing, and foodstuffs. The latter things are called *scarce*, and together they form *social wealth*. The limitation in quantity of useful things, which makes them scarce, makes them at the same time subjects of ownership and exchange. We do not take possession of useless things and we do not exchange them; we do not take possession and do not exchange useful things that are unlimited in quantity; but as soon as a thing becomes both useful and limited in quantity, as soon as it becomes scarce, we take possession of it. A person does that either to use it himself, or to exchange it for other scarce things. Undoubtedly, taking possession of something is not the same as becoming its owner; possession is only ownership without its legitimacy, without the approval of justice. However, if we believe that the possession of something, when done by a free and responsible person, belongs instantly, as soon as it takes place, to the domain of morality and falls immediately under the jurisdiction of natural law, then we may state that value in exchange and ownership originate jointly from *rareté*,[i] i.e., from the limitation in quantity of useful things; that wherever there is value in exchange, there must be ownership, and wherever there is ownership, there must be value in exchange; or, in still other words, that ownership applies only to social wealth, and that it applies to the entirety of social wealth.

[248] This observation is fundamental for the theory of intellectual property. Indeed, let us call *intellectual wealth* the entirety of scientific, artistic, and industrial ideas that we want to make the subject matter of intellectual property. These ideas are either useful or useless. In the latter case, everything has been said: the so-called intellectual wealth does not exist. In the first case, everything has not yet been said: intellectual wealth certainly exists, but perhaps it may not be part of social wealth. If intellectual wealth is useful but exists in unlimited quantity,

1 *Gazette de Lausanne*, 10, 11 and 12 June 1880.

it will neither be possessed nor have value; it will then make no more sense to deal with the ownership of scientific, artistic, or industrial ideas than with the ownership of fresh air. If, on the other hand, intellectual wealth is useful, and if its quantity is limited, it can be possessed and has value; there is then reason to organize the ownership of ideas just like that of houses, furniture, garments, and foodstuffs. And if, finally, it appears that intellectual wealth can, according to our liking, exist in limited or unlimited quantity, then there are grounds to study the reasons from the points of view of economic advantageousness and justice according to which we may determine to make it either natural wealth or social wealth. Thus, in any case, the question of the nature of intellectual wealth logically precedes the question of the organization of its ownership. It is well-known that Alphonse Karr proposed reducing the theory of intellectual property to: *Intellectual property is property*.[ii] There are even persons who are completely satisfied by this assertion, but we, however, are a little more difficult to satisfy. The assertion above is either nonsense, or it means this: *Intellectual wealth is social wealth*. Well, it is possible that intellectual wealth can artificially become social wealth, and that, moreover, there may be both equity and efficiency regarding intellectual wealth; but it must be believed that that is not naturally the case, since, if it were, any declaration of it would be superfluous. We all know that there is never any need to **[249]** announce that houses and furniture are social wealth. Consequently, we repeat that the first question to solve in matters of intellectual property is to know what intellectual wealth is, and to what degree intellectual wealth is or is not social wealth. Supposing that it is not social wealth naturally but may be so artificially, we will see what has to be done in this respect.

Science's task is to seek after the necessary or rational relations between physical and moral facts. A scientific idea consists of somebody's knowledge of these relations; that knowledge is expressed orally or in writing. In this more or less perfect form, it is a solid body of knowledge.

Art's task is to create artificially the same aesthetic or emotional feeling in a person as is produced in a natural way by the spectacle of nature or of humanity. The artistic idea consists in the simulation, brought about by means of conventional procedures, of various aspects of the physical or moral world; the idea is expressed in the plastic arts, in the design arts, or in literature. Art is still quite closely connected with the means of embodying it, but not so closely, however, as science is connected with its expression. This is demonstrated by the fact that an artistic idea can be borrowed from another art. What we have just said applies to sculpture, painting and the design arts, and literature. Architecture and music do not reproduce the physical or moral world; they intermingle with these worlds and complete them. But architectural and musical ideas are quite different from the form they are given; they are inscribed and are read easily, the former using blueprints, and the latter using musical scores.

Industrial ideas are also easy to define. In every industrial product resulting from joining together man's work and the services of land or capital, there is a specific intellectual element that may be called the idea behind this product, easy to isolate by abstraction: the element transmitted by description or demonstration from the inventor to **[250]** the worker and then from worker to worker. For instance, in a lamp, oil must be transmitted to the wick. This can be brought about in circular tanks according to the principles of Argant or Quinquet, or in lateral ones by means of pressure from a clockwork movement, as in Carcel lamps, or by the pressure of a spiral spring, as in a regulator lamp. We can imagine perfectly how the inventors of these constructions created them in their minds and explained them later in detail to the worker who had to fabricate them. In this separation of roles, the inventor finds out the idea, and, in his role as inventor, uses only his intellect; the worker carries out the idea, and, in his role as worker, uses his intellect only for guiding his hands to reach a known goal. As long as the inventor has not had a change of idea, the worker copies and reproduces the same one. This role of ideas is a distinctive feature of human activity by reason of the incessant progress that characterizes it; that role is foreign to animal activity. You may be either a supporter of the invariability of the species, considering instincts as innate, and believing that birds construct their nests for the first time in their lives in the same way that birds have always done, or you may suppose, in conformity with the evolutionary hypotheses nowadays prevailing, that instincts are formed gradually by insensible gradations, and that in the long run there have been modifications in birds' construction of their nests; in either case, there is no role for invention: it has been absent or inappreciable.

Especially nowadays, industrial ideas develop out of scientific ones, but they should not be confused. Scientific ideas are absolutely neutral; industrial ideas, on the contrary, aim at the goal of usefulness. So, the observation that the levels of a liquid in two communicating reservoirs tend to become the same is a scientific idea; applying this idea in the construction of oil lamps is an industrial idea. Industrial ideas are very often closely coupled with artistic ideas; for instance, the two types of ideas are coupled in a lamp where the reservoir is made of moulded **[251]** bronze or painted china. However, the artistic work in the proper sense, whose object is to create an impression of beauty, should be distinguished from the mixed product, whose main purpose is the satisfaction of a need. Whatever may be said on that subject, the art of making furniture and the art of making clothing are industrial arts, and not fine arts.

Not all scientific, artistic, and industrial ideas are useful. Scientists, artists, and inventors often take great pains to produce a theory, a work, an object that the public does not care about. Often they even spend great amounts of money in doing so. However, often scientific, artistic, and industrial ideas are highly appreciated and very sought after. Sometimes, finally, a period of enthusiasm follows after a period of indifference. All these circumstances are not true exclusively of intellectual production; they can also be observed, perhaps with less intensity, in the case of ordinary production. Anyway, it is clear that intellectual wealth is not wealth, and, even more so, not social wealth, unless it is for satisfying a need and to the degree it satisfies the need.

All that is true of the usefulness of intellectual wealth. It remains to examine its scarcity. This is exactly the decisive point. To be precise, it may happen that a scientific, artistic, or industrial idea, while being useful, is not necessarily and naturally limited in quantity. There are, it is true, situations where this is the case, at least during a certain period. It is, for instance, in the case of an industrial process that can be kept a secret. Suppose I have obtained, either by long and arduous research of which few people would be capable, or by unexpected luck that people have hardly any chance of having, a way to simplify or improve production by reducing costs, or by excellence in the quality of the product. My idea is useful, and limited in quantity as long as I am the only holder of it. It has value and can be exchanged; it is at the same time appropriatable and appropriated by me, **[252]** and that is in conformity with the general theory of property without any need to introduce a special theory. But in most cases, matters are quite different. Mostly, the idea can only be used in a way that makes it known to everybody, which means that it is impossible for the inventor to keep it secret while exploiting it. Whoever procures a copy of the work or a specimen of the product in which the idea is embodied will immediately be able to provide similar copies or specimens. Hence, ideas are, in general, not scarce by their nature; on the contrary, their immaterial nature makes them nearly always unlimited in quantity. There is soon enough for everybody, as much as is desired, and, indeed, it is peculiar to immaterial things that you can share them without diminishing what you retain, that they can be spread around by multiplying them.

The question of intellectual property is therefore quite different from that of ordinary property, and there is ample reason to go in depth into it, because, once having been made social wealth, not by its nature but by law, it will become a monopoly. Prior to such a law, we read a novel for the price of its paper and printing, and we hear a symphony without paying for anything more than its performance. The intellectual property, however, once having been awarded to the author and the composer, will be made available to us by them, subject to their limiting the quantity with a view to making the greatest possible profit. There is no case that is more a special case of the general theory of property than the one that consists of the transformation of something that is naturally free into an artificial monopoly.

II

Should the law therefore create monopolies by artificially transforming intellectual wealth into social wealth? This is exactly how the question of intellectual property presents itself, from the twofold point of view of justice and economic advantageousness.

[253] The study of this question from the point of view of justice consists of investigating to what extent scientific, artistic, and industrial ideas really belong to the authors and inventors; i.e., to what degree we owe these ideas to them, and only to them. In this respect, there is some difference between those ideas.

The discovery of a scientific idea, and also that of an industrial idea, has an element of inevitability. Since truth is absolute and universal, it does not have different varieties; it must necessarily reveal itself just as it is, sooner or later;

the human mind must meet it one day or another in the form that it necessarily has. This applies up to a certain point to both the applied truth and theoretical truth, since the former is brought about by the latter. This is demonstrated by the fact that scientific and industrial ideas are very often discovered by two different persons at the same time. Leibnitz and Newton discovered the infinitesimal calculus at the same time; Scheele and Lavoisier isolated oxygen at the same time; while Messrs. Raoul Pictet and Cailletet liquefied it recently at the same time. We do not know whether the invention of the steamboat should be attributed to Salomon de Caus, Fulton, or Papin, and the invention of the locomotive to Séguin or Stephenson. It is therefore certain that if all those men had failed to make the discoveries, other scientists or industrialists would have made them a little later. Artistic and literary ideas are much more personal. Since aesthetic and emotional ideas are relative and individual, their variety is enormous; in the absence of one of them, another would have appeared, but not the same one. If Raphael, Michelangelo, Molière, and Mozart had died at a very young age, and had not painted the *Triumph of Galatea*, sculpted the *Night* and the *Thinker*, written the *Misanthrope*, and composed *Don Juan*, other painters, sculptors, poets, and composers would have achieved masterworks, but not those just mentioned.

If this observation is correct, it is certain that we owe artistic and literary ideas more to the artists and authors than we owe scientific and industrial ideas to the scientists and engineers. However, it is certain, in any case, that we do not owe these ideas **[254]** exclusively to their creators and inventors only, but also to other artists, writers, scientists, and engineers who preceded them. Undoubtedly, Leibniz and Newton would not have discovered the infinitesimal calculus without Descartes' work and that of other mathematicians of the seventeenth century; Fulton or Papin, Séguin or Stephenson could not have made their inventions without Watt's. Without any doubt, Raphael and Michelangelo were inspired by Greek and Roman art, Molière by Terence and Plautus, Mozart by Haydn and Cimarosa. The point of view of modern criticism, which demonstrates to what extent works of art and literature are a product of the social environment in which their creators lived, is perfectly justifiable and will be of much help to us here. This point of view settles the question of justice in the sense that scientific, industrial, artistic, and literary ideas belong only partly to their creators and inventors, and partly to society. Undoubtedly, Descartes and Watt remaining the inventors of the ideas they added to those of their predecessors, Newton, Papin, and Stephenson remain similarly the inventors of the ideas they added to those of Descartes and Watt. However, since Newton, Papin, and Stephenson were able to benefit from the discoveries of Descartes and Watt, other scientists and industrialists should have the opportunity to benefit from theirs. The same thing may be said as far as artistic and literary ideas are concerned.

These conclusions from the point of view of justice agree perfectly with those we obtain when we take the point of view of economic advantageousness.

It is certainly contrary to the general interest if useful things, whose quantity is unlimited, are monopolized, so that, instead of having these things free, we are obliged to pay the price that yields the maximum profit. But on the other hand, it is equally contrary to the general interest if the intellectual workers cannot obtain any advantages from their ideas, for it is certain that then research on **[255]** scientific theories, pursuit of industrial inventions, creation of works of art and literature would at least be considerably neglected, if not completely abandoned. It will not be completely abandoned, because scientific and industrial curiosity, and artistic and literary passion, are for certain people very strong stimuli, which make them defy any obstacle. But it will be considerably neglected for two reasons: first, because, not counting the few persons for whom the above stimulus is enough, there are many people for whom the lure of a profit is necessary; and, second, because even the former will find it impossible to continue their work if they cannot obtain any pecuniary return from it to support themselves.

Hence, justice and advantageousness recommend that we do not settle the question of intellectual property either exclusively in favour of the creators and inventors, or exclusively against them. Between the creator or inventor, on the one hand, and society, on the other, a convention should intervene such that, when the former makes known his idea, the latter provides the means for him to exploit it as a monopoly during a certain time, after which it will fall into the public domain. Furthermore, if the inventor or creator prefers to keep his idea secret, he has the right to exploit it monopolistically until somebody else discovers it. This should be, in our opinion, the exact principle of intellectual property.

This conclusion is not applicable uniformly to the ownership of scientific ideas, of artistic ideas, and of industrial ideas. The discovery of a scientific theory can be protected only on the condition that it be considered a public service. It cannot benefit at all those who take part in it, because the industrial applications are too uncertain and distant in time. How long would Volta, Œrstedt, and Ampère have had to wait before their theories about electricity and electro-magnetism were applied in industry? Only the State can assure the cultivation of **[256]** science, and naturally does so when it organizes the teaching of it. The professor is the true scientist, and his requirements are met if his salary comprises both the price of his lectures and that of his discoveries, which, once made, fall immediately into the public domain. If he publishes works in which he explains his own and others' theories, these works will be considered as belonging to the scientific literature, and acknowledged as his literary property. There are also works of art that, like science in its entirety, should be considered as public services. The State alone is in the position to commission certain monuments, certain statues, certain paintings, and, when it pays for them, it must also pay for the architectural, sculptural, or pictorial idea that everybody may enjoy and find inspirational. However, besides these works there are other products, of less artistic value but higher market value, whose ownership should be conceded to the artist as artistic property. Literary works in the proper sense of the term are almost all of that type. Finally, ownership of industrial ideas will certainly form an element of industrial property because those ideas can provide remuneration to the inventors, and consequently the State need have no interest in their invention. To summarize, *intellectual property* is made up of two kinds: *artistic and literary property*, and *industrial property*.

The principle of intellectual property, once having been stated, must then be applied. This is an awkward matter, as may be very well demonstrated by the example of the French law on patents. Under the influence of the empty rhetoric and slogan-mongering that so often predominate in France in the discussion of this kind of question, and as a result of a law dated 7 January 1791 giving inventors too extreme property rights over their inventions, the law dated 5 July 1844 granted these inventors, or those who style themseves as such, exorbitant advantages. Here is how one proceeds in France in regard to patents under this law. Any person who claims, **[257]** rightly or wrongly, to have made an industrial invention, makes a request for a patent in which he presents a description of the invention. He is granted the patent without examination and unconditionally, with this sole reservation: *no government guarantee*. Once provided with this patent, our individual takes legal action against everybody whom he believes has infringed upon it, and in this way, with the aid of experts, the question of whether the invention is real and worthwhile is discussed and settled. However, without waiting until the outcome of the lawsuit, the holder of the patent may obtain the confiscation, on his simple demand and for his own benefit, of both the products he claims to be infringements, and the means of producing them. In all other matters, this kind of confiscation has been abolished, but it remains a benefit of the patent holder. Under these circumstances, a special type of business came into existence and developed, consisting of taking patents haphazardly and ‘blackmailing’ the most honest and capable industrialists by intimidating them with the threat of lawsuits.

Such legislation is manifestly inconsistent. A choice must be made between these two systems: either granting the creator or inventor the right to put his idea or invention into production, without any further rights prior to a decision in court, or submitting his idea or invention to an investigation, and granting him or denying him the privilege of exploiting it. It seems to us that the first of these two systems is more suitable for artistic and literary property, and the second for industrial property. Artistic and literary property has to do with works: monuments, statues, drawings, engravings, musical compositions, books. One can hardly simulate such a work; and, in regard to the ability to certify its uniqueness, a court is, in general, highly competent. Therefore, a deposit of a copy of the work, or a certificate stating the registration of its date, is the sole safety measure that must be taken while awaiting lawsuits. Industrial property, on the other hand, concerns processes. Nothing is easier than for the first person who claims its invention to write up some description or another; however, for forming their opinion on the value of the process, the judges will **[258]** always have to make an appeal to specialized people’s opinions. Why not establish right at the beginning a committee of experts, and why not ask its opinion? The patent would be granted or refused depending on their investigation. Statistics teaches us that out of one hundred patents requested under the present French system, two or three offer something of importance. Putting aside these two or three would release our industry from any anxiety with respect to the other inventions. In the eventuality that the State considers it advantageous to put the invention immediately into the public domain, it could buy the patent and compensate the inventor for it.

III

The [Swiss] Federal Department of Commerce and Agriculture did us the honour of asking us to examine the *Avant-projet de loi sur la propriété littéraire et artistique* [Bill on literary and artistic property]; our study of the fundamental principle of intellectual property allows us now to give our opinion on it.

The *Explanatory Memorandum* preceding this bill starts by citing article 64 of the Federal Constitution, which states that literary and artistic property belongs to the matters that are subject to the legislation that is within the jurisdiction of the Confederation. Next, it sets out the present state concerning the subject, informing us that it is at present regulated in Switzerland by an agreement, dated 3 December 1856, between 18 cantons (Luzern, Fribourg, le Vallais, and Neuchâtel did not participate), and by various conventions and treaties with France (30 June 1864), Belgium (11 December 1862), Italy (22 July 1868), North-Germany (13 May 1869), Bavaria, Württemberg, Hesse, and Baden (16 October 1869). Finally, it states the motivation for legislation without any further delay. The most important reasons are: the abnormality that in Switzerland foreigners are granted more rights **[259]** than the Swiss themselves, and that the courts have to apply penalties borrowed from foreign laws; the necessity to complete legislation on commercial obligations and rights; the necessity of preventing the effects of the adoption of excessive principles in matters of literary and artistic property by certain foreign countries. Concerning this latter point, it seems that the bill presented on 24 July 1879 to the Chambre des Députés at Paris is a real threat to our musical boxes.

The writer of the proposed bill refrains from creating a theory of literary and artistic property. He is right. In general, theory must be in books by scientists; legislators, who are putting it into practice, should purely and simply refer to those books as a starting point for the establishment of their measures. Unfortunately, the theory of the rights to literary and artistic property does not exist in science, just as many other economic and social theories, at least equally important, are lacking. Therefore, willy-nilly, the legislator is entirely obliged to do it his own way. Our writer did that in four lines, but, all the same, he did do it:

> Without entering into a metaphysical discussion of the origins of this property – he says – we restrict ourselves to noting that it is, like any other property, the result of labour. However, it is distinguished from purely material property in that, from the moment that the author has published his work, the ideas in it are no longer in his exclusive possession; they come into the possession of anybody who has knowledge of them.

There are some little corrections to make in this passage. The author confused literary and artistic property with the literary and artistic wealth that is the purpose of this property. Incidentally, he says wrongly that all property (or all wealth) is the result of labour. That is a contentious point in a 'metaphysical discussion' that he would have done better not to have touched upon because it is of no importance for his case. It is enough to say that literary and artistic property (or wealth) **[260]** is the result of a type of work that gives the worker a certain right over the property. Nevertheless, the essential difference between literary and artistic property (or wealth) and ordinary property (or wealth) is indicated very well. All things considered, the author of the bill has very well understood that literary and artistic wealth is not by itself social wealth, and can only be so by an artificial limitation of its quantity. Quite correctly, he states, though still in very few words, the reasons, from the points of view of advantageousness and of justice, which militate in favour of such a limitation. He qualifies literary and artistic property very precisely as 'conventional property', or 'property *sui generis*'.[iii]

Finally, he defines it perfectly:

> The exclusive right to the reproduction, by whatever process, of books and periodicals, of drawings, paintings, sculptures, architectural plans and drawings, maps, engravings, prints, lithographs and other products analogous to the art of drawing; of dramatic and musical works.

As one can see, we agree completely with this opinion that is diametrically opposite to that of the supporters of absolute and everlasting literary and artistic property, people that are very lavish with resounding tirades, but very sparing with economic or moral analysis.

The duration of the right just defined is fixed as the author's life plus 30 years from the day of his death onwards, which seems to us a suitable period. As for the extent of its applicability, it has been pushed to rather extensive limits. According to the legislators, it comprises, contrary to German and Russian law, the reproduction by the techniques of the visual arts of a work of the arts of design and of painting, and reciprocally. It comprises also, contrary to the Swiss agreement, reproductions that require intellectual work in the proper sense. Finally, it comprises translations. All this seems to me auspicious and well-founded.

An interesting and delicate question arises here, which the writer of the bill has successfully tackled, in our opinion. In accordance with article 5, 'unless otherwise stipulated, **[261]** the buyer of a work belonging to the arts of design does not have the right to have it reproduced before the expiration of the period mentioned in article 2', that is, before the expiration of the right of property. An exception is made only 'when it concerns a commissioned portrait'. In regard to this system, there is also another exception, one declaring that, except as otherwise stipulated, the buyer of a work of art will have the right to reproduce it. Those who defend this latter system allege that the right of reproduction, which is a secondary right, must follow the right of possession, which is the principal right. According to the explanatory memorandum, Mr. Meissonier,[iv] when asked about this point, answered that 'most of the time, sales are agreed upon orally', and that 'the artist seldom stipulates his right of reproduction'. This answer is not a strong one: the law is not at all obliged to submit to the lax habits of this or that category of citizens. If there is some juridical concern in this respect, then we would express as our opinion that the artists should stipulate explicitly that they want to cede or to keep their right of reproduction; and we believe that they will quickly learn to do that. However, the bill states the true argument in favour of the first system. The argument that consists of considering the right of property and that of reproduction as joint rights is applicable to branches of art that normally produce only one object: architecture, sculpture, and painting. Regarding the other design arts: engraving, lithography, and regarding literature, that is not the case. We have to adopt a point of view that is likely to be general. The point of view of separating the right of property from the right of reproduction has that advantage, because it is quite in agreement with the principle of the right of intellectual property. What this law is truly about is the immaterial element; it is the idea that the first material object that embodies that element is in itself only a first reproduction, and that, if necessary, the immaterial element can be abstracted from this first object and considered **[262]** separately. That is intellectual wealth, by its very nature unlimited, but artificially limited by the law for the benefit of its creator or inventor.

One of the most important articles is the one on exceptions, article 7. It mentions the cases in which reproduction does not violate the right of literary or artistic property. Here are these exceptions:

1. The printing of acts and deliberations of authorities, or their public administrative minutes;
2. The publication of minutes of public meetings;
3. The reproduction, with acknowledgement of the source, of passages of articles in newspapers or periodicals, unless the author has formally declared, in the newspaper or periodical itself, that reproduction is not allowed; this prohibition, however, cannot apply to articles discussing politics;
4. The reproduction of the news of the day, even without acknowledgement of its source;
5. The insertion, in an anthology, of excerpts or entire parts of a literary or scientific work, provided that the sources be acknowledged;
6. The partial reproduction of a work belonging to the graphic arts in a work intended for education or study;
7. The reproduction of works of art placed permanently in streets or in public places, provided that this reproduction not be carried out in the same artistic form;
8. The reproduction of plans and designs of buildings that have already been constructed;
9. The insertion in collections for school or church of musical compositions, with or without the original texts, provided that the source be acknowledged;

10 The performance of dramas or musical works by schools, boarding schools, or cultural organizations;
11 The reproduction of musical compositions by musical boxes and other analogous instruments, as well as arrangements of parts borrowed from different works (medleys).

We believe that much discussion should be devoted to that limitation of the right of literary and artistic property, which, when too widely applied, would become a hindrance not only to progress, but also to the course of daily social life. Perhaps **[263]** some exceptions should be added, and perhaps some should be left out. The permission to insert 'entire parts' of a literary or scientific work in an anthology seems to us possibly too extreme. We admit also quite frankly that the immunity accorded to musical boxes seems to us more patriotic than justifiable. But we will not enter into these details, which will not fail to be carefully examined by the Federal Houses.

One might remark that photographic work has not been mentioned among the graphic arts. However, the legislator did not forget photography, but for this art the duration of property rights is only 15 years.

That is the Bill on literary and artistic property. Considered in regard to its principles and its essential clauses, as we have done, it is good and does honour to the Federal Department of Commerce that prepared it. In possession of a well-chosen point of departure, very succinctly formulated and set forth, but nevertheless evidently done so only after profound thought on the subject, the writer has solved the main questions put before him in an elegant and felicitous way. He has been explicit and precise, and has not left much room for arbitrary decisions by a judge. We praise him sincerely for that, since nothing appears to us more detrimental than the legislative weakness that restricts the domain of the law more and more to the benefit of the discretion of those who apply it. In this respect, the federal legislator has satisfied us greatly by his report, and we eagerly take this occasion to give him our congratulations and thanks.

Notes

i We keep Walras's term for this notion, not translating it as 'scarcity'.

D ii Walras was pointing to a witticism of a well-known humorist, Alphonse Karr. See his *Une poignée de vérités, mélanges philosophiques*, Brussels: Dumont, 1853.

iii Sui generis: of its own kind, unique.

iv A French contemporary painter, famous in his own time.

Part III

Realization of the social ideal

8 Mathematical theory of the price of land and its purchase by the State[1,i,ii]

[267] I The doctrines of J. Mill and H.-H. Gossen

1. I do not know of any socialist who has taught that

> of the two types of capital provided by nature [personal faculties and land] and the incomes they generate, *personal faculties* and *work* must be the subjects of individual ownership, with *wages* being the *incomes of individuals*, while *land* and the *services of land* must be the subjects of collective ownership, with *rent* forming the revenue of the State.[2]

I owe this point of view to my father, and I presented it 20 years ago in my memoir titled *De l'impôt dans le canton de Vaud*.[iii] However, as far as I know there are some economists who have, if not demonstrated, at least formulated very explicitly this way of reconciling individualism and communism, and, moreover, have concerned themselves with seeking and describing the path and the means to make this a reality. Thus, we find in Chapter IV, section V, entitled 'Taxes on rent', of James Mill's *Elements of Political Economy* (1821) a theory, **[268]** very complete, although very concise, of the use of rent to fund public expenditures.

That author first establishes that landownership and agricultural production are independent:[iv]

> It is sufficiently obvious – he says – that the share of the rent of land,[v] which may be taken to defray the expenses of the government, does not affect the industry of the country. The cultivation of the land depends upon the capitalist; to whom the appropriate motive is furnished, when he receives the

1 Memoir read before the Société vaudoise des sciences naturelles, Lausanne (session of 17 November 1880). N.B. The numbers in parentheses indicate the numbers in the text to which they refer. The numbers in square brackets refer to the numbers of the equations or formulas.

2 Capital properly speaking, i.e., produced artificial wealth, belongs to those who have created it, the State or individuals. I developed the philosophical principles of this theory in my *Recherche de l'idéal social* ['Seeking the Social Ideal'; see Part I above].

I can now [1896] mention several socialists who have supported the right of the community to own the land: Colins, Rodbertus-Jagetzow, Alfred R. Wallace, Henry George.

> ordinary profits of stock. To him it is a matter of perfect indifference; whether he pays the surplus, in the shape of rent, to an individual proprietor; or, in that of revenue, to a government collector.

Mill points to the fact that in Europe in the Middle Ages, and in major Asian monarchies in all ages, State expenditures were paid by means of rent; and he adds, placing the subject clearly in the domain of natural law by means of an ingenious and bold hypothesis:

> If a body of people were to migrate into a new country, and land had not yet become private property, there would be this reason for considering the rent of land as a source peculiarly adapted to supply the exigencies of the government; that industry would not, by that means, sustain the smallest repression; and that the expense of the government would be defrayed without imposing any burden upon any individual. The owners of capital would enjoy its profits; the class of workers would enjoy their wages; without any deduction whatsoever; and every man would employ his capital, in the way which was really most advantageous, without any inducement from the mischievous operation of a tax, to remove it from a channel in which it was more, to one in which it would be less productive to the nation. There is, therefore, a peculiar advantage in reserving the rent of land as a fund for supplying the exigencies of the state.[vi]

[269] That was the theoretical point of view chosen by James Mill, regarding which he himself raises the poorly-founded objection that 'in a country of a certain extent and a reasonably large population the revenues of the land would exceed the amount needed by Government'; but he responds to that by saying that everything would be squared away by leaving the excess to private property. Then he proceeds to the practical point of view, or the achievement of the ideal.

2. First, he acknowledges that

> Where land has, however, been converted into private property, without making rent in a peculiar manner answerable for the public expenses; where it has been bought and sold upon such terms, and the expectations of individuals have been adjusted to that order of things, rent of land could not be taken to supply exclusively the wants of the government, without injustice.[vii]

That would be stealing from the owners. Nevertheless, he remarks,

> That rent, which is bought and sold, however, that rent, upon which the expectations of individuals are founded, and which, therefore, ought to be exempt from any peculiar tax, is the present rent; or at most the present, with the reasonable prospect of improvement.[viii]

Consequently, the State can without any injustice take for itself any increase of the net product of the land, over and above that of its normal product, resulting from some event from outside agriculture, either unexpected or gradual. He concludes therefore that all the growth of rent resulting from population increase and growth of capital should be absorbed by taxation of land. He says, in finishing his study:

> It is certain, that, as population increased, and as capital is applied with less and less productive power to the land, a greater and a greater share of the whole of the net produce of the country accrues as rent, while the profits of stock proportionally decrease. This continual increase, arising from the circumstances of the community, and from nothing in which the **[270]** landholders themselves have any peculiar share, does seem a fund no less peculiarly fitted for appropriation to the purposes of the state, than the whole of the rent in a country where land had never been appropriated. While the original rent of the landholder, that upon which alone all his arrangements, with respect both to himself, and his family, must be framed, is secured from any peculiar burden, he can have no reason to complain, should a new source of income, which cost him nothing, be appropriated to the service of the state; and if so, it evidently makes no difference to the merits of the case, whether this new source is found upon the land, or found any where else.[ix]

This whole theory is presented in eight pages. It is a pity that it is spoilt by some errors in its economics, inherent in the English school, like the identification of the entrepreneur with the capitalist, and the Ricardian conception of the produce of land; that it is based on such narrow considerations of justice and advantageousness; that it has been insufficiently developed and justified; for, otherwise, we could have expected that the theory would have exercised a greater influence on the course ideas have taken, and would have brought renown to its author.

3. It seems, however, that a veritable coincidence has weighed upon this great problem. In 1854, a retired government assessor at Cologne, named Hermann-Henry Gossen, wrote a book, published by F. Vieweg and Son, Brunswick, entitled *Entwickelung der Gesetze des menschlichen Verkehrs und der daraus fließenden Regeln für menschliches Handeln*.[x] In this book, he presented both an extremely advanced mathematical theory of social wealth, and a theory no less remarkable of the ceding of farm rent to the State. This work, one of the most beautiful books written on economics, is still almost wholly ignored, even in Germany. Of the two theories in question, we now explain the content of the second.

It starts on page 250[xi] of the book, which has 277. Gossen **[271]** believes that *it would be fitting if* all *the land were owned by the community, and that it would lease any parcel to the individual who offers to pay the highest rent for it.*[xii] Purely utilitarian, like James Mill, he bases this proposition on the grounds of advantageousness much more so than on the grounds of justice. He bases it principally on the principle that he tries to establish mathematically in his theory of economic equilibrium, namely that the highest rent corresponds to the most useful utilization. The State, having possession of the land, would rent it out by auction under certain conditions specified by the author, and more or less adequately justified by him. I will not examine these conditions; I will not even mention them except for one that it is essential to consider here because it furnishes the means for the realization of the ideal: The rent to be paid by the farmer to the State would increase from year to year by a certain percentage determined by experience, as explained below.

Let a be the rent at a certain time, and z the rate of its annual increase.[xiii] After a number n of years' rent, a_n will be given by the formula

$$a_n = a\left(1+z\right)^n.$$

In this formula, a, a_n, and n are given by observation; z is obtained from it by calculation. So, in Prussia, the administrator of the State domains, when renewing the lease contracts after 18 years, increases the rent by 10 per cent (This means

$$110 = 100\left(1+z\right)^{18},$$

$$\log\left(1+z\right) = \frac{\log 11 - \log 10}{18} = 0.002296,$$

$$z = 0.005309,$$

hence, a rent increase of more than ½ per cent). This evaluation is, it seems, less than the real increase; in fact, 10 per cent [in 18 years] is only a minimum. An English author, Sinclair,[xiv] observed that goods yielding £273,000 under Henry VIII in **[272]** 1542, yielded 6,000,000 pounds sterling 250 years later. From this one concludes

$$6{,}000{,}000 = 237{,}000\left(1+z\right)^{250},$$

$$\log\left(1+z\right) = \frac{\log 6000 - \log 273}{250} = 0.005368,$$

$$z = 0.012437,$$

or nearly 1¼ per cent. Gossen assumes in his calculations $z = 0.01$.

4. Using this increase in annual value of 1 per cent, Gossen lets all the land pass into the hands of the State; and this plan, just as carefully detailed as it is broadly conceived, reveals not only a scholar with a profound knowledge of the laws of economics, but also an administrator experienced in handling business affairs. Nevertheless, it has some lacunas that we shall note, but these were doubtless inevitable in dealing for the first time with such a complex question. The author protests the violent methods proposed by the revolutionary communists and socialists. More scrupulous than James Mill, he is of the opinion that the landowners, having paid a price for their land that includes its increase in value, have a right to that increment, and that the State should not deprive them of it. He even denies the State the right of expropriation, and he obliges it to acquire the land by arriving at mutual agreements with the owners, which, he says, is perfectly possible. According to Gossen, the State has three advantages in comparison with private persons in buying the land:

1 The State can borrow at a cheaper rate then they can, and, consequently, it can buy at a higher price.
2 Its life is longer than that of private persons, and therefore an amount due over a long time has a larger value for it.
3 For the same reason, it can lease the land for a longer time and therefore for more money.

These three circumstances make it possible for *the government to purchase the ownership of land from individuals under conditions so favorable that it obtains subsequently from the increase in land services the means for repaying the sum it needed for the purchase*.[xv]

[273] In Prussia, at the time when Gossen wrote his book, in December 1852, the 3½ per cent bond was worth 94, which means that the State could borrow at less than 3¾ per cent. In other words, according to him, at that time, in that country, as much land could be acquired as desired at a price of 26⅔ capital for 1.[xvi] Borrowing at that price, the State would not have any excess of interest over rent received in the first year, for it would get from its investment just the 3¾ per cent it would pay for the loan. In the second year, it could start paying off its debt, because of the growth of rent. However, even if, at the beginning, the State had an excess of interest to pay over rent received, it would not be in a situation of loss, according to Gossen, if the increase in rent in the second year were to be at least equal to the interest on the excess of interest. Now, under these conditions the State would be able to increase considerably the price it offers.

Let A be both the price for a piece of land and the amount borrowed by the State for acquiring it; let i be the rate of interest on the loan, a the amount of rent at the beginning, z the rate of growth of rent. The annual amount of interest to be paid by the State is Ai. Assume that this amount of interest Ai is superior to the amount of initial rent a, and that the difference Ai – a must be borrowed. In fact, there will be no loss for the State if the interest on this extra loan, (Ai – a)i, is compensated by the increase in rent. Under these conditions, the maximum purchase price will be given by the equation

$$\left(\mathrm{A}i-a\right)i=az\ ,$$

from which we derive

$$\mathrm{A}=a\frac{i+z}{i^2}.$$

Assuming that $i = 0.0375$, $z = 0.01$, the ratio between A and a is $33^7/_9$ instead of $26\frac{2}{3}$. This price of $33^7/_9$ capital for 1 represents an investment yielding about 3 per cent.

[274] 5. Gossen applied these general calculations in three tables; we reproduce two of them. The first one [Table 8.1] concerns a piece of land priced at 100,000, paid by means of a loan of 4 per cent; the land yields 4,000, hence also 4 per cent with a growth of 1 per cent per year. Repayment starts at the end of the first year and ends in year 47. At the end of that year there is even an excess of 3,977, and the rent of the next year, 6,448, is completely available. The second table [Table 8.2] concerns the case of a piece of land with the same price, bought under the same conditions, but yielding only 3333.33 (hence 3.33 per cent). Due to the excess of interest over rent in the beginning, the debt increases until after year 31, when it equals 113,841. After year 32, there is an excess of rent over interest and the sum due decreases.

6. This is Gossen's plan. He enumerates its advantages, some of which should be discussed, and even disputed, but among them is the abolition of all taxes, which is an indisputable and incontestable advantage. Like Mill's, this project is based **[277]** on a full awareness of the cardinal economic fact of the growth of rent in a progressive society, but it is much more comprehensive and ambitious because, for one thing, Gossen wants to leave to the landowners the increase in the value of land, an increase they have paid for, and, for another, he wants to put the totality of all rent into the hands of the State. For this reason, it is more attractive, but is it as reliable and as feasible?

Gossen tries to achieve his twofold goal by postponing the results of the operation; in Mill's system, they would be immediate. We can wonder if the postponement is sufficient. As we have seen, Gossen's tables do not exactly correspond to his formulas. In his formulas, he supposed an interest rate of 3.75 per cent and a price between 26.66 and 31.25 of capital for 1. In his tables, he assumed an interest rate of 4 per cent and a price of capital that may vary between 25 and 30, instead of between 25 and 31.25 as results from the formula $A = a\frac{i+z}{i^2}$. Moreover, Gossen claims that at a price of 26.66 as much land can be acquired in Prussia as is desired, and he seems to believe that this is also the case at a price of 25, if the rate of interest increases from 3.75 to 4 per cent, since he presents a table based on this hypothesis. But why would Prussian private persons, be they holders of savings or speculators, pay the same price for a State bond yielding a constant income of 3,750 or 4,000 and a plot of land yielding a rent of 3,750 or 4,000 in the first year, which is well-known to increase every year by 1 per cent? Once the increase in the value of land has been determined, there must result mathematically a normal price for land such that arbitrage of capital goods against landed capital will not be advantageous. It is then up to the State either to pay the normal price for land, so that no wrong will be done to the owners, and in which case there will be no amortization, or to buy the land for a **[278]** price less than the normal one in order to be able to repay the sum it borrows, but thereby do wrong to the owners. True, when bringing the problem

Table 8.1

	n	A_n	$A_n i$	a_n	$a_n - A_n i$
	0	100,000	4,000	4,000	0
	1	100,000	4,000	4,040	40
	2	99,960	3,998	4,080	82
	3	99,878	3,995	4,121	126
	4	99,752	3,990	4,161	172
	5	99,580	3,983	4,204	221
	6	99,359	3,974	4,246	272
	7	99,087	3,963	4,288	325
	8	98,762	3,950	4,331	381
	9	98,381	3,935	4,374	439
	10	97,942	3,918	4,418	500
	11	97,442	3,898	4,462	564
	12	96,878	3,875	4,507	632
	13	96,246	3,850	4,552	702
	14	95,544	3,822	4,598	776
	15	94,768	3,791	4,644	853
	16	93,915	3,757	4,690	933
	17	92,982	3,719	4,737	1,018
	18	91,964	3,679	4,784	1,105
[275]	19	90,859	3,634	4,832	1,198
	20	89,661	3,586	4,880	1,294
	21	88,367	3,535	4,929	1,394
	22	86,973	3,479	4,978	1,499
	23	85,474	3,419	5,028	1,609
	24	83,865	3,355	5,078	1,723
	25	82,142	3,286	5,129	1,843
	26	80,299	3,212	5,180	1,968
	27	78,331	3,133	5,232	2,099
	28	76,232	3,049	5,284	2,235
	29	73,997	2,960	5,337	2,377
	30	71,620	2,865	5,390	2,525
	31	69,095	2,764	5,444	2,680
	32	66,415	2,658	5,498	2,841
	33	63,574	2,543	5,553	3,010
	34	60,564	2,423	5,609	3,186
	35	57,378	2,295	5,665	3,370
	36	54,008	2,160	5,722	3,562
	37	50,446	2,018	5,779	3,761
	38	46,685	1,867	5,837	3,970
	39	42,715	1,709	5,895	4,186
	40	38,529	1,541	5,954	4,413
	41	34,116	1,365	6,014	4,649
	42	29,467	1,179	6,074	4,895
	43	24,572	983	6,135	5,152
	44	19,420	777	6,196	5,419
	45	14,001	560	6,258	5,698
	46	8,303	332	6,321	5,989

Table 8.2

	n	A_n	$A_n i$	a_n	$a_n - A_n i$
	47	2,314	93	6,384	6,291
	48	–3,977		6,448	
[276]	1	100,667	4,027	3,366	–659
	2	101,326	4,053	3,400	–653
	3	101,979	4,979	3,434	–645
	4	102,624	4,105	3,468	–637
	5	103,261	4,130	3,503	–627
	6	103,888	4,156	3,538	–618
	7	104,506	4,180	3,573	–607
	8	105,113	4,205	3,609	–596
	9	105,709	4,228	3,645	–583
	10	106,292	4,252	3,681	–571
	11	106,863	4,275	3,718	–557
	12	107,420	4,297	3,754	–543
	13	107,962	4,318	3,793	–525
	14	108,487	4,339	3,830	–509
	15	108,996	4,360	3,869	–491
	16	109,487	4,379	3,907	–472
	17	109,959	4,398	3,947	–451
	18	110,410	4,416	3,986	–430
	19	110,840	4,434	4,026	–408
	20	111,248	4,450	4,066	–384
	21	111,632	4,465	4,107	–358
	22	111,990	4,480	4,148	–342
	23	112,322	4,493	4,189	–304
	24	112,626	4,505	4,231	–274
	25	112,900	4,516	4,274	–242
	26	113,142	4,526	4,316	–210
	27	113,352	4,534	4,359	–175
	28	113,527	4,541	4,403	–138
	29	113,665	4,547	4,447	–100
	30	113,765	4,551	4,492	–59
	31	113,824	4,553	4,536	–17
	32	113,841	4,554	4,582	+ 28

from the theoretical to the practical level, Gossen mentions circumstances permitting the State to approach somewhat closer to the normal price than private persons may do, without, however, attaining it. It remains to know if these circumstances are decisive. What is the normal price? How far will the landowners deviate from it? How close will the State approach it? These questions have not been solved by Gossen's concrete examples, but such a serious and important matter has to be cleared up. There is only one way to do this, namely to do it ourselves. We will formulate rigorously the mathematical theory of the price of land resulting from the growth of rent (sections II and III). Then we will formulate the theory of the purchase of land by means of loans that are repaid with its rent (IV and V). Finally, we will investigate if and how repaying by means of the rent may be possible in combination with a normal price of land based on its increase in value.

II The price of land. Formula for the establishment of the normal price in the cases of a temporary or a perpetual variation of rent

7. In lesson 27 of our *Éléments d'économie politique pure*,[xvii] before stating the facts or establishing the laws of the price variations in a progressive economy, we noted that the current prices **[279]** P_t, $P_{t'}$, $P_{t''}$,…, of land of the types (T), (T′), (T″),…, considered as such independently of all capital proper, fixed or circulating, that is associated with it, are determined by the following system of equations:

$$P_t = \frac{p_t}{i},\ P_{t'} = \frac{p_{t'}}{i},\ P_{t''} = \frac{p_{t''}}{i} \ldots,$$

where p_t, $p_{t'}$, $p_{t''}$,… denote the prices of the land services (T), (T′), (T″),… and i indicates the interest rate,[xviii] determined by the ratio of the price of the services of fixed capital and the price of these capital goods in a situation of general equilibrium of production and exchange.

In lesson 28,[xix] after having noted that in a progressive society, that is to say, one in which capital is growing and in which population is increasing, *the price of the services of land, that is to say, rent, increases considerably*, and that, in such a society, *the rate of net income decreases considerably*, we stated that, in consequence, *the price of land* (still considering land independently of all capital properly speaking) in a progressive society *increases* because of both the increase in rent and the decrease in the rate of net income. But this is not all; the time has come to show that this fact of rent increasing in a progressive society significantly modifies the equations above.

For greater simplicity, and also to be as consistent as possible with Gossen's notation, we indicate by a what we called p_t until now, and by A we indicate P_t. Assume there is a piece of land yielding at present a rent a that increases regularly, year in year out, by a factor z. Thus, z is the rate of annual growth of rent, or the rate of growth of the value of the land services. We first suppose this growth to be temporary, taking place during m years; we then suppose it to be perpetual, making m infinite. Under these circumstances, the rent of the piece of land, being fixed now and payable over a year, will be a for the first year. After one year and for the second year, it will be fixed at $a + az = a(1 + z)$; after two years and for the third year, $a(1 + z) + a(1 + z)z = a(1 + z)(1 + z) = a(1 + z)^2$ after three years and for the fourth year, $a(1 + z)^2 + a(1 + z)^2z = a(1 + z)^2(1 + z) = a(1 + z)^3$, etc.; finally, after m years and for the $m + 1$th year, it will be fixed at $a(1 + z)^{m-1} + a(1 + z)^{m-1}z = a(1 + z)^{m-1}(1 + z) = a(1 + z)^m$.

Now, it is not acceptable **[280]** that the price of this piece of land is equal to $\frac{a}{i}$, $\frac{a(1+z)}{i}$ after one year, $\frac{a(1+z)^2}{i}$ after two years, $\frac{a(1+z)^3}{i}$ after three years, and so forth, becoming $\frac{a(1+z)^m}{i}$ after m years. Individuals who have savings to invest will take account of the growth of rent in their demand for landed capital. Moreover, if those persons do not think of doing that, there will be speculators who will do so. Consequently, the price of land will be higher than $\frac{a}{i}$. How much higher? That remains to be determined.

8. First, assume there is a person who possesses savings to be invested. How much can this person pay for a piece of land yielding at present an amount a of rent that increases regularly by a factor z from year to year; that is to say, at a rate equal to z?

It is clear that this person can initially pay $\frac{a}{i}$ for rent a received after the first year and the years that follow.

However, at the end of the second year, the rent received will be $a(1 + z)$ instead of a; in other words, one year later there will be an increase in rent of az. This amount of growth will be worth $\frac{az}{i}$ at the beginning of the second year, and $\frac{az}{i(1+i)}$ at the beginning of the first year.

After the third year, rent received will be $a(1 + z)^2$ instead of $a(1 + z)$, which implies a growth of $a(1 + z)z$. At the beginning of the third year, this growth will be worth $\frac{a(1+z)z}{i}$, and, at present, $\frac{a(1+z)z}{i(1+i)^2}$.

After the fourth year, rent received will be $a(1 + z)^3$ instead of $a(1 + z)^2$, which means a growth of $a(1 + z)^2z$. At the beginning of the fourth year, this growth will be worth $\frac{a(1+z)^2 z}{i}$, and, at present, $\frac{a(1+z)^2 z}{i(1+i)^3}$ ...

Finally, after year $m + 1$, rent received will be $a(1 + z)^m$ instead of $a(1 + z)^{m-1}$, which means a growth of $a(1 + z)^{m-1}z$. At the end of the **[281]** mth year, this growth will be worth $\frac{a(1+z)^{m-1} z}{i}$, and, at present, $\frac{a(1+z)^{m-1} z}{i(1+i)^m}$.

So, the total present value of the initial rent and of the m increases that occur in m years is

$$\begin{aligned} \mathrm{A} &= \frac{a}{i} + \frac{az}{i(1+i)} + \frac{a(1+z)z}{i(1+i)^2} + \frac{a(1+z)^2 z}{i(1+i)^3} + \ldots + \frac{a(1+z)^{m-1} z}{i(1+i)^m} \\ &= \frac{a}{i} + \frac{az}{i}\left[\frac{1}{(1+i)} + \frac{(1+z)}{(1+i)^2} + \frac{(1+z)^2}{(1+i)^3} + \ldots + \frac{(1+z)^{m-1}}{(1+i)^m}\right]. \end{aligned}$$

The quantity between square brackets is a geometrical progression; its sum is equal to

$$\frac{\dfrac{(1+z)^{m-1}}{(1+i)^m}\times\dfrac{1+z}{1+i}-\dfrac{1}{1+i}}{\dfrac{1+z}{1+i}-1}=\frac{\dfrac{1}{1+i}\left[\dfrac{(1+z)^m}{(1+i)^m}-1\right]}{\dfrac{1+z}{1+i}-1}=\frac{\dfrac{1}{1+i}\times\dfrac{(1+z)^m-(1+i)^m}{(1+i)^m}}{\dfrac{(1+z)-(1+i)}{1+i}}$$

$$=\frac{1}{(1+i)^m}\times\frac{(1+z)^m-(1+i)^m}{z-i}=\frac{1}{(1+i)^m}\times\frac{(1+i)^m-(1+z)^m}{i-z}.$$

According to whether $z > i$ or $z < i$, one or the other of the last two members would be preferred to the other.

Therefore, our individual can buy the piece of land in question for an amount

$$\mathrm{A}=\frac{a}{i}+\frac{az}{i(1+i)^m}\times\frac{(1+i)^m-(1+z)^m}{i-z}=$$

$$=\frac{a}{i}\left[1+\frac{z}{(1+i)^m}\times\frac{(1+i)^m-(1+z)^m}{i-z}\right] \qquad \textbf{[1]}$$

[282]

$$=\frac{a}{i}\left[\frac{(1+i)^m(i-z)+z\left[(1+i)^m-(1+z)^m\right]}{(1+i)^m(i-z)}\right]=$$

$$\frac{a}{i}\left[\frac{i(1+i)^m-z(1+i)^m+z(1+i)^m-z(1+z)^m}{(1+i)^m(i-z)}\right]=$$

$$\frac{a}{i(1+i)^m}\times\frac{i(1+i)^m-z(1+z)^m}{i-z}. \qquad \textbf{[2]}$$

For the sake of convenient discussion, we shall use the equation of the normal price of land sometimes in its form [1] and sometimes in its form [2].

It is already certain that, as long as the price of a piece of land has not attained this limit, it will be advantageous to an individual, who has savings to invest, to buy land rather than capital goods. This limit once attained, the one or the other investment will be equally advantageous to him. Consequently, the price above represents the normal price of land for him. However, it does not seem useless to show that this same price is also the limit price of land for a speculator.

9. Therefore, let there be a speculator who works with borrowed capital. If the land were pure and simply sold on the basis of its present rent, this man would have to borrow a sum of only $\frac{a}{i}$ to buy a piece of land with rent a.

Letting this sum accumulate at compound interest during m years, the debit side of his balance at the end of that period, including capital plus interest, would be,

$$a\frac{(1+i)^m}{i}.$$

On the other hand, however, our man would receive annual rents of a, $a(1 + z)$, $a(1 + z)^2, \ldots\ a(1 + z)^{m-1}$. Investing this at a rate i at compound interest, the credit side of his balance after m years would be

$$a(1+z)^{m-1}+a(1+z)^{m-2}(1+i)+a(1+z)^{m-3}(1+i)^2+\ldots+a(1+i)^{m-1}=$$

[283] $$a(1+z)^{m-1}\left[1+\frac{1+i}{1+z}+\frac{(1+i)^2}{(1+z)^2}+\ldots+\frac{(1+i)^{m-1}}{(1+z)^{m-1}}\right].$$

The quantity between square brackets is a geometrical progression with sum

$$\frac{\dfrac{(1+i)^{m-1}}{(1+z)^{m-1}}\times\dfrac{1+i}{1+z}-1}{\dfrac{1+i}{1+z}-1}=\frac{\dfrac{(1+i)^m}{(1+z)^m}-1}{\dfrac{1+i}{1+z}-1}=\frac{\dfrac{(1+i)^m-(1+z)^m}{(1+z)^m}}{\dfrac{(1+i)-(1+z)}{1+z}}=$$

$$=\frac{1}{(1+z)^{m-1}}\times\frac{(1+i)^m-(1+z)^m}{i-z}=\frac{1}{(1+z)^{m-1}}\times\frac{(1+z)^m-(1+i)^m}{z-i}.$$

Hence, the sum received is

$$a\frac{(1+i)^m-(1+z)^m}{i-z}.$$

The difference between credit and debit would then be

$$a\frac{(1+i)^m-(1+z)^m}{i-z}-a\frac{(1+i)^m}{i}.$$

This is not all, however. If the piece of land yields a rent of a after m years, it would be sold for $\frac{a}{i}$ after m years; if the rent is $a(1 + z)^m$ after the mth year, it would sell for $\frac{a(1+z)^m}{i}$. Consequently, the profit would be

$$a\frac{(1+i)^m-(1+z)^m}{i-z}-a\frac{(1+i)^m}{i}+a\frac{(1+z)^m}{i}=$$

$$a\left[\frac{(1+i)^m-(1+z)^m}{i-z}-\frac{(1+i)^m-(1+z)^m}{i}\right]$$

$$= a\left[\frac{i(1+i)^m - i(1+z)^m - i(1+i)^m + i(1+z)^m + z(1+i)^m - z(1+z)^m}{i(i-z)}\right]$$

$$= az\frac{(1+i)^m - (1+z)^m}{i(i-z)}.$$

[284] That is the profit that can be realized after m years. Its present value is

$$= \frac{az}{i(1+i)^m}\frac{(1+i)^m - (1+z)^m}{i-z},$$

and this is precisely the price supplement the speculator could pay, just like the holder of savings, and not make any profit.

10. Hence, when the rate of interest is equal to i, the normal price in numéraire of a piece of land whose present rent is a and whose rent increases by a factor z per year during m years is, according to formula [1] or [2],

$$A = \frac{a}{i} + \frac{az}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z}$$

$$= \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z},$$

and the normal price for one unit of rent is then

$$\frac{A}{a} = \frac{1}{i} + \frac{z}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z} \quad [3]$$

$$= \frac{1}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}, \quad [4]$$

at the beginning of the period of growth of rent. These same prices are evidently

$$A_m = \frac{a(1+z)^m}{i}$$

and

$$\frac{A_m}{a} = \frac{(1+z)^m}{i}$$

at the end of this period. In the next paragraph, we will study, in a special way, the variation, from period to period, of $\frac{A}{a}$ from the first value to the second.

When $z = i$, the equations [1] and [2] take the **[285]** undetermined form $\frac{0}{0}$. However, by using one of the two procedures that have served to establish these formulas, namely under the hypothesis of there being a holder of savings or the hypothesis of there being a speculator, we find straightforwardly

$$A = \frac{a}{i} + \frac{ma}{1+i} \qquad [5]$$

$$\frac{A}{a} = \frac{1}{i} + \frac{m}{1+i}. \qquad [6]$$

If we take $i = 0.04$ and $z = 0.01$ in the formulas [3] or [4], we find [in Table 8.3] the respective values of the ratio of A to a for a number of values of m.

11. When $m = 0$, equations [1] and [2] become, as it should be,

$$A = \frac{a}{i}.$$

[286] To see what A becomes when $m = \infty$, we put the equations [1] and [2] in the following form

$$A = \frac{a}{i} + \frac{a}{i} \times \frac{z\left[1 - \left(\frac{1+z}{1+i}\right)^m\right]}{i-z} = \frac{a}{i} \times \frac{i - z\left(\frac{1+z}{1+i}\right)^m}{i-z}.$$

Let us first suppose that z is positive and successively $> i$, $= i$, and $< i$. In the first case [$z > i$], equations [1] and [2] take the form

$$A = \frac{a}{i} + \frac{a}{i} \times \frac{z\left[\left(\frac{1+z}{1+i}\right)^m - 1\right]}{z-i} = \frac{a}{i} \times \frac{z\left(\frac{1+z}{1+i}\right)^m - i}{z-i}.$$

If m tends to infinity, $\left(\frac{1+z}{1+i}\right)^m$ and A tend to infinity.

Table 8.3

m	0	1	2	5	10	20	30	40	50	60	70	80	90	100
$\frac{A}{a}$	25	25.24	25.47	26.13	27.11	28.69	29.89	30.74	31.40	31.89	32.25	32.53	32.73	32.78

In the second case [$z = i$], we have

$$A = \frac{a}{i} + \frac{ma}{1+i}.$$

If m tends to infinity, $\frac{ma}{1+i}$ and A tend to infinity.

Hence: – *In the case of a perpetual annual growth of the value of the produce of land at a rate equal or superior to the rate of net income, the normal price of land is infinite.*

We reserve for later the question of the degree to which this hypothesis of a perpetual growth of rent equal or superior to that of the rate of interest is realistic.

In the third case [$z < i$], with equations [1] and [2] keeping the form we gave them above, $\left(\frac{1+z}{1+i}\right)^m$ tends to zero if m tends to infinity, and the normal price tends to

$$A = \frac{a}{i-z}, \qquad [7]$$

from which we derive

$$\frac{A}{a} = \frac{1}{i-z}, \qquad [8]$$

[287] hence

$$\frac{a}{A} = i - z.$$

Hence: – *In the case of a perpetual annual growth of the value of the produce of land at a rate inferior to the rate of net income, the normal price of land is equal to the ratio of its rent to the quantity given by the difference between the rate of net income and the rate of growth of rent.* In other words, *the rate of rent is equal to the difference between the rate of net income and the rate of growth of rent.*[xx]

It is worthwhile to deduce this remarkable formula directly. If an amount $a\frac{z}{i}$ is set apart from income a for capitalization, the amount $a\frac{i-z}{i}$ will remain. The following year, income will be $a(1 + z)$ instead of a. If an amount $a(1+z)\frac{z}{i}$ is set apart from that income, the amount $a(1+z)\frac{i-z}{i}$ will remain. Next year, income will be $a(1 + z)^2$ instead of $a(1 + z)$. If an amount of $a(1+z)^2\frac{z}{i}$ is set apart from this income, the amount $a(1+z)^2\frac{i-z}{i}$ will remain, etc. From this it is clear that a constant income a is equivalent to an income of $a\frac{i-z}{i}$ that grows at a rate z every year.[xxi] If the price of the first income is $\frac{a}{i}$, the price A of an income a whose amount is growing by a factor z from year to year will be given by the proportion[xxii]

$$\mathrm{A} : \frac{a}{i} :: a : a\frac{i-z}{i},$$

from which we derive

$$\mathrm{A} = \frac{\frac{a^2}{i}}{\frac{a(i-z)}{i}} = \frac{a}{i-z}.$$

[288] Let us now suppose that z is negative and at the same time > –1, putting aside the case in which rent disappears totally after one year and became negative.[xxiii] If m tends to infinity, $\left(\frac{1-z}{1+i}\right)^m$ tends to zero, and the normal price tends to

$$\mathrm{A} = \frac{a}{i+z},$$

from which we derive

$$\frac{\mathrm{A}}{a} = \frac{1}{i+z},$$

therefore,

$$\frac{a}{\mathrm{A}} = i + z.$$

Hence: – *In the case of a perpetual fall in the value of the produce of land, its normal price is equal to the ratio of its rent to the quantity given by the sum of the rate of net income and the rate of depreciation*. In other words, *the rate of rent is equal to the sum of the rate of net income and the rate of depreciation*.

This formula may be demonstrated directly, just like the preceding one, by showing that an income of $a\frac{i+z}{i}$ that decreases every year by a factor z, of which a sum $a\frac{z}{i}$ is set apart for capitalization, will, because of this very fact, be the same as a constant income a.[xxiv] From this it follows that, the price of the [constant] income being $\frac{a}{i}$, the price A of an income a that decreases at a rate z per year results from the proportion

$$\mathrm{A} : \frac{a}{i} :: a : a\frac{i+z}{i},$$

from which it follows that

$$\mathrm{A} = \frac{\frac{a^2}{i}}{\frac{a(i+z)}{i}} = \frac{a}{i+z}.$$

[289] As one sees, the formulas [7] and [8], regarding the case of a perpetual growth, blend in the sense that z has to be taken with the + sign or the – sign according to whether there is a decrease or an increase. In what follows, we will consider them always as one formula, relating to both cases.

III The price of land. Formula for the variation of the normal price during the period of variation of rent

12. When $z = 0$, the equations [1] and [2]

$$\mathrm{A} = \frac{a}{i} + \frac{az}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z} =$$

$$= \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}$$

take the form

$$\mathrm{A} = \frac{a}{i},$$

just as is the case when $m = 0$, as should be true.

Let us first suppose $z \gtrless 0$ and see what effect its sign has on the quantity that is added to $\frac{a}{i}$ in equation [1] to form A.

The quantities a and i are assumed to be positive, and therefore the factor

$$\frac{a}{i(1+i)^m}$$

is positive, and the quantity in question,

$$\frac{az}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z},$$

[290] will be positive according to whether the factor

$$z\frac{(1+i)^m - (1+z)^m}{i-z}$$

is positive or negative.

Now, this factor will always be positive if z is positive, because if

$$i \gtrless z,$$

we will always have

$$(1+i)^m \gtrless (1+z)^m.$$

If z is negative and > -1, this factor will become[xxv]

$$-z\frac{(1+i)^m - (1-z)^m}{i+z}$$

and will thus always be negative, because we always have

$$(1+i)^m > (1-z)^m.$$

In the special case in which $z = i$,

$$\text{A} = \frac{a}{i} + \frac{ma}{1+i},$$

and so the quantity $\frac{ma}{1+i}$ added to $\frac{a}{i}$ to form A will always be positive.

When $m = \infty$ and $z \geq i$, A becomes infinite. If $z < i$,

$$\text{A} = \frac{a}{i-z},$$

hence $\text{A} > \frac{a}{i}$. If $-1 < z < 0$,

[291] $$\text{A} = \frac{a}{i+z},$$

therefore, $A < \dfrac{a}{i}$.

Hence: – *The normal price of land is always superior or inferior to the ratio of its rent to the rate of net income, depending on whether the value of its produce is increasing or decreasing.*

13. In the current price of land, therefore, allowance has been made for the positive or negative growth of the value of landed capital relating to the positive or negative growth of the income of land during the period of increasing or decreasing value of its produce. Obviously, the amount of this allowance will not be equal to the sum of these increments themselves, and so, from the day rent begins to increase or decrease, the increased or decreased value of the land will be

$$\frac{a}{i} + \frac{az}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z}$$

$$= \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}$$

until the day when this increase or decrease ceases; the land will then be worth

$$\frac{a(1+z)^m}{i}.$$

Between those two dates, the price of land will always be increasing or decreasing. Therefore, it makes sense to establish this fact of increase or decrease mathematically, all the more so because, by establishing the reality of the variation, we will be studying its nature. So, let us assume that that n years elapsed from the time when the increase or decrease started, which means that rent is $a(1+z)^n$, and the remaining time of increase or decrease is $m - n$. Because of equation [1] or [2], the land will then be worth

[292] $$A_n = \frac{a(1+z)^n}{i} + \frac{a(1+z)^n z}{i(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z} = \qquad [9]$$

$$= \frac{a(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n} - z(1+z)^{m-n}}{i-z}. \qquad [10]$$

To deal with our concern, we must discuss this equation while letting n vary from 0 to m. Giving n values below 0 or greater than m will result in values for A_n which are irrelevant to the question under consideration now.

In order to obtain the most possible clarity in this discussion, we replace the equation above by the following one:

$$\frac{A_n}{a} = \frac{(1+z)^n}{i} + \frac{(1+z)^n z}{i(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z} \qquad [11]$$

$$= \frac{(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n} - z(1+z)^{m-n}}{i-z}. \qquad [12]$$

$\frac{A_n}{a}$ will be considered as an exponential function of n, with i, z and m as constant magnitudes. Then we can represent the equation by a curve plotted in a rectangular coordinates system whose abscissae correspond to the *years elapsed* since the beginning of the increase in the value of the produce of land, and the ordinates to the *price (in capital goods for one unit of initial rent)* of the land at the end of each year. In fact, the curve is discontinuous because the increase or decrease in rent is calculated from year to year and the price of the land determined accordingly. Instead of this discontinuous curve, we present in our Figure 8.1 a continuous curve passing through the points of annual variation.

If $z = i$, we have, by virtue of the equations [5] and [6],

$$A_n = \frac{a(1+i)^n}{i} + (m-n)a(1+i)^{n-1} \qquad [13]$$

$$\frac{A_n}{a} = \frac{(1+i)^n}{i} + (m-n)(1+i)^{n-1}. \qquad [14]$$

[293] If $m = \infty$, we have, by virtue of the equations [7] and [8],

$$A_n = \frac{a(1+z)^n}{i-z} \qquad [15]$$

$$\frac{A_n}{a} = \frac{(1+z)^n}{i-z}. \qquad [16]$$

14. Using formula [12], we have the price $\frac{A_n}{a}$ after n years of increase given by the equation

$$\frac{A_n}{a} = \frac{(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n} - z(1+z)^{m-n}}{i-z},$$

and the price $\frac{A_{n+1}}{a}$ after $n + 1$ years of increase given by the equation

$$\frac{A_{n+1}}{a} = \frac{(1+z)^{n+1}}{i(1+i)^{m-(n+1)}} \times \frac{i(1+i)^{m-(n+1)} - z(1+z)^{m-(n+1)}}{i-z}$$

$$= \frac{(1+i)(1+z)(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-(n+1)} - z(1+z)^{m-(n+1)}}{i-z}$$

$$= \frac{(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n}(1+z) - z(1+z)^{m-n}(1+i)}{i-z}.$$

Forming the first difference $\Delta \frac{A_n}{a} = \frac{A_{n+1}}{a} - \frac{A_n}{a}$, we then obtain

$$\Delta \frac{A_n}{a} = \frac{(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n}(1+z) - z(1+z)^{m-n}(1+i)}{i-z} - \frac{(1+z)^n}{i(1+i)^{m-n}} \cdot$$

$$\times \frac{i(1+i)^{m-n} - z(1+z)^{m-n}}{i-z} =$$

$$= \frac{(1+z)^n}{i(1+i)^{m-n}} \times \frac{i(1+i)^{m-n}(1+z-1) - z(1+z)^{m-n}(1+i-1)}{i-z} = \frac{(1+z)^n}{i(1+i)^{m-n}} \cdot$$

$$\times \frac{i(1+i)^{m-n} z - z(1+z)^{m-n} i}{i-z} = \frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z}$$

[294] If z is positive, this difference will always be positive as long as $0 < n < m$, because according to whether $i \gtrless 0$, we will have, at the same time, $n(1+i)^{m-n} \gtrless (1+z)^{m-n}$.

If z is negative, this difference becomes [again, keeping z between 0 and 1, but replacing it by $-z$]

$$\Delta \frac{A_n}{a} = \frac{-z(1-z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1-z)^{m-n}}{i+z},$$

which will always be negative as long as $0 < n < m$, because, as always, $(1+i)^{m-n} > (1+z)^{m-n}$.

In the case in which $z = i$, we have, according to formula [14],

$$\frac{A_n}{a} = \frac{(1+i)^n}{i} + (m-n)(1+i)^{n-1}$$

$$\frac{A_{n+1}}{a} = \frac{(1+i)^{n+1}}{i} + \left[m-(n+1)\right](1+i)^{n-1}$$

$$\Delta \frac{A_n}{a} = \frac{(1+i)^{n+1} - (1+i)^n}{i} + \left[m-(n+1)\right](1+i)^n - (m-n)(1+i)^{n-1}$$

$$= \frac{(1+i)^n(1+i-1)}{i} + (m-n)(1+i)^{n-1}(1+i-1) - (1+i)^n = i(m-n)(1+i)^{n-1}.$$

This difference is always positive.

If $m = \infty$, and $0 < z < i$ or $-1 < z < 0$, we have, according to formula [16],

$$\frac{A_n}{a} = \frac{(1+z)^n}{i-z},$$

[295] where z is taken positive or negative, according to the cases above.[xxvi] Hence,

$$\frac{A_{n+1}}{a} = \frac{(1+z)^{n+1}}{i-z}$$

$$\Delta\frac{A_n}{a} = \frac{(1+z)^{n+1} - (1+z)^n}{i-z} = \frac{(1+z)^n(1+z-1)}{i-z} = \frac{z(1+z)^n}{i-z}.$$

This difference is positive or negative according to whether z is positive or negative.

Hence: – *The price of land is growing or declining from year to year in a period of variation of the value of the produce of land according to whether this value is increasing or decreasing.*

Comparing the equation

$$\Delta\frac{A_n}{a} = \frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z}$$

with equation [11],

$$\frac{A_n}{a} = \frac{(1+z)^n}{i} + \frac{z(1+z)^n}{i(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z},$$

or

$$\frac{A_n}{a} i - (1+z)^n = \frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i-z},$$

it can be seen that

$$\Delta\frac{A_n}{a} = \frac{A_n}{a} i - (1+z)^n.$$

As can easily be deduced, this formula is general, and is also valid when $z = i$ and/or $m = \infty$.

Hence: – *The annual variation of the price of land is equal to the difference between the interest on the amount of landed capital, at the current rate of net income, and rent*. This circumstance is reasonable. The landowner whose land is increasing in value must find in this increase the equivalent of **[296]** what he loses on landed income; and the landowner whose land decreases in value must find the equivalent of the decrease in what he gains on landed income.

The first difference $\Delta\frac{A_n}{a}$ being zero when $n = m$, we have

$$\frac{A_m}{a}i-(1+z)^m=0,$$

hence

$$A_m=\frac{a(1+z)^m}{i}$$

as it should be, because, when the variation in the value of the produce of land ceases, the price of land again becomes a constant quantity equal to the ratio of rent to the rate of net income. The straight line

$$\frac{A_n}{a}=\frac{(1+z)^m}{i}$$

takes the place of

$$\frac{A_n}{a}=\frac{(1+z)^n}{i}+\frac{(1+z)^n z}{i(1+i)^{m-n}}\times\frac{(1+i)^{m-n}-(1+z)^{m-n}}{i-z}.$$

15. As we have seen, the allowance made for the positive or negative growth of the value of landed capital relating to the positive or negative growth of the income of land does not suppress completely the increase or decrease in the value of land during the period of increase in rent. At the beginning of the increase or decrease, only a part of the total variation will be achieved by the allowance; the rest will be generated from year to year. This is illustrated in Figure 8.1.[xxvii]

The three curves AM, A′M′, and A″M″ correspond respectively with the cases of an increase $z = 0.05$, an increase $z = 0.01$ and a decrease $z = 0.01$, each **[297]** during 10 years, while the rate of net interest is $i = 0.04$.

The first one therefore has the equation

$$\frac{A_n}{a}=\frac{1.05^n}{0.04}+\frac{0.05\times1.05^n}{0.04\times1.04^{10-n}}\times\frac{1.04^{10-n}-1.05^{10-n}}{0.04-0.05}.$$

It starts from an ordinate OA = 37.50, when $n = 0$, and arrives at an ordinate 10M = 40.72 when $n = 10$. The effect of the allowance for the growth of landed capital is that the curve AM takes the place of IM.[xxviii]

The second curve has the equation

$$\frac{A_n}{a}=\frac{1.01^n}{0.04}+\frac{0.01\times1.01^n}{0.04\times1.04^{10-n}}\times\frac{1.04^{10-n}-1.01^{10-n}}{0.04-0.01}.$$

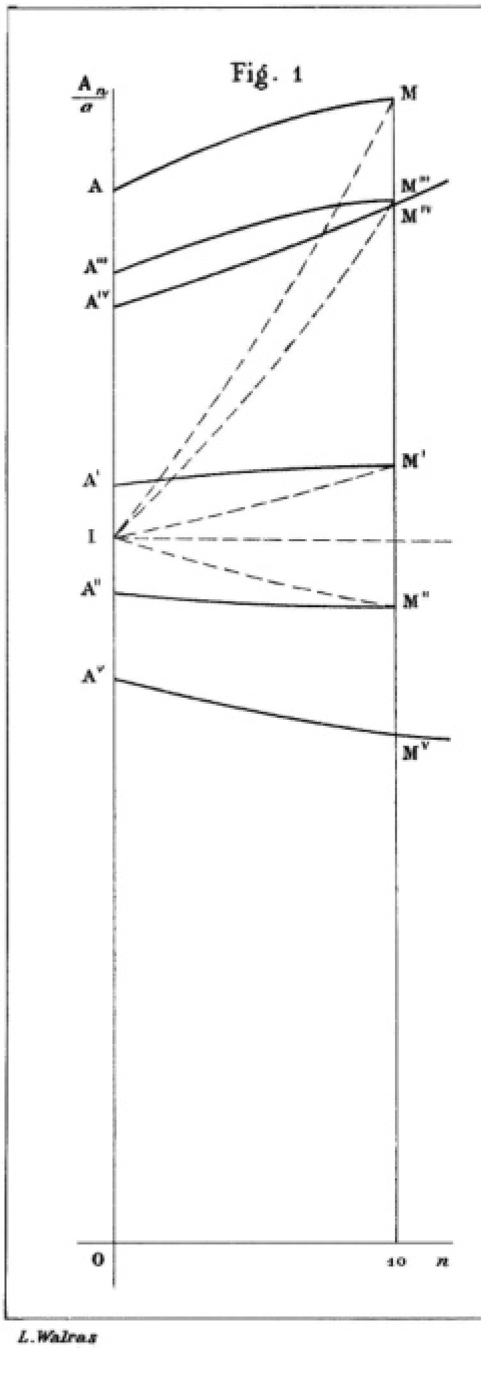

Figure 8.1

It starts from an ordinate OA′ = 27.11, when $n = 0$, and arrives at an ordinate 10M′ = 27.61 when $n = 10$. The effect of the allowance for the growth of landed capital is that the curve A′M′ has come in the place of IM′.

The third curve has the equation

$$\frac{A_n}{a} = \frac{0.99^n}{0.04} - \frac{0.01 \times 0.99^n}{0.04 \times 1.04^{10-n}} \times \frac{1.04^{10-n} - 0.99^{10-n}}{0.04 + 0.01}.$$

It starts from an ordinate OA″ = 23.05, when $n = 0$, and arrives at an ordinate 10M″ = 22.61 when $n = 10$. The effect of the allowance for the growth of landed capital is that the curve AM″ takes the place of IM″.

The curve A‴M‴ corresponds with the case of a growth of $z = i = 0.04$ during 10 years. Its equation is therefore

$$\frac{A_n}{a} = \frac{1.04^n}{0.04} + (10 - n)1.04^{n-1}.$$

It starts from an ordinate OA‴ = 34.61, when $n = 0$, and arrives at an ordinate 10M‴ = 37 when $n = 10$. The effect of the allowance for the growth of landed capital is that the curve AM‴ takes the place of IM‴.

The two curves $A^{iv}M^{iv}$ and $A^{v}M^{v}$ correspond, respectively, with the two cases of a perpetual increase $z = 0.01$ and a perpetual decrease $z = 0.01$; the rate of interest is again $i = 0.04$. **[298]** The first has, therefore, the equation

$$\frac{A_n}{a} = \frac{1.01^n}{0.04 - 0.01}.$$

It starts from an ordinate $OA^{iv} = 33.33$, when $n = 0$, and arrives at an ordinate $10M^{iv} = 36.82$ when $n = 10$, and goes on rising indefinitely.

The second has the equation

$$\frac{A_n}{a} = \frac{0.99^n}{0.04 + 0.01}.$$

It starts from an ordinate $OA^{v} = 20$, when $n = 0$, and arrives at an ordinate $10M^{v}$ = 18.08 when $n = 10$, and goes on falling.

16. The equation for the first difference $\Delta\frac{A_n}{a}$ is

$$\Delta\frac{A_n}{a} = \frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n} - (1+z)^{m-n}}{i - z}.$$

For the first difference $\Delta\frac{A_{n+1}}{a}$, the equation is

$$\Delta\frac{A_{n+1}}{a}=\frac{z(1+z)^{n+1}}{(1+i)^{m-(n+1)}}\times\frac{(1+i)^{m-(n+1)}-(1+z)^{m-(n+1)}}{i-z}$$

$$=\frac{z(1+i)(1+z)(1+z)^{n}}{(1+i)^{m-n}}\times\frac{(1+i)^{m-(n+1)}-(1+z)^{m-(n+1)}}{i-z}$$

$$=\frac{z(1+z)^{n}}{(1+i)^{m-n}}\times\frac{(1+i)^{m-n}(1+z)-(1+z)^{m-n}(1+i)}{i-z}.$$

Forming the difference of the second order $\Delta^2\frac{A_n}{a}=\Delta\frac{A_{n+1}}{a}-\Delta\frac{A_n}{a}$, we get successively

[299] $$\Delta^2\frac{A_n}{a}=\frac{z(1+z)^{n}}{(1+i)^{m-n}}\times\frac{(1+i)^{m-n}(1+z)-(1+z)^{m-n}(1+i)}{i-z}-\frac{z(1+z)^{n}}{(1+i)^{m-n}}$$

$$\times\frac{(1+i)^{m-n}-(1+z)^{m-n}}{i-z}$$

$$=\frac{z(1+z)^{n}}{(1+i)^{m-n}}\times\frac{(1+i)^{m-n}(1+z-1)-(1+z)^{m-n}(1+i-1)}{i-z}$$

$$=\frac{z(1+z)^{n}}{(1+i)^{m-n}}\times\frac{z(1+i)^{m-n}-i(1+z)^{m-n}}{i-z}\ .$$

If z is positive and $> i$, this difference will be positive according to whether we have

$$i(1+z)^{m-n}\gtrless z(1+i)^{m-n},$$

or

$$\frac{(1+z)^{m-n}}{(1+i)^{m-n}}\gtrless\frac{z}{i}$$

$$m-n\gtrless\frac{\log\frac{z}{i}}{\log\frac{1+z}{1+i}}.$$

If z is positive and $< i$, this difference will be positive according to whether we have

$$z(1+i)^{m-n}\gtrless i(1+z)^{m-n},$$

or

$$m-n \gtrless \frac{\log \frac{i}{z}}{\log \frac{1+i}{1+z}},$$

which amounts to the same thing.

The second-order difference in question is zero for a value k of n such that

[300] $$m-k = \frac{\log \frac{i}{z}}{\log \frac{1+i}{1+z}}, \qquad [17]$$

which is always positive.

In the special case in which $z = i$,

$$\Delta \frac{A_n}{a} = i(m-n)(1+i)^{n-1}$$

$$\Delta \frac{A_{n+1}}{a} = i\left[m-(n-1)\right](1+i)^n$$

$$\Delta^2 \frac{A_n}{a} = i\left[m-(n+1)\right](1+i)^n - i(m-n)(1+i)^{n-1}$$

$$= i(m-n)(1+i)^{n-1}(i+1) - i(1+n)^n - i(m-n)(1+i)^{n-1}$$

$$= i(m-n)(1+i)^{n-1}(1=i-1) - i(1+i)^n = i^2(m-n)(1+i)^{n-1} - i(1+i)^n.$$

This difference is positive or negative according to whether

$$i^2(m-n)(1+i)^{n-1} \gtrless i(1+i)^n$$

namely

$$i(m-n) \gtrless 1+i,$$

$$m-n \gtrless \frac{i+1}{i},$$

and zero when

$$m-k = \frac{i+1}{i}, \qquad [18]$$

which is always positive.

Hence: – *In case of temporary growth of rent, the annual augmentations of the price of land are always decreasing at the end of the period of growth, even if they are initially increasing.*

[301] If z is negative, the [second-order] difference becomes

$$\frac{-z(1-z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n}-(1-z)^{m-n}}{i+z}.$$

Now, this difference is the difference of two negative quantities. The fact that it is positive therefore indicates that, apart from their sign, of the two quantities in consideration, $\Delta\frac{\mathrm{A}_{n+1}}{a}$ and $\Delta\frac{\mathrm{A}_n}{a}$, the first is less than the second.[xxix]

Hence: – *In the case of a temporary diminution, the annual fall in the price of land is always decreasing during the period of the diminution.*

If $m=\infty$, and $0<z<i$ or $-1<z<0$,

$$\Delta\frac{\mathrm{A}_n}{a}=\frac{z(1+z)^n}{i-z}.$$

Hence

$$\Delta\frac{\mathrm{A}_{n+1}}{a}=\frac{z(1+z)^{n+1}}{i-z},$$

$$\Delta^2\frac{\mathrm{A}_n}{a}=\frac{z(1+z)^{n+1}-z(1+z)^n}{i-z}=\frac{z(1+z)^{n+1}(1=z-1)}{i-z}=\frac{z^2(1+z)^n}{i-z},$$

which is always positive.

Hence: – *In the case of perpetual growth, the annual increases of the price of land are always increasing. In the case of a perpetual decrease, the annual decline in the price of land is always decreasing.*

Comparing the equation

$$\Delta^2\frac{\mathrm{A}_n}{a}=\frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{z(1+i)^{m-n}-i(1+z)^{m-n}}{i-z}$$

with the equation

$$\Delta\frac{\mathrm{A}_n}{a}=\frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n}-(1+z)^{m-n}}{i-z},$$

[302] in other words, with

$$\Delta\frac{\mathrm{A}_n}{a}i-z(1+z)^n=\frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{(1+i)^{m-n}-(1+z)^{m-n}}{i-z}i-z(1+z)^n$$

$$= z(1+z)^n\left[\frac{i(1+i)^{m-n} - i(1+z)^{m-n}}{(1+i)^{m-n}(i-z)} - 1\right]$$

$$= z(1+z)^n\left[\frac{i(1+i)^{m-n} - i(1+z)^{m-n} - i(1+i)^{m-n} + z(1+i)^{m-n}}{(1+i)^{m-n}(i-z)}\right]$$

$$= \frac{z(1+z)^n}{(1+i)^{m-n}} \times \frac{z(1+i)^{m-n} - i(1+z)^{m-n}}{i-z},$$

it can be concluded that

$$\Delta^2\frac{\mathrm{A}_n}{a} = \Delta\frac{\mathrm{A}_n}{a}i - z(1+z)^n.$$

That situation is reasonable: – *The increase or decrease in the annual variation of the price of land is equal to the difference of the interest on this variation at the current rate of net income, and the increase or decrease in rent.*

17. If we express these last results geometrically, we obtain from them the following features of the curves' forms.

The curves AM, A′M′, and A‴M‴ are concave to the horizontal axis, their values of k being $10 - \dfrac{\log\dfrac{0.05}{0.04}}{\log\dfrac{1.05}{1.04}} = -13.31$ **[303]**, $10 - \dfrac{\log\dfrac{0.01}{0.04}}{\log\dfrac{1.01}{1.04}} = -37.36$ and $10 - \dfrac{1.04}{0.04} = -16$, respectively. The points M, M′, and M‴ all correspond to a maximum.

The curve A″M″ is always convex. Point M″ is a minimum. The curves A$^{\text{iv}}$M$^{\text{iv}}$ and A$^{\text{v}}$M$^{\text{v}}$ are always convex.

IV Buying up of the land by the State. Formula for repayment of the purchase price by means of the rent

18. In our modern societies – which are progressive societies from the point of view of economics; that is to say, societies in which capital is growing and the population is increasing, and in which the value of the produce of land is increasing – the price of land is superior to the ratio of rent to the rate of net income and is also always increasing. Consequently this price is not only the price of present rent, but also of future rent. James Mill was therefore wrong to deny, and Gossen was right to grant to the landowners a right of property over the growth of rent, for which they paid when buying it; the only thing that could be contested would be their right on a further, new growth of rent, which would be added to the first. That is a very important point, settled by our preceding analysis. The farmers have often been criticized for buying their land by means of capital borrowed at a rate of interest superior to the rate of rent. The foregoing considerations make clear that such transactions are not necessarily bad, and may even be good, if carried out under certain conditions and within certain restrictions, thanks to the phenomenon of the growth **[304]** of the value of the produce of land. It should be acknowledged that, in not a few cases, the farmers know more about economics than the economists or the politicians. While economists are discussing the question of the incidence of the land tax, the farmers obtain their valuations of a piece of land for taxation purposes, and purely and simply deduct from the price the share of the landed capital pertaining to the land tax. And, likewise, when economists discuss the question of whether or not land services have any value, the farmers buy the land not only having in mind its present value but also the future value of its services. This explains the relatively high price of land, which, incidentally, provides an excellent experimental confirmation of our theory. There is certainly reason to wonder if the State could not carry out some land-buying operation that would satisfy the individuals; Gossen believes this, but to criticize his theory it is appropriate first to give the theory a general, rigorous analytical form.

Let A be the price of a piece of land and the amount borrowed for its purchase. Let a be the rent received at the end of the first year, i the rate of net interest, and z the rate of annual growth of the rent.

An individual, having borrowed an amount A at a rate i, who adds the amounts of interest to be capitalized with the main sum will, after n years have a debt of

$$\mathrm{A}(1+i)^n.$$

But, in the same period, this individual, having bought a piece of land yielding a rent that is initially a and grows annually at a rate z, will receive n amounts of rent a, $a(1+z)$, $a(1+z)^2, \ldots, a(1+z)^{n-1}$. If he places these rents at compound interest, he will have a credit of

$$a(1+z)^{n-1} + a(1+z)^{n-2}(1+i) + a(1+z)^{n-3}(1+i)^2 + \mathrm{K} + a(1+i)^{n-1} =$$

$$\textbf{[305]} = a(1+z)^{n-1}\left[1 + \frac{1+i}{1+z} + \frac{(1+i)^2}{(1+z)^2} + \mathrm{K} + \frac{(1+i)^{n-1}}{(1+z)^{n-1}}\right].$$

We have seen (see [9]) that the quantity between the square brackets is a geometrical progression with sum

$$\frac{1}{(1+z)^{n-1}} \times \frac{(1+i)^n - (1+z)^n}{i-z},$$

and that therefore the amount above is equal to

$$a\frac{(1+i)^n - (1+z)^n}{i-z}.$$

Consequently, the amount remaining after n years is

$$\mathrm{A}_n = \mathrm{A}(1+i)^n - a\frac{(1+i)^n-(1+z)^n}{i-z}. \qquad [19]$$

When $z = i$, equation [19] takes the indeterminate form $\frac{0}{0}$; but one then finds directly, by considering the progression the sum of which forms the factor with which a is multiplied in this equation,

$$\mathrm{A}_n = \mathrm{A}(1+i)^n - an(1+i)^{n-1}. \qquad [20]$$

Formula [19] enables us to calculate directly any value of A_n in Gossen's two tables above. Doing this for the second one, for 10, 20, …, 80 years, hence for A = 100,000, a = 3,333.33, i = 0.04, z = 0.01, we find the amounts presented in Table 8.4.

Comparing these values with those in Gossen's second table [Table 8.2], we observe some differences. They are due to Gossen's way of calculating and rounding off, resulting in deviations becoming increasingly important [with increasing values of n]. However, that is of interest only from the practical point of view. From the theoretical point of view, which is ours, having a general and rigorous formula has the great advantage of enabling us to discuss and study the question of the buying up of the land by the State from every angle. This is what we are going to do in this and the following subsections.

19. In order to make such a discussion as clear as possible, we must regard A, a, i, and z in formula [19],

$$\mathrm{A}_n = \mathrm{A}(1+i)^n - a\frac{(1+i)^n-(1+z)^n}{i-z},$$

Table 8.4

	n	A_n
	0	100,000.00
	1	100,666.66
	2	101,326.66
	5	103,261.66
	10	106,288.33
	20	111,232.00
	30	113,723.33
[306]	40	112,085.33
	50	103,775.00
	60	84,970.00
	70	49,960.00
	80	–9,786.00

as constants, and A_n as an exponential function of n. We can then represent the equation as a curve in a system of rectangular coordinates, the horizontal one corresponding with the number of *years elapsed*, and the vertical one with the *amount remaining due* at the end of each year. In reality, this curve is discontinuous, because the sums that are owed are settled at the end of each year, and interest is calculated from year to year. In our figure, we substitute for this discontinuous curve a continuous one passing through the points of annual variation.

Hence, the equation

$$A_n = 100{,}000 \times 1.04^n - 4000 \times \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

corresponding with Gossen's first table [Table 8.1] is represented by the curve AN of Figure 8.2, and the curve

$$A_n = 100{,}000 \times 1.04^n - \frac{10{,}000}{3} \times \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

[307] corresponding with the second table [Table 8.2], by the curve AN′ [of Figure 8.2].

In the first case, in which the initial rent suffices for the payment of interest, the borrowed sum outstanding will decrease by paying it down from the second year onwards. The curve, horizontal until the end of the first year, is decreasing from that time forward. In the second case, the initial rent will not suffice for the payment of interest, and the borrowed sum will increase because of new loans, before decreasing by paying it down. The curve is then successively rising and falling. In both cases, it will intersect the axis of years elapsed, namely, at the points N and N′. It should be investigated under what conditions this takes place. More generally, the following problem presents itself: – *Investigate under what conditions land may be bought with borrowed capital that will be repaid by means of the rent*. Below, we will first discuss formula [19] from the point of view of circumstances allowing A_n to become zero, and then from the point of view of circumstances that cause A_n immediately to fall, or successively to rise and fall. This will permit us to determine the above mentioned conditions more rigorously and precisely than Gossen did.

20. The point where the curve intersects the axis of the years elapsed, corresponding with the point in time at which the loan is completely paid off after N years, is given by the equation

$$A(1+i)^N - a\frac{(1+i)^N - (1+z)^N}{i - z} = 0$$

$$A(1+i)^N = a\frac{(1+i)^N - (1+z)^N}{i - z},$$

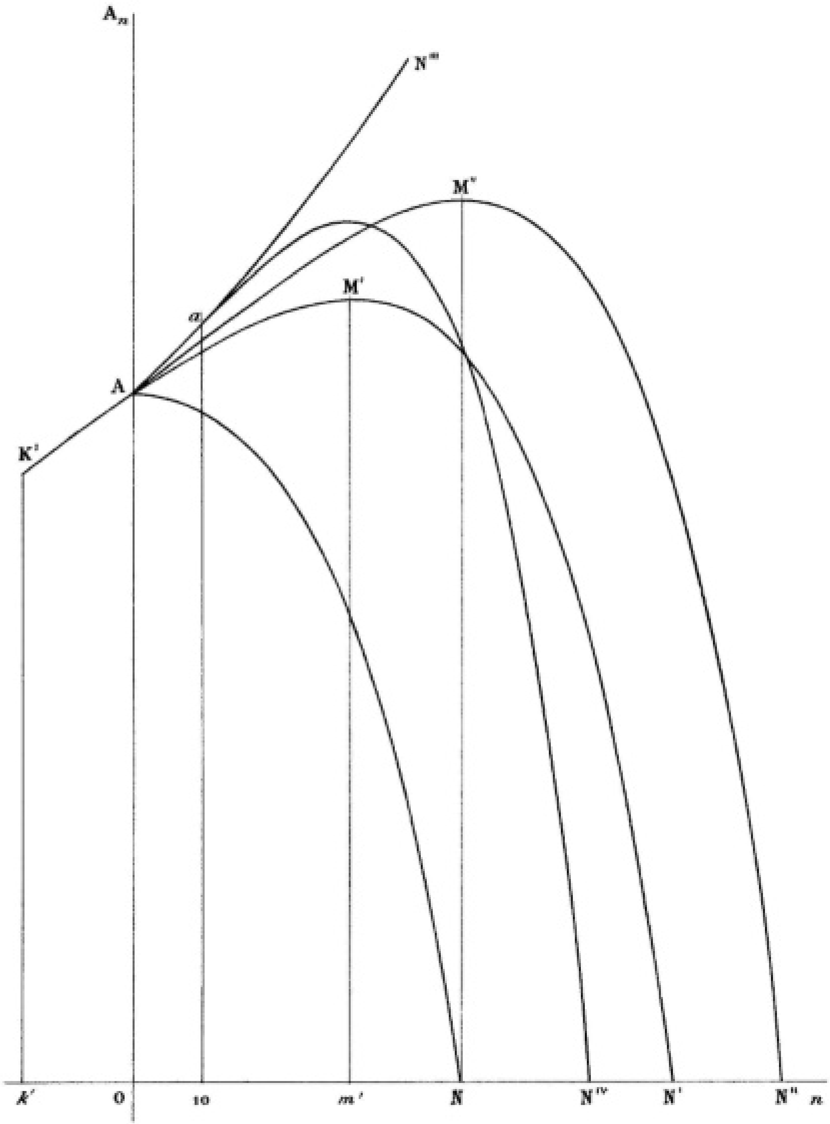

Figure 8.2

[308] $$A = a\frac{1-\left(\frac{1+z}{1+i}\right)^N}{i-z},$$

$$\frac{A}{a} = \frac{1-\left(\frac{1+z}{1+i}\right)^N}{i-z},$$

$$\frac{A}{a}(i-z) = 1-\left(\frac{1+z}{1+i}\right)^N,$$

$$\left(\frac{1+z}{1+i}\right)^N = 1-\frac{A}{a}(i-z),$$

$$N\log\frac{1+z}{1+i} = \log\left[1-\frac{A}{a}(i-z)\right],$$

$$N = \frac{\log\left[1-\frac{A}{a}(i-z)\right]}{\log\frac{1+z}{1+i}}. \qquad [21]$$

In the special case in which $z = i$, this value takes the undetermined form $\frac{0}{0}$. But in this case, the value of N for which $A_n = 0$ follows from the equation

$$A(1+i)^N - aN(1+i)^{N-1} = 0,$$

from which we obtain successively

$$A(1+i)^N = aN(1+i)^{N-1},$$

$$A(1+i) = aN,$$

$$N = \frac{A}{a}(1+i). \qquad [22]$$

21. There are three cases to be studied, in accordance with whether $z > i$, $z = i$, or $z < i$. In the first case, the quantity between square brackets in the numerator of [21] becomes $1+\frac{A}{a}(z-i)$. **[309]** This quantity is positive and > 1. Its logarithm is real and positive. The quantity $\frac{1+z}{1+i}$ is also positive and > 1, and its logarithm is therefore positive. Consequently, the value of N is always real and positive when A and a are real and positive.

In the case in which $z = i$, the second member of [22], $\frac{A}{a}(1+i)$, is always real and positive when A and a are real and positive.

Hence: – *In an economy in which the rate of growth of rent is equal or superior to the rate of net interest, at whatever price land may be bought, the purchase price can be repaid by means of the rent.*

It seems that, in these two cases, there is no restriction on the possibility of buying land with borrowed capital and repaying the loans by means of the rent. The formula does not take account of the duration of the growth of rent; or, saying it more precisely, it supposes the growth is indefinite. It is therefore indispensable to add that *the duration of the growth of rent must at least be equal to the number of years necessary for the repayment.*

In the case in which $z < i$, we must have, in order that N be real,

$$1-\frac{A}{a}(i-z)>0,$$

which means

$$1>\frac{A}{a}(i-z),$$

or

$$\frac{a}{A}>i-z.$$

In this case $\log\frac{1+z}{1+i}$ is negative, so **[310]** $\log\left[1-\frac{A}{a}(i-z)\right]$ must be negative as well in order that N be positive. This means

$$1-\frac{A}{a}(i-z)<1,$$

or

$$-\frac{A}{a}(i-z)<0,$$

which is always the case when $i > z$. Thus we see that if, in the case under consideration, N is real, it is at the same time positive, and that therefore: – *In a society in which the rate of net interest exceeds the rate of growth of rent, land cannot be bought and the purchase price repaid by means of the rent, except under the condition that the initial rate of rent is superior to the difference between the two other rates*. This specific condition is to be added to the general one, which always has to be fulfilled, that the duration of the growth of rent must be at least equal to the number of years necessary for repayment. We shall see below that these conditions are not fulfilled as a matter of course, contrary to Gossen's belief.

A confirmation of the preceding formulas is found by assuming that there is no growth of rent at all; i.e., that $z = 0$. Equation [19] then becomes

$$A_n = A(1+i)^n - a\frac{(1+i)^n - 1}{i},$$

and equation [21] becomes

$$N = \frac{\log\left(1 - \dfrac{Ai}{a}\right)}{\log\dfrac{1}{1+i}} = \frac{\log a - \log(a - Ai)}{\log(1+i)},$$

which are the normal formulas for repaying an amount A borrowed at an interest rate i, for which an annuity a is paid. In order that N be real, we must have

$$a > Ai.$$

[311] Indeed, for repaying the purchase price of a piece of land by means of its rent, the constant amount of rent should be superior to the amount of interest on the capital borrowed for the purchase, or, in other words, the rate of rent should be superior to the rate of interest. The condition for N to be positive then becomes

$$-\frac{Ai}{a} < 0,$$

which is always the case if A and a are positive quantities.[xxx]

Finally, z may be negative. In this case, the two equations [19] and [21] become

$$A_n = A(1+i)^n - a\frac{(1+i)^n - (1-z)^n}{i+z}$$

$$N = \frac{\log\left[1 - \dfrac{A}{a}(i+z)\right]}{\log\dfrac{1-z}{1+i}},$$

and inspection of these formulas makes sufficiently clear under which condition repayment is possible. For N to be real, we must have[xxxi]

$$1 - \frac{A}{a}(i+z) > 0,$$

or

$$1 > \frac{A}{a}(i+z),$$

hence

$$\frac{a}{A} > i+z.$$

When the quantity **[312]** $\log\frac{1-z}{1+i}$ is negative, *N* will be positive if the quantity $\log\left[1-\frac{A}{a}(i+z)\right]$ is also negative; that is to say, we must have

$$1-\frac{A}{a}(i+z) < 1,$$

i.e.,

$$-\frac{A}{a}(i+z) < 0,$$

which is always the case when A and *a* are positive. Hence: – *In a society in which rent decreases and*[xxxii] *does not grow, land can only be bought and the purchase price repaid by means of the rent if the rate of the initial rent is superior to sum of the rate of net interest and the rate of decrease in rent.*

V Buying up of the land by the State. Variation of the sum owed during the period of repayment

22. After the question of whether repayment by means of the rent is possible, i.e., whether the curve of the remaining outstanding sum intersects the horizontal axis, another, likewise important question arises, namely of whether the amount borrowed will increase because of new loans before decreasing. To deal with this question as completely as possible, we go back to equation [19]

$$A_n = A(1+i)^n - a\frac{(1+i)^n-(1+z)^n}{i-z}.$$

If we fill in successively $n = 0, 1, 2, 3, 4$, it will become successively

$$A_0 = A,$$

[313] $A_1 = A(1+i) - a,$

$$A_2 = A(1+2i+i^2) - a\frac{1+2i+i^2-1-2z-z^2}{i-z} = A(1+2i+i^2) - a\left[2+(i+z)\right],$$

$$A_3 = A(1+3i+3i^2+i^3) - a\frac{1+3i+3i^2+i^3-1-3z-3z^2-z^3}{i-z} =$$

$$= A(1+3i+3i^2+i^3) - a\left[3+3(i+z)+(i^2+iz+z^2)\right],$$

$$A_4 = A(1+4i+6i^2+4i^3+i^4) - a\frac{1+4i+6i^2+4i^3+i^4-1-4z-6z^2-4z^3-z^4}{i-z}$$

$$= A(1+4i+6i^2+4i^3) - a\left[4+6(i+z)+4(i^2+iz+z^2)+(i^3+i^2z+iz^2+i^3)\right].$$

For the sake of simplicity, we put

$$a = i + z,$$

$$\beta = i^2 + iz + z^2 = i\alpha + z^2,$$

$$\gamma = i^3 + i^2z + iz^2 + z^3 = i\beta + z^3,$$

$$\delta = i^4 + i^3z + i^2z^2 + iz^3 + i^4 = i\gamma + z^4.$$

We then get $A_0 = A$,

$$A_1 = A(1+i) - a,$$

$$A_2 = A(1+2i+i^2) - a(2+\alpha),$$

$$A_3 = A(1+3i+3i^2+i^3) - a(3+3\alpha+\beta),$$

$$A_4 = A(1+4i+6i^2+4i^3+i^4) - a(4+6\alpha+4\beta+\gamma).$$

If reference is made to the expansion rule of Newton's binomial theorem, the rule of the expansion of our formula becomes evident. It is clear that, if we put

$$\kappa = i^{n-1} + i^{n-2}z + i^{n-3}z^2 + \mathrm{K} + z^{n-1},$$

$$\lambda = i^n + i^{n-1}z + i^{n-2}z^2 + \mathrm{K} + z^n = i\kappa + z^n,$$

[314] $\eta = i^{n+1} + i^n z + i^{n-1}z^2 + \mathrm{K} + z^{n+1} = i\lambda + z^{n+1},$

$$\nu = i^{n+2} + i^{n+1}z + i^n z^2 + \mathrm{K} + z^{n+2} = i\eta + z^{n+2},$$

we obtain

$$A_n = A\left[1+\frac{n}{1}i+\frac{n(n-1)}{1\cdot 2}i^2+\frac{n(n-1)(n-2)}{1\cdot 2\cdot 3}i^3+\dots+i^n\right]$$

$$-a\left[\frac{n}{1}+\frac{n(n-1)}{1\cdot 2}\alpha+\frac{n(n-1)(n-2)}{1\cdot 2\cdot 3}\beta+\dots+\kappa\right],$$

$$A_{n+1} = A\left[1+\frac{n+1}{1}i+\frac{(n+1)n}{1\cdot 2}i^2+\frac{(n+1)n(n-1)}{1\cdot 2\cdot 3}i^3+\dots+i^{n+1}\right]$$

$$-a\left[\frac{n+1}{1}+\frac{(n+1)n}{1\cdot 2}\alpha+\frac{(n+1)n(n-1)}{1\cdot 2\cdot 3}\beta+\dots+\lambda\right],$$

$$A_{n+2} = A\left[1+\frac{n+2}{1}i+\frac{(n+2)(n+1)}{1\cdot 2}i^2+\frac{(n+2)(n+1)n}{1\cdot 2\cdot 3}i^3+\dots+i^{n+2}\right]$$

$$-a\left[\frac{n+2}{1}+\frac{(n+2)(n+1)}{1\cdot 2}\alpha+\frac{(n+2)(n+1)n)}{1\cdot 2\cdot 3}\beta+\dots+\eta\right],$$

$$A_{n+3} = A\left[1+\frac{n+3}{1}i+\frac{(n+3)(n+2)}{1\cdot 2}i^2+\frac{(n+3)(n+2)(n+1)}{1\cdot 2\cdot 3}i^3+\dots+i^{n+3}\right]$$

$$-a\left[\frac{n+3}{1}+\frac{(n+3)(n+2)}{1\cdot 2}\alpha+\frac{(n+3)(n+2)(n+1)}{1\cdot 2\cdot 3}\beta+\dots+\nu\right].$$

23. Having obtained that, we form the first-order differences $\Delta A_0 = A_1 - A_0$, $\Delta A_1 = A_2 - A_1$, $\Delta A_2 = A_3 - A_2$, $\Delta A_3 = A_4 - A_3, \dots$, $\Delta A_n = A_{n+1} - A_n$, $\Delta A_{n+1} = A_{n+2} - A_{n+1}$, $\Delta A_{n+2} = A_{n+3} - A_{n+2}$, and we get

$$\Delta A_0 = Ai - a,$$

$$\Delta A_1 = A(i+i^2) - a(1+\alpha),$$

$$\Delta A_2 = A(i+2i^2+i^3) - a(1+2\alpha+\beta),$$

$$\Delta A_3 = A(i+3i^2+3i^3+i^4) - a(1+3\alpha+3\beta+\gamma),$$

[315]

$$\Delta A_n = A\left[i+\frac{n}{1}i^2+\frac{n(n-1)}{1\cdot 2}i^3+\text{K}+i^{n+1}\right]-a\left[1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\text{K}+\lambda\right],$$

$$\Delta A_{n+1} = A\left[i+\frac{n+1}{1}i^2+\frac{(n+1)n}{1\cdot 2}i^3+\text{K}+i^{n+2}\right]-a\left[1+\frac{n+1}{1}\alpha+\frac{(n+1)n}{1\cdot 2}\beta+\text{K}+\mu\right]$$

$$\Delta A_{n+2} = A\left[i+\frac{n+2}{1}i^2+\frac{(n+2)(n+1)}{1\cdot 2}i^3+\text{K}+i^{n+2}\right]$$

$$-a\left[1+\frac{n+1}{1}\alpha+\frac{(n+1)n}{1\cdot 2}\beta+\text{K}+\nu\right].$$

In order that the first differences be non-positive from the beginning onwards, it cannot be that

$$A_1 - A_0 = \Delta A_0 = Ai - a > 0,$$

i.e., $i > \frac{a}{A}$.

Indeed, it is evident that: – *If the rate of interest is superior to the initial rate of rent, the sum borrowed for the purchase of the land must increase because of new loans before decreasing due to repayment.*

If, as we did in (19), we represent the discontinuous variations of the sum due remaining at the end of each year by a continuous curve, the condition $i \gtrless \frac{a}{A}$ corresponds to the two situations of a rising curve or of one falling from its point of departure A[xxxiii]. The condition $i = \frac{a}{A}$ corresponds to a curve that ceases to be rising at point A and starts falling from that point onwards; that is to say, the situation of having a maximum point at A. **[316]** This is true of curve AN in Figure 8.2 of Gossen's first table, where a = 4000, A = 100,000 and, consequently, $\frac{a}{A} = 0.04 = i$.

If it is desired that the outstanding balance ceases to increase at a certain time, it should be the case that

$$\Delta A_n = 0,$$

i.e.,

$$A\left[i+\frac{n}{1}i^2+\frac{n(n-1)}{1\cdot 2}i^3+\text{K}+i^{n+1}\right]-a\left[1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\text{K}+\lambda\right]=0,$$

from which one concludes successively

$$\mathrm{A} = a\frac{1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\mathrm{K}\;+\lambda}{i+\frac{n}{1}i^2+\frac{n(n-1)}{1\cdot 2}i^3+\mathrm{K}\;+i^{n+1}}$$

$$=\frac{1+\frac{n}{1}(i+z)+\frac{n(n-1)}{1\cdot 2}(i^2+iz+z^2)+\mathrm{K}\;+(i^n+\mathrm{K}\;+z^n)}{i+\frac{n}{1}i^2+\frac{n(n-1)}{1\cdot 2}i^3+\mathrm{K}\;+i^{n+1}}$$

$$=\frac{a}{i}\left[1+z\frac{\frac{n}{1}+\frac{n(n-1)}{1\cdot 2}\alpha+\frac{n(n-1)(n-2)}{1\cdot 2\cdot 3}\beta+\mathrm{K}\;+\kappa}{1+\frac{n}{1}i+\frac{n(n-1)}{1\cdot 2}i^2+\mathrm{K}\;+i^n}\right]$$

$$=\frac{a}{i}+\frac{az}{i(1+i)^n}\times\frac{(1+i)^n-(1+z)^n}{i-z}=\frac{a}{i(1+i)^n}\times\frac{i(1+i)^n-z(1+z)^n}{i-z}.$$

24. We recognize equations [1] and [2] of the normal price, in which the duration m of the growth of the value of the produce of land has been replaced by the number of years n after which there is no more excess of the amount of interest to pay over rent to **[317]** receive. After some reflection, we are indeed convinced that: – *The normal price of a piece of land is the one which, augmented with capitalized interest and diminished with capitalized rent, is equal, at the end of the period of growth of the value of the produce of land, to the ratio of the rent to the rate of net income*, so that there is neither profit nor loss for the person who bought the land at the beginning of the growth of the value of the produce of land if he sells it when the growth ceases. With this consideration, we would have been able to find more simply the above equation of the equality of the total amount of interest and that of rent, which is also the equation of the normal price.

After m years, the sum owed is

$$\mathrm{A}_m=\mathrm{A}(1+i)^m-a\frac{(1+i)^m-(1+z)^m}{i-z}.$$

Interest to be paid is therefore

$$\left[\mathrm{A}(1+i)^m-a\frac{(1+i)^m-(1+z)^m}{i-z}\right]i,$$

while, on the other hand, rent received is

$$a(1+z)^m.$$

In order that, at that time, there be no more increase in the sum owed, in other words, in order that the price be the normal price, the rent received must be enough to pay interest, or

$$\left[\mathrm{A}(1+i)^m - a\frac{(1+i)^m-(1+z)^m}{i-z}\right]i = a(1+z)^m,$$

or, in accordance with our theorem

$$\mathrm{A}(1+i)^m - a\frac{(1+i)^m-(1+z)^m}{i-z} = a\frac{(1+z)^m}{i}.$$

From this equation, equation [2] may be derived as follows:

$$\mathrm{A}(1+i)^m = a\left[\frac{(1+i)^m-(1+z)^m}{i-z}+\frac{(1+z)^m}{i}\right]$$

$$= a\frac{i(1+i)^m - i(1+z)^m + i(1+z)^m - z(1+z)^m}{i-z}$$

[318] $$= \frac{a}{i}\times\frac{i(1+i)^m - z(1+z)^m}{i-z};$$

$$\mathrm{A} = \frac{a}{i(1+i)^m}\times\frac{i(1+i)^m - z(1+z)^m}{i-z}.$$

25. If we put

$$\mathrm{A} = a\frac{1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\mathrm{K}+\lambda}{i+\frac{n}{1}i^2+\frac{n(n-1)}{1\cdot 2}i^3+\mathrm{K}+i^{n+1}} = \frac{a}{i}\times\frac{1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\mathrm{K}+\lambda}{(1+i)^n},$$

$\Delta\mathrm{A}_{n+1}$ becomes

$$\frac{a}{i}\times\frac{1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\mathrm{K}+\lambda}{(1+i)^n}\times(1+i)^{n+1} - a\left[1+\frac{n+1}{1}\alpha+\frac{(n+1)n}{1\cdot 2}\beta+\mathrm{K}+\mu\right]=$$

$$a\left[1+\frac{n}{1}\alpha+\frac{n(n-1)}{1\cdot 2}\beta+\mathrm{K}+\lambda\right](1+i) - a\left[1+\frac{n+1}{1}\alpha+\frac{(n+1)n}{1\cdot 2}\beta+\mathrm{K}+\mu\right]=$$

$$a\left[1-1+\frac{n-(n-1)}{1}\alpha+\frac{n(n-1)-(n+1)n}{1\cdot 2}\beta+\mathrm{K}-\mu+i+\frac{n}{1}\alpha i+\frac{n(n-1)}{1\cdot 2}\beta i+\mathrm{K}+\lambda i\right]=$$

[319]

$$a\left[-\alpha-\frac{n}{1}\beta-\frac{n(n-1)}{1\cdot 2}\gamma-\text{K}\ -\mu+\alpha-z+\frac{n}{1}(\beta-z^2)+\frac{n(n-1)}{1\cdot 2}(\gamma-z^3)+\text{K}\ +(\mu-z^{n+1})\right]=$$

$$-a\left[z+\frac{n}{1}z^2+\frac{n(n-1)}{1\cdot 2}z^3+\text{K}\ +z^{n+1}\right]=-az(1+z)^n.$$

This quantity being essentially negative when z is positive, it follows, as one could have predicted, that: – *As soon as the sum owed has ceased to increase because new loans are not made, it starts diminishing because of repayment.*

26. Now, forming the second-order differences $\Delta^2 A_0 = (A_2 - A_1) - (A_1 - A_0)$, $\Delta^2 A_0 = (A_3 - A_2) - (A_2 - A_1)$,

$$\Delta^2 A_2 = (A_4 - A_3) - (A_3 - A_2), \ldots, \Delta^2 A_n = (A_{n+2} - A_{n+1}) - (A_{n+1} - A_n),$$

$\Delta^2 A_{n+1} = (A_{n+3} - A_{n+2}) - (A_{n+2} - A_{n+1})$, we get

$$\Delta^2 A_0 = A i^2 - a\alpha,$$

$$\Delta^2 A_1 = A(i^2 + i^3) - a(\alpha+\beta),$$

$$\Delta^2 A_2 = A(i^2 + 2i^3 + i^4) - a(\alpha+2\beta+\gamma),$$

$$\Delta^2 A_n = A\left[i^2+\frac{n}{1}i^3+\frac{n(n-1)}{1\cdot 2}i^4+\text{K}\ +i^{n+2}\right]-a\left[\alpha+\frac{n}{1}\beta+\frac{n(n-1)}{1\cdot 2}\gamma+\text{K}\ +\mu\right],$$

$$\Delta^2 A_{n+1} = A\left[i^2+\frac{n+1}{1}i^3+\frac{(n+1)n}{1\cdot 2}i^4+\text{K}\ +i^{n+3}\right]-a\left[\alpha+\frac{n+1}{1}\beta+\frac{(n+1)n}{1\cdot 2}\gamma+\text{K}\ +\nu\right].$$

In order that, from the beginning, the first differences, which are positive, be non-increasing; that is to say, in order that the second-order differences be non-positive, it cannot be that

$$(A_2 - A_1) - (A_1 - A_0) = \Delta^2 A_0 = A i^2 - a\alpha = A i^2 - a(i+z) > 0,$$

[320] i.e., $i > \dfrac{az}{Ai - a}$.

Hence: – *If the rate of net interest is superior to the ratio of the initial increase in rent to the excess of initial interest to pay over rent received, the annual augmentations of the sum owed are increasing before becoming decreasing.*

If, as we did in in (19), we represent the discontinuous variations of the remaining sum owed at the end of each year by a continuous curve, the condition

$i \gtrless \dfrac{az}{\mathrm{A}i - a}$ corresponds to the two characteristics of a curve, convex or concave from its starting point A onwards with respect to the horizontal axis. The condition $i = \dfrac{az}{\mathrm{A}i - a}$ corresponds to a curve shifting at point A from being convex with respect to the horizontal axis to being concave; in other words, the condition of a point of inflection at A. This is the case when

$$\mathrm{A}i^2 = a(i + z),$$

i.e., $\mathrm{A} = a\dfrac{i+z}{i^2}$.

Gossen uses this formula to obtain his price limit (4). Hence Gossen's condition, '*if the State is not to suffer a loss* [*in the first year*]',[xxxiv] does not mean, as one might think, *'that there be no excess of the sum owed after the second year over the sum owed at the end of the first year'*, which would have implied $\mathrm{A} = \dfrac{a}{i}$, as in the case of his first table [Table 8.1] and curve AN [Figure 8.2]. It means **[321]** *'that the excess be not greater at the end of the second year than at the end of the first year; or, saying it better, that the two excess quantities be equal'*. This limit price of Gossen's, $\mathrm{A} = a\dfrac{i+z}{i^2} = \dfrac{a}{i} + \dfrac{az}{i^2}$, is not the price $\mathrm{A} = a\dfrac{1}{i-z}$ either, the latter price being the one at which repayment becomes impossible and for which the curve will not intersect the horizontal axis. That limit price is the one for which the excesses cease to increase at a certain time and become decreasing. If Gossen had applied his condition rigorously in his second table [Table 8.2], he would have assumed $\dfrac{\mathrm{A}}{a} = \dfrac{0.04 + 0.01}{0.04^2} = 31.25$ and, setting A = 100,000, made $a = \dfrac{100{,}000}{31.25} = 3200$. He would then have had curve AN″ instead of curve AN′, which he obtained by assuming $a = \dfrac{100{,}000}{30} = 3333.33$. The first curve would have had A as its point of inflection and M″ as its maximum point, while the second would have K′ as its point of inflection and M′ as its maximum point.

If it is desired that the excess ceases to increase at a certain time [n], it is necessary to set, in general,

$$\Delta^2 \mathrm{A}_n = 0$$

or

$$\mathrm{A}\left[i^2 + \frac{n}{1}i^3 + \frac{n(n-1)}{1 \cdot 2}i^4 + \mathrm{K} + i^{n+2}\right] - a\left[\alpha + \frac{n}{1}\beta + \frac{n(n-1)}{1 \cdot 2}\gamma + \mathrm{K} + \mu\right],$$

from which we deduce successively

$$\mathrm{A} = a\frac{\alpha + \frac{n}{1}\beta + \frac{n(n-1)}{1\cdot 2}\gamma + \cdots + \mu}{i^2 + \frac{n}{1}i^3 + \frac{n(n-1)}{1\cdot 2}i^4 + \cdots + i^{n+2}} =$$

[322]

$$a\frac{(i+z) + \frac{n}{1}(i^2 + iz + z^2) + \frac{n(n-1)}{1\cdot 2}(i^3 + i^2 z + iz^2 + z^3) + \cdots + (i^{n+1} + \cdots + z^{n+1})}{i^2 + \frac{n}{1}i^3 + \frac{n(n-1)}{1\cdot 2}i^4 + \cdots + i^{n+2}} =$$

$$\frac{a}{i}\left[1 + \frac{z}{i} \times \frac{1 + \frac{n}{1}\alpha + \frac{n(n-1)}{1\cdot 2}\beta + \cdots + \lambda}{1 + \frac{n}{1}i + \frac{n(n-1)}{1\cdot 2}i^2 + \cdots + i^n}\right] =$$

$$\frac{a}{i}\left[1 + \frac{z}{i}\left[1 + z\frac{\frac{n}{1} + \frac{n(n-1)}{1\cdot 2}\alpha + \cdots + \kappa}{1 + \frac{n}{1}i + \frac{n(n-1)}{1\cdot 2}i^2 + \cdots + i^n}\right]\right] =$$

$$\frac{a}{i} + \frac{az}{i^2} + \frac{az^2}{i^2(1+i)^n} \times \frac{(1+i)^n - (1+z)^n}{i-z} = \frac{a}{i^2(1+i)^n} \times \frac{i^2(1+i)^n - z^2(1+z)^n}{i-z}.$$

27. This equation has an interesting relationship to the preceding one in regard to first-order differences.

Let us first assume that there are two purchase prices. The one, A, is such that the first difference is zero after *n* years, according to the equation

$$\mathrm{A} = \frac{a}{i} + \frac{az}{i(1+i)^n} \times \frac{(1+i)^n - (1+z)^n}{i-z}.$$

The other one, A′, is such that the second-order difference is zero after *n* years, according to the equation

$$\mathrm{A}' = \frac{a}{i} + \frac{az}{i^2} + \frac{az^2}{i^2(1+i)^n} \times \frac{(1+i)^n - (1+z)^n}{i-z}.$$

It is immediately clear that

$$\mathrm{A}' = \frac{a}{i} + \frac{\mathrm{A}z}{i},$$

a formula that is curious, but that does not need to be scrutinized here.

Let us now suppose just one purchase price such that the **[323]** first difference is zero after m years, according to the equation

$$\mathrm{A} = \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z},$$

and that the second-order difference is zero after k years, according to the formula

$$\mathrm{A} = \frac{a}{i^2(1+i)^k} \times \frac{i^2(1+i)^k - z^2(1+z)^k}{i-z}.$$

Under these conditions, we have

$$\frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z} = \frac{a}{i^2(1+i)^k} \times \frac{i^2(1+i)^k - z^2(1+z)^k}{i-z},$$

$$\frac{i(1+i)^m - z(1+z)^m}{(1+i)^m} = \frac{i^2(1+i)^k - z^2(1+z)^k}{i(1+i)^k},$$

$$i^2(1+i)^{m+k} - zi(1+i)^k(1+z)^m = i^2(1+i)^{m+k} - z^2(1+i)^m(1+z)^k,$$

$$i(1+z)^{m-k} = z(1+i)^{m-k},$$

$$\frac{i}{z} = \frac{(1+i)^{m-k}}{(1+z)^{m-k}},$$

$$(m-k)\log\frac{1+i}{1+z} = \log\frac{i}{z},$$

$$m-k = \frac{\log\dfrac{i}{z}}{\log\dfrac{1+i}{1+z}}.$$

From this it follows that: – *The number of years elapsing after the excess of interest to pay over rent received ceases to increase until the time it becomes zero depends only on the rate of net interest and the rate of growth of rent.* In other words, the horizontal distance from the point of inflection to the maximum point of the curves is always the same, irrespective of the ratio between the purchase price and the initial rent. **[324]** For the two curves AN′ and AN″ this distance $k'm'$ = ON is equal to

$$\frac{\log\dfrac{0.04}{0.01}}{\log\dfrac{1.04}{1.01}} = 47.36.$$

This distance $m - k$ from the point of inflection to the maximum point for the curves AN, AN′, and AN″ of Figure 8.2 is, as can be seen, the same as the distance $m - k$ from the point of inflection to the maximum point for the curves AM, A′M′, and A‴M‴ of Figure 8.1. This circumstance makes immediately evident the identical character of the curves of repayment and those of the variation in the normal price; but we put this sameness aside, returning to it later on.

28. If we put

$$\mathrm{A} = a\frac{\alpha+\frac{n}{1}\beta+\frac{n(n-1)}{1\cdot 2}\gamma+\ldots+\mu}{i^2+\frac{n}{1}i^3+\frac{n(n-1)}{1\cdot 2}i^4+\ldots+i^{n+2}} = \frac{a}{i^2}\frac{\alpha+\frac{n}{1}\beta+\frac{n(n-1)}{1\cdot 2}\gamma+\ldots+\mu}{(1+i)^n},$$

$\Delta^2\mathrm{A}_{n+1}$ becomes

$$\frac{a}{i^2}\times\frac{\alpha+\frac{n}{1}\beta+\frac{n(n-1)}{1\cdot 2}\gamma+\ldots+\mu}{(1+i)^n}\times i^2(1+i)^{n+1} - a\left[\alpha+\frac{n+1}{1}\beta+\frac{(n+1)n}{1\cdot 2}\gamma+\ldots+\nu\right]=$$

$$a\left[\alpha+\frac{n}{1}\beta+\frac{n(n-1)}{1\cdot 2}\gamma+\ldots+\mu\right](1+i)-a\left[\alpha+\frac{n+1}{1}\beta+\frac{(n+1)n}{1\cdot 2}\gamma+\ldots+\nu\right]=$$

$$a\left[\alpha-\alpha+\frac{n-(n-1)}{1}\beta+\frac{n(n-1)-(n+1)n}{1\cdot 2}\gamma\right.$$

$$\left.+\ldots-\nu+\alpha i+\frac{n}{1}\beta i+\frac{n(n-1)}{1\cdot 2}\gamma i+\ldots+\mu i\right]=$$

[325]

$$a\left[-\beta-\frac{n}{1}\gamma-\frac{n(n-1)}{1\cdot 2}\delta-\ldots-\nu+(\beta-z^2)+\frac{n}{1}(\gamma-z^3)+\frac{n(n-1)}{1\cdot 2}(\delta-z^4)\right.$$

$$\left.+\ldots+(\nu-z^{n+2})\right]=$$

$$-a\left[z^2+\frac{n}{1}z^3+\frac{n(n-1)}{1\cdot 2}\gamma+\ldots+z^{n+2}\right]=-az^2(1+z)^n.$$

This quantity is essentially negative when z is positive, hence: – *As soon as the excess of interest to pay over rent received ceases to increase, it begins to decrease.*

VI Impossibility of repayment in the case of paying the normal price

29. The discussion of formula [19] of the sum owed as a function of the years elapsed

$$A_n = A(1+i)^n - a\frac{(1+i)^n - (1+z)^n}{i-z}$$

taught us to recognize certain conditions of the relation between A and *a* in order that repayment of the purchase price by means of rent be possible. On the other hand, the discussion of formula [1] or [2]

$$A = \frac{a}{i} + \frac{az}{i(1+i)^m} \times \frac{(1+i)^m - (1+z)^m}{i-z} = \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}$$

has made evident certain relationships between A and *a* when the normal price is paid. We want to know if these latter conditions permit the former ones to be frequently **[326]** and easily fulfilled. Now, it is seen at first glance that that will not be so.

'In a society in which the rate of net interest exceeds the rate of growth of rent; that is to say, in the case in which z is positive and $< i$, land cannot be bought and the purchase price repaid by means of the rent unless the condition obtains that the initial rate of rent is greater than the difference between the other two rates (21)'; that is, if

$$\frac{a}{A} > i - z.$$

However, on the other hand, 'In the case of a perpetual growth of the value of the produce of land, and when the rate of growth of this value is less than the rate of net interest, the rate of rent resulting from the normal price is equal to the difference between the rate of net interest and the rate of growth (11)'; that is,

$$\frac{a}{A} = i - z.$$

'In a society in which there is a decrease in rent and no increase; that is to say, in the case in which z is negative, one cannot buy land and repay the purchase price by means of the rent unless the condition obtains that the rate of initial rent is superior to the sum of the rate of net interest and the rate of decrease in the rent (21)'; that is, if

$$\frac{a}{A} > i + z.$$

However, on the other hand, 'In the case of a perpetual decrease in the value of the produce of land, the rate of rent resulting from the normal price is equal to the sum of the rate of net interest and the rate of decrease (11)'; that is,

$$\frac{a}{\mathrm{A}} = i + z.$$

Thus, there exists a contradiction between the conditions for repayment of the purchase price by means of the rent and the conditions of **[327]** price normality in the case of a perpetual increase in the value of the produce of land when the rate of increase is inferior to the rate of interest, and in the case of a perpetual decrease in the value of the produce of land. Regarding the case of a perpetual increase in the value of the produce of land at a rate superior to the rate of interest, we observe that the normal price is infinite; there cannot be repayment. Consequently: – *When the normal price is paid, it is impossible to repay the purchase price by means of the rent, in either the case of a perpetual increase in the value of the produce of land, or the case of a perpetual decrease*. There remain the cases of a temporary increase or decrease in the value of the produce of land, but, by means of a truly remarkable general demonstration, it is easy to show that, in these two cases also, it is impossible to repay the purchase price by means of the rent when the normal price is paid.

30. Let there be a piece of land whose initial rent a increases by a factor z per year during m years, bought at the normal price borrowed at the current rate i. The principal sum and the interest owed at the end of n years of increase is, according to formula [19]

$$\mathrm{A}_n = \mathrm{A}(1+i)^n - a\frac{(1+i)^n - (1+z)^n}{i-z}.$$

The normal price A is given by equation [2]:

$$\mathrm{A} = \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}.$$

Putting this value of A into the preceding equation yields successively

$$\mathrm{A}_n = \left[\frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z}\right](1+i)^n - a\frac{(1+i)^m - (1+z)^m}{i-z} =$$

$$a\left[\frac{i(1+i)^{m+n} - z(1+z)^m(1+i)^n}{i(1+i)^m(i-z)} - \frac{(1+i)^m - (1+z)^m}{i-z}\right] =$$

$$\textbf{[328]}\ a\frac{i(1+i)^{m+n}-z(1+z)^{m}(1+i)^{n}-i(1+i)^{m+n}+i(1+i)^{m}(1+z)^{m}}{i(1+i)^{m}(i-z)}=$$

$$a\frac{i(1+i)^{m}(1+z)^{m}-z(1+z)^{m}(1+i)^{n}}{i(1+i)^{m}(i-z)}=a(1+i)^{m}(1+z)^{m}\times\frac{i(1+i)^{m-n}-z(1+z)^{m-n}}{i(1+i)^{m}(i-z)}=$$

$$\frac{a(1+z)^{m}}{i(1+i)^{m-n}}\times\frac{i(1+i)^{m-n}-z(1+z)^{m-n}}{i-z}.$$

Hence

$$\frac{\mathrm{A}_n}{a}=\frac{(1+z)^{m}}{i(1+i)^{m-n}}\times\frac{i(1+i)^{m-n}-z(1+z)^{m-n}}{i-z}.$$

We recognize equation [12] as the variation of the normal price as a function of the years elapsed since the increase in the value of the produce of land started. Accordingly, the buyer whose circumstances we are studying owes, at any time during this whole period, a sum, principal plus interest, precisely equal to the normal price of the land. During the whole of this period, the rent, equal to $a(1 + z)^n$, does not suffice to pay the annual interest on the sum owed, which increases to

$$\frac{a(1+z)^{m}}{(1+i)^{m-n}}\times\frac{i(1+i)^{m-n}-z(1+z)^{m-n}}{i-z}=$$

$$a(1+z)^{m}+\frac{a(1+z)^{m}z}{(1+i)^{m-n}}\times\frac{(1+i)^{m-n}-(1+z)^{m-n}}{i-z};$$

and this sum that is owed consequently increases, but because the value of the produce of land continues to increase, the normal price of the land increases by precisely the same sum (4).

If we set $n = m$ in the preceding equation [i.e., the one for A_n above], we obtain

$$\mathrm{A}_m=\frac{a(1+z)^{m}}{i};$$

hence,

$$\frac{\mathrm{A}_m}{a}=\frac{(1+z)^{m}}{i}.$$

[329] And if we had taken the sum owed, principal plus interest, after m years of increase of the value of the produce of land,

$$A_m = A(1+i)^m - a\frac{(1+i)^m - (1+z)^m}{i-z},$$

and if we had inserted into this equation the normal price A, furnished by equation [2],

$$A = \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z},$$

we would have had, after a series of transformations that need not be reproduced,

$$A_m = \frac{a(1+z)^m}{i},$$

i.e.,

$$\frac{A_m}{a} = \frac{(1+z)^m}{i}.$$

Therefore, after *m* years of increase of the value of the produce of land, the buyer owes, comprising principal sum plus interest, an amount of $A_m = \frac{a(1+z)^m}{i}$, whose annual interest is $a(1 + z)^m$, and he possesses a piece of land whose rent, which is constant from then on, is $a(1 + z)^m$ and whose value is $A_m = \frac{a(1+z)^m}{i}$. The rent of the land is therefore enough to pay the annual interest on the sum owed, unless he sells his land to pay what he owes, without profit or loss.

In the special case in which $z = i$, the sum owed, principal and interest, after *n* years of increase in the value of the produce of land, is, in accordance with formula [20],

$$A_n = A(1+i)^n - an(1+i)^{n-1}.$$

The normal price A is given by equation [5]

$$A = \frac{a}{i} + \frac{ma}{1+i}.$$

[330] Putting this value of A into the foregoing equation, yields successively

$$A_n = \left[\frac{a}{i} + \frac{ma}{1+i}\right](1+i)^n - an(1+i)^{n-1} = a\frac{(1+i)^n}{i} + ma(1+i)^{n-1} - an(1+i)^{n-1} =$$

$$a\frac{(1+i)^n}{i} + (m-n)a(1+i)^{n-1};$$

hence,

$$\frac{A_m}{a} = \frac{(1+i)^n}{i} + (m-n)(1+i)^{n-1};$$

which is, in this special case, equation [14] of the variation of the normal price as a function of the time elapsed since the value of the produce of land began to increase.

If one sets $n = m$ in this equation, we have

$$A_m = \frac{a(1+i)^m}{i},$$

i.e.

$$\frac{A_m}{a} = \frac{(1+i)^m}{i}.$$

And if we had taken the sum owed, principal and interest, after m years of increase in the value of the produce of land,

$$A_m = A(1+i)^m - am(1+i)^{m-1},$$

and if we had put into this equation the value of A, the normal price, as given by equation [5],

$$A = \frac{a}{i} + \frac{ma}{1+i},$$

we would have obtained

$$A_m = \frac{a(1+i)^n}{i},$$

[331] or

$$\frac{A_m}{a} = \frac{(1+i)^m}{i}.$$

This special case is therefore in accordance with the general case. Consequently:
– *When the normal price is paid, it is impossible to repay the purchase price by means of the rent, in either the case of temporary increase in the value of the produce of land, or that of a temporary decrease in the value of the produce of land.*

31. Nevertheless, we have found that 'In an economy in which the rate of growth of rent is equal or superior to the rate of net interest, i.e., in the case in which z is positive and $\geq i$, at whatever price land was bought, the purchase price can be repaid by means of the rent (21).'[xxxv] No doubt, but we introduced the sole and unique restriction that 'The duration of the growth of rent, that is, *m,* should be at least equal to the number of years needed for repayment, that is, *N*.' Now, precisely, this condition cannot be fulfilled in the case of paying the normal price, because, on the one hand, by virtue of equation [21],

$$N = \frac{\log\left[1 - \frac{\mathrm{A}}{a}(i-z)\right]}{\log\frac{1+z}{1+i}},$$

and, on the other hand, by solving [2] as an equation in m, we have successively

$$\mathrm{A} = \frac{a}{i(1+i)^m} \times \frac{i(1+i)^m - z(1+z)^m}{i-z} = \frac{a}{i-z} \times \frac{i(1+i)^m - z(1+z)^m}{i(1+i)^m}$$

$$= \frac{a}{i-z} \times \left[1 - \frac{z}{i}\left(\frac{1+z}{1+i}\right)^m\right],$$

$$\frac{\mathrm{A}}{a}(1-z) = 1 - \frac{z}{i}\left(\frac{1+z}{1+i}\right)^m,$$

$$\frac{z}{i}\left(\frac{1+z}{1+i}\right)^m = 1 - \frac{\mathrm{A}}{a}(i-z),$$

[332]

$$\left(\frac{1+z}{1+i}\right)^m = \frac{i}{z}\left[1 - \frac{\mathrm{A}}{a}(i-z)\right],$$

$$m \log\frac{1+z}{1+i} = \log\frac{i}{z} + \log\left[1 - \frac{\mathrm{A}}{a}(i-z)\right],$$

$$m = \frac{\log\frac{i}{z} + \log\left[1 - \frac{\mathrm{A}}{a}(i-z)\right]}{\log\frac{1+z}{1+i}}. \qquad [23]$$

Therefore, we have

$$N - m = -\frac{\log\frac{i}{z}}{\log\frac{1+z}{1+i}} = \frac{\log\frac{i}{z}}{\log\frac{1+i}{1+z}}.$$

Now, this difference is necessarily positive irrespective of whether $i \gtrless z$, because the numerator and the denominator of the first fraction have different signs and those of the second fraction always have the same sign. This means that $N > m$ always.

In the special case in which $z = i$, we have, on the one hand, because of equation [22],

$$N = \frac{\mathrm{A}}{a}(1+i);$$

on the other hand, by solving equation [5] for m, we have successively

$$\mathrm{A} = \frac{a}{i} + \frac{ma}{1+i},$$

$$\mathrm{A}\,i(1+i) = a(1+i) = mai,$$

$$mai = (i-a)(1+i),$$

$$\textbf{[333]}\ m = \frac{(\mathrm{A}\,i-a)(1+i)}{ai} = \frac{\mathrm{A}\,i(1+i)}{ai} - \frac{a(1+i)}{ai} = \frac{\mathrm{A}}{a}(1+i) - \frac{1+i}{i}.$$

Hence, we have

$$N - m = \frac{1+i}{i}.$$

This difference is necessarily positive, which means, that in this case also, $N > m$ always.

Consequently, comparing[xxxvi] $N - m$ with the difference $m - k$, which we have already met twice ((16) and (27)), we see that

$$N - m = m - k,$$

from which it follows that: – *The number of years of temporary increase in the value of the produce of land to be added to the existing number to make possible the repayment of the purchase price by means of the rent depends only on the rate of net interest and the rate of growth of the rent, and is, moreover, precisely equal to the number of years between the time when the excess of interest paid over rent received ceases to increase, and the time when this excess becomes zero.*

32. We should now spend some time thinking about the fact, of which we have already had a presentiment and which has become wholly manifest above, of the identity of the curve of the variation of the normal price of land during the period of variation of the rent and the curve of repayment of the purchase price by means of the rent.

For a good understanding of all the details, let us take the curves AN, AN′, and AN″ of Figure 8.2, representing the remaining sum owed after the end of each year, expressed in units of numéraire according to the method adopted by Gossen, and transform these into the curves AN, A′N′, and A″N″ of Figure 8.3,

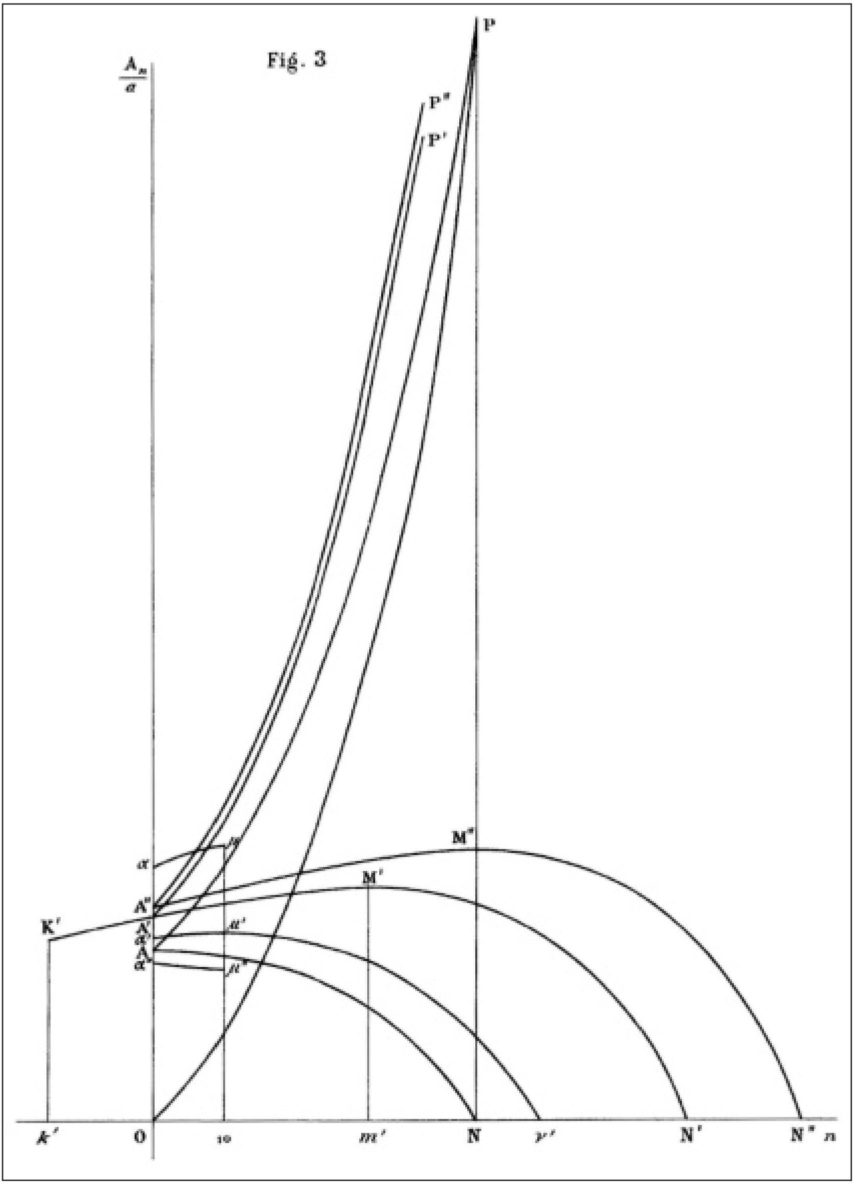

Figure 8.3

representing the amount of initial rent expressed in capital for 1 following the method we adopted for the curves of the variation of the normal price.

Therefore, the curve AN of Figure 8.2, whose equation is

$$\mathrm{A}_n = 100{,}000 \times 1.04^n - 4000 \times \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

[334] becomes the curve AN of Figure 8.3, whose equation is

$$\frac{\mathrm{A}_n}{a} = 25 \times 1.04^n - \frac{1.04^n - 1.01^n}{0.04 - 0.01}.$$

The curve A′N′ of Figure 8.2, whose equation is

$$\mathrm{A}_n = 100{,}000 \times 1.04^n - 3333.33 \times \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

becomes the curve A′N′ of Figure 8.3, whose equation is

$$\frac{\mathrm{A}_n}{a} = 30 \times 1.04^n - \frac{1.04^n - 1.01^n}{0.04 - 0.01}.$$

The curve A″N″ of Figure 8.2, whose equation is

$$\mathrm{A}_n = 100{,}000 \times 1.04^n - 3200 \times \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

becomes the curve AN of Figure 8.3, whose equation is

$$\frac{\mathrm{A}_n}{a} = 31.25 \times 1.04^n - \frac{1.04^n - 1.01^n}{0.04 - 0.01}.$$

As can be seen, all these curves are formed by the difference of, on the one hand, the three curves AP, A′P′, and A″P″, representing the amount of the price of the land augmented by the interest capitalized over the years elapsed and whose equations are, respectively,

$$y = 25 \times 1.04^n,$$

$$y = 30 \times 1.04^n,$$

$$y = 31.25 \times 1.04^n,$$

and, on the other hand a unique curve OP representing the amount of rent capitalized over the years elapsed, whose equation is

$$y = \frac{1{,}04^n - 1.01^n}{0.04 - 0.01}.$$

[335] Thus, for instance, the abscissa ON = 47.36 of point N where curve AN intersects the horizontal axis, corresponding with point P where AP and OP intersect, is determined by the equation

$$\mathrm{AP} - \mathrm{OP} = 25 \times 1.04^{47.36} - \frac{1.04^{47.36} - 1.01^{47.36}}{0.04 - 0.01} = 0.$$ [xxxvii]

After this first transformation, which shows the basic identity between the curves AN, A′N′, A″N″ of Figure 8.3 and AM, A′M′, A″M″ of Figure 8.1, we take the latter and transform them simply into the scale of the former and transfer them into Figure 8.3. There they have become the curves αμ, α′μ′, α″μ″. If these curves were continuous for negative values of *n* less than zero and greater than *m*, which we have not considered up to now, they would have the form of the curves AN, A′N′, A″N″. So, the curve α′μ′, for example, in whose equation *i* and *z* have the same values as in those of the curves AN, A′N′, A″N″, would become the curve α′μ′ν′ intersecting the horizontal axis in point ν′, resulting, according to formula [21], from the equation

$$57.36 = \frac{\log\left[1 - 27.11(0.04 - 0.01)\right]}{\log \dfrac{1.01}{1.04}}.$$

The transformation above explains why the curve α′μ′ν′ can have the following equation:

$$\frac{\mathrm{A}_n}{a} = 27.11 \times 1.04^n - \frac{1.04^n - 1.01^n}{0.04 - 0.01},$$

analogously with the equations above of AN, A′N′, A″N″, and resulting from the difference of the two curves

$$y = 27.11 \times 1.04^n$$

and

$$y = \frac{1.04^n - 1.01^n}{0.04 - 0.01}.$$

[336] This also explains why the curves AN, A′N′, A″N″ have the following equations:

$$\frac{A_n}{a}=\frac{1.01^n}{0.04}+\frac{0.01\times 0.01^n}{0.04\times 1.04^{0-n}}\times\frac{1.04^{0-n}-1.01^{0-n}}{0.04-0.01},$$

$$\frac{A_n}{a}=\frac{1.01^n}{0.04}+\frac{0.01\times 0.01^n}{0.04\times 1.04^{31.30-n}}\times\frac{1.04^{31.30-n}-1.01^{31.30-n}}{0.04-0.01},$$

$$\frac{A_n}{a}=\frac{1.01^n}{0.04}+\frac{0.01\times 0.01^n}{0.04\times 1.04^{47.36-n}}\times\frac{1.04^{47.36-n}-1.01^{47.36-n}}{0.04-0.01},$$

analogously with curve α′μ′ν′ (15). The three values of *m*: 0, 31.30 and 47.36 result, according to formula [21], from the equations

$$0=\frac{\log\left[1-25(0.04-0.01)\right]}{\log\frac{1.01}{1.04}}+\frac{\log\frac{0.04}{0.01}}{\log\frac{1.01}{1.04}}=47.36-47.36,$$

$$31.30=\frac{\log\left[1-30(0.04-0.01)\right]}{\log\frac{1.01}{1.04}}+\frac{\log\frac{0.04}{0.01}}{\log\frac{1.01}{1.04}}=78.66-47.36,$$

$$47.36=\frac{\log\left[1-31.25(0.04-0.01)\right]}{\log\frac{1.01}{1.04}}+\frac{\log\frac{0.04}{0.01}}{\log\frac{1.01}{1.04}}=94.72-47.36,$$

which yield, as we have seen (31), the number of years of increase in the value of the produce of land for which the price is the normal one.

Thus, the curve α′μ′ν′ would be the curve of repayments of the purchase price in the case in which the price paid for the land is 27.11 units of capital for one unit of initial rent, whereas the duration of the increase in the value of the produce of land would not be 10 years but at least 57.36 years. Inversely, the curves AN, A′N′, A″N″ would be curves of variation of the normal price in the case of the purchase prices 25, 30, and 31.25 units of capital for one unit of initial rent, when the duration of the increase in the value of the produce of land would **[337]** not be 47.36, 78.66, and 94.72 years, but only 0, 31.30, and 47.36.

The curves of the variation of the normal price during the period of variation of the rent and those of the repayment of the purchase price by means of the rent would then become identical, because not only during the *m* years of increase in the value of the produce of land, but also after the end of those *m* years, the buyer of a piece of land who bought it at the normal price would make neither profit nor loss, and, consequently, during the whole time that the value of the produce of land is increasing and at the end of that time, the sum owed in case of a purchase by means of borrowed capital would be the same as the normal price of the land. Therefore, given the identity of the two types of curves, it is not surprising that we found that for each of them the distance between the point of inflection and the maximum point is independent of the ratio $\frac{A}{a}$ of the purchase price to the initial rent, and depends only on the rate of net interest i and on the rate of growth of the rent z. For each of the curves, this same distance between the point of inflection and the maximum point is equal to the distance between the maximum point and the intersection with the horizontal axis, according to the equation

$$\mathrm{N}-m=\frac{\log\frac{i}{z}}{\log\frac{1+i}{1+z}}=m-k.$$

Hence, for the curves AN, A′N′, A″N″, α′μ′ν′ [Figure 8.3], all relating to a rate of net interest of 0.04 and a rate of growth of rent of 0.01, these distances, represented respectively by $k'm'$, ON,[xxxviii] and ON, 10ν′, m'N′, NN″, are all equal to

$$\frac{\log\frac{0.04}{0.01}}{\log\frac{1.04}{1.01}}=47.36.$$

[338]

VII Critique of Gossen's theory. Possibility of repayment enabled by the increase in the rate of growth of rent

33. We have seen that it is always impossible to repay the purchase price of a piece of land by means of its rent if the normal price has been paid. Indeed, this must certainly be so, since such a repayment would imply a profit, whereas the normal price is the value that does not allow profit or loss. We could therefore have announced this as an a priori conclusion, as we did, but it was nonetheless instructive to work it out mathematically.

Gossen mentioned facts and data about this subject, borrowing them, he asserted, from reality. We will make the following remarks about that. In order that a fact be accepted by science, it is necessary that it be both real and rational. It is necessary that, observation and experience having established the existence of the fact, and that it exists in this or that way, reason shows that it cannot be impossible and that it cannot exist in any other manner under normal circumstances. If reason, on the one hand, and observation and experience, on the other, are contradictory, an effort should be made to bring them into agreement if the development of the science of the fact in question is desired. However, if the reasoning is correct, it is not annihilated by the contradiction, since it is possible that it is the fact that should either be established correctly, or explained by exceptional circumstances. We believe that this is the situation concerning the facts alleged to be true by Gossen.

His first table, corresponding with curve AN of Figure 8.2 above, relates to a piece of land yielding a rent of initially 4 per cent with a yearly increase in the value of the produce of land of 1 per cent, whereas the rate of net interest is 4 per cent. Here we may point to an obvious abnormality, since it is clear that, all other things being the same, persons who do not make any distinction between two types of capital, one of which yields an invariable income, and the other of which yields an income initially the same but that **[339]** subsequently increases from year to year, should be placed under guardianship.[xxxix] The second table, corresponding with the curve AN′, relates to a piece of land yielding a rent of initially 3.33 per cent, with a yearly increase in the value of the produce of land of 1 per cent, whereas the rate of net interest is 4 per cent. Now, this fact could not be considered as a normal fact either. Our theory establishes unambiguously, it seems to us, that the increase in the value of the produce of land in question can only be temporary, its duration being furnished, by virtue of formula [23], by the equation

$$m = \frac{\log\dfrac{0.04}{0.01} + \log\left[1 - \dfrac{100,000}{3333.33}(0.04 - 0.01)\right]}{\log\dfrac{1.01}{1.04}} = 31.30.$$ [xl]

This duration would be not enough for repayment, which would require a number N of years, furnished, owing to formula [21], by the equation

$$N = \frac{\log\left[1 - \dfrac{100,000}{3333.33}(0.04 - 0.01)\right]}{\log\dfrac{1.01}{1.04}} = 78.66.$$

Gossen appears to assume a perpetual increase in the value of the produce of land of 1 per cent and a rate of net interest of 4 per cent. A piece of land yielding an initial rent of 3333.33 must then be worth either 111,111.11, by virtue of formula [7] and in conformity with

$$111,111.11 = \frac{3333.33}{0.04 - 0.01},$$

or 100,000 with an initial rent of 3000 by virtue of formula [7] and in conformity with

$$100,000 = \frac{3000}{0.04 - 0.01}.$$

[340] Adopting this latter hypothesis, we substitute the number 3000 for 3333.33 in the equation

$$A_n = 100,000 \times 1.04^n - 3333.33 \times \frac{1.04^n - 1.01^n}{1.04 - 1.01},$$

which is the equation of curve AN′ [Figure 8.3], and obtain the equation

$$A_n = 100,000 \times 1.04^n - 3000 \times \frac{1.04^n - 1.01^n}{1.04 - 1.01} = 100,000 \times 1.01^n,$$

which is the one for curve AN‴. Under these conditions, repayment cannot be made. Instead of owing a sum that is successively increasing and decreasing, the buyer owes a sum that is constantly increasing with the value of his land, as calculated in relation to its income. Hence, Gossen's construction is theoretically impossible, at least on the basis of the theoretical premises he posited.

34. However, we have seen that Gossen invoked practical considerations relating to the possibility that the State may: 1. borrow at a more favourable rate than private persons; 2. speculate on later increases of the value of the produce of land; 3. make leases that are more advantageous. These three observations are sound, but only if the State's position is compared with that of the speculators. It is certain that those speculating on the increase in the value of the produce of land by means of borrowed capital will certainly not borrow the capital at the net rate of interest but only at that rate augmented by a risk premium that is even greater than that paid by the State. Such an operation could undoubtedly be executed by means of capital borrowed on mortgage, but mortgage loans are not normally made for more than 50 or 60 per cent of the value of real estate. Consequently, the speculators, making calculations in which the value of i is higher than the one the State uses, cannot come as close to the mathematical price of the land as the State can. The second observation needs explanation. It is certain that a speculator cannot count on **[341]** being able to obtain the whole increase in the value of the produce of land that he anticipated, neither in the case of temporary increase, nor, for even stronger reasons, in the case of a perpetual increase. He makes gains by selling to a holder of savings or to another speculator. However, such gains through sales might be risky and may be made difficult by crises. The State is able make gains, however, because of its longer existence. The third observation is equally true with respect to speculators. However, it remains the case that none of these observations would be well-founded if one compared the State's position with that of holders of savings instead of speculators. Holders of savings do not borrow. When they acquire a capital good that is not susceptible to deterioration by usage or destruction by accident, like land, they are content with taking interest on their investment at the net rate without premiums for depreciation or insurance. Holders of savings obtain the anticipated increase in the value of the produce of land either themselves, by selling at the right time, or in the person of their descendants. Finally, holders of savings are able to make leases equally as advantageous as the State's. They are, consequently, not afraid of the State's competition. Their activity is enough to determine the price of land. Therefore, practically and theoretically, shady schemes are impossible.

35. Well, this plan, which seems to be exploded from all points of view, revives completely if we now inject a consideration that escaped its originator's attention and that is, nevertheless, of decisive importance. It is the increase in the value of the produce of land that gives rise to the price difference between land and capital proper. It is the rate of the increase in the value of the produce of land that determines the price of land, but that rate is not constant. If it were so, the profit of the increase in the value of the produce of land would have been obtained once and for all by the first generation of landowners. In a progressive society, that rate is increasing, which is why all generations of landowners profit from the increase in the value. With each **[342]** increase in the rate of increase of the value of the produce of land, the price of land, in addition to the increase relating to the existing increase in the value of the produce of land, increases further as a function of a new increase in the value of the produce of land; and it is this increase, over which the owners do not have any right of property because it was not foreseen or calculated, and because they did not pay for it when buying the land, that must be reserved for the State, permitting it to repay the purchase price by means of the rent.

At this point, we must go back to the way Gossen introduced the coefficient z of the increase in the value of the produce of land:

This increase – he declares – is expressed approximately by the formula

$$a_n = a(1+z)^n,$$

where a *denotes the rent of the first year and* $\mathrm{a_n}$ *the rent after* n *years, because changes in the basic conditions affecting the level of the ground rent will themselves again generate new conditions. That phenomenon finds its expression in the appearance of the exponential time factor (weil die in den Zuständen herbeigeführten Veränderungen, welche auf die Höhe die Grundrente zurüruckwirken, selbst wieder mit wirksam sind, neue Veränderungen zu erzeugen, was denn durch Potenziren nach Verhältnis der Zeit seinen Ausdruck findet).*[xli]

This approach appears unassailable. We would say only, a little differently, that, to us, the exponential function of time is the natural formula for a variation like the one in question, because, if certain circumstances have increased a quantity a to az, it is plausible that the same circumstances will increase a quantity $a + az$ to $(a + az)z$. It should, however, be kept in mind that after the first increase the circumstances may not be the same as before, and that is what Gossen did not do. As a rule, when applying calculations to the study of quantitative facts, it is necessary to adjust the formulas to the facts and not the facts to the formulas, and that is what Gossen failed to do. In **[343]** the example taken from Prussia, the Prussian administration was wrong to suppose z to be a constant number equal to 0.005309. To this, it should be added that, for the Prussian administration, that rate of growth is only a minimum. However, in the example taken from English history, it was Gossen who was wrong to assume in his equation that, for the land belonging to the monasteries dissolved by Henry VIII, z has been constant and equal to 0.012437 from the second half of the sixteenth century until the end of the eighteenth. On the contrary, it is probable that the rate of increase in the value of the produce of land has varied during this space of time. It is, in particular, probable that z increased during the nineteenth century because that was precisely the period in which the progress of industry occurred, prepared by the progress of the physical sciences somewhat earlier, and because England, having taken the lead of the most advanced countries in Europe, had passed from the agricultural regime into the industrial and commercial one. Finally, it is probable that this rate of increase in the value of the produce of land will continue to increase from the nineteenth to the twentieth century, because that great economic revolution has not yet come to an end. Even in England, agriculture has not completely passed from the extensive to the intensive mode, and it can be presumed that this transformation, which needs considerable investments of capital and growth of the population, will bring the average rate of increase in the value of the produce of land to a figure it has not reached thus far.

We say the average rate, because one should realize that the coefficient z varies both from place to place and from time to time. The rate of increase in the value of the produce of land of 0.012437 is quite high, even as an average rate over time, and it is undoubtedly higher than the average rate for the variety of different places. Apparently, the ecclesiastical possessions considered by Sinclair consisted of well-located land of good quality. In his *Essais sur l'économie rurale de l'Angleterre, de l'Écosse et de l'Irlande*, Mr. Léonce de Lavergne specifies 0.01 as the average rate of the increase in the value of the produce of land of the best quality in England in about 1850.[xlii] This rate is rather moderate and relates probably only to arable land and not to built up areas, upon whose **[344]** value the effect of economic progress is most strongly felt. However, these rates would be average rates anyway, and it remains to determine the specific rates of the increase in the value of the produce of land in this or that region of England. In certain cases, we would then find smaller rates and elsewhere higher ones, as, for instance, in the cases of lands belonging to the Marquis of Westminster, on which London's new districts are erected, and to the Earl of Derby, on which a part of the factories of Lancashire have been built. As always in applied science, theory furnishes only abstract formulas in matters such as the one in question; observation and experience must give us the real values of the coefficients. Everything possible must be done to determine the most precise and detailed value of z by time and by localities, to obtain official or independent statistics based on the study of leases and sales and transfer taxes. This work will certainly be taken up as soon as it is understood to what degree Lords Westminster and Derby are fattened up to the detriment of the public wealth.

Let i be, as always, the rate of net interest, a the initial rent of a piece of land susceptible of a perpetual increase in the value of the produce of land, and z the rate of this growth. The normal price of this piece of land is initially, as we have demonstrated (11), $\dfrac{a}{i-z}$. The sum owed after m years, when the rent is $a(1+z)^m$, is $\dfrac{a(1+z)^m}{i-z}$. Let the rate of the increase in the value of the produce of land at that time become z' instead of z. From this variation onwards, the sum owed at the end of each year as a function of the number of years elapsed is given, in conformity with formula [19], by the equation

$$\mathrm{A}_n = \frac{a(1+z)^m}{i-z}(1+i)^{n-m} - a(1+z)^m \frac{(1+i)^{n-m} - (1+z')^{n-m}}{i-z'}. \qquad [25]$$

[345] Let us take, for instance, the case of Gossen's corrected Table 8.2. The rate of net interest is 0.04, initial rent is 3000, and the rate of a perpetual increase in the value of the produce of land is 0.01. The normal price of the land, when rent is 3000, is 100,000. The sum owed after 10 years, when rent is $3000 \times 1.01^{10} = 3313.86$, is $100{,}000 \times 1.01^{10} = 110{,}452$. Let the rate of increase in the value of the produce of land at that moment become 0.02 instead of 0.01. The sum owed at the end of each year from this increase onwards will be given, as a function of the years elapsed since the beginning, by the equation

$$\mathrm{A}_n = 110{,}462 \times 1.04^{n-10} - 3313.86\frac{1.04^{n-10} - 1.02^{n-10}}{0.04-0.02}.$$

This equation is the one of curve $a\mathrm{N}^{\mathrm{IV}}$ of Figure 8.2, representing repayment in about 65 years after the purchase. The occurrence of a 1 per cent extra increase in the value of the produce of land has changed the curve $a\mathrm{N}'''$ into $a\mathrm{N}^{\mathrm{IV}}$. By this example, it is seen how the issue occurs exactly in reality. For the State, there is no question of buying land with the intention of paying a lower price than the normal price resulting from the increase or decrease in the value of the produce of this land, while counting on the difference in order to repay the purchase price by means of the rent; that would be ordinary and inferior speculation, good for private persons. The State should purchase all this land at the normal price, counting upon, to effectuate the repayment of the purchase price by means of the rent, the rise of the increase in the value of the produce of land, the diminution of the decrease in the value of the produce of land, and the conversion of the decrease into an increase, and should try to generate these changes by the skill of its measures and the sagacity of its behaviour. This would be a beautiful and great work, truly worthy of a State.

Hence, it would in principle be possible for the State to buy all the land without spending a penny. This is a truth that Gossen did not establish by means of a perfect, rigorous demonstration, but nevertheless he had a presentiment of it and discerned it with extraordinary wisdom. As a theoretical conception, his **[346]** plan, corrected and completed, is greatly superior to Mill's. As we said, it awards more to the landowners, since it acknowledges their right to the whole present increase in the value of the produce of land, having a reservation only with respect to future further increases in the value of the produce of land, and it awards more to the State, because it puts it in possession of all the land. In this magnificent scheme, the State will take over the land from its owners at the current price,[xliii] and pay for it with bonds issued at the current rate of interest. The State will rent the land to entrepreneurs, who will use it for agricultural, industrial, or commercial purposes, or to consumers, for the construction of houses, or castles, or for making gardens or parks, under the sole condition that all such persons pay the highest rent. It is theoretically possible that after this operation the land will be worked by the same hands as before. The entrepreneurs or consumers who were not the owners of the land will now pay the rent to the State instead of to the former landowners, and the latter will receive the interest on their bonds instead of rent. The entrepreneurs or consumers who were the owners of their land before, will pay rent to the State, and they will receive interest on their bonds from the State. In practice, important changes in the use of land are to be expected. However, these changes will be gradual and determined by the condition that the produce of land will yield the highest utility because the level of rent is as high as possible. During a certain number of years, the total amount of rent will not be sufficient to pay the total sum of interest on the bonds. The State's debt will increase every year by the difference, without, however, ever exceeding the normal value of land. Due to the increase in the rate of increase in the value of the produce of land, the decrease in the rate of decrease in the value of the produce of land, or the **[347]** conversion of a decrease into an increase in the value of the produce of land, the amount of rent will become sufficient to pay the interest, and the debt will cease to increase. It will depend on the State itself – we repeat – to cause or to accelerate these changes by legislation and administration, with the specific and sole purpose of stimulating economic progress; that is to say, capital expansion and population growth. Finally, the amount of rent having, through those means, become greater than the amount of interest, repayment will start and, as may be seen from the form of the curves, will then be carried out quickly. As soon as repayment is complete, the total amount of the rent of land will be available for public expenditures, and taxation will be abolished. Social advantageousness and social justice will then fully be satisfied: the social ideal will be realized. That is the scheme that profound and detailed examination cannot do otherwise than make clear its soundness and magnificence, and that, published in 1854, has found no reader during twenty-five years, neither among socialists, nor among economists.[3]

36. Gossen indicated policies and designed formulas and tables with the intention of letting present generations participate in the benefits of this operation. We shall not follow him on this road, which, by the way, is still unexplored.

3 This same design would be applicable to the buying up of mines, railways, and other economic monopolies that are necessary and natural, where free competition is irrelevant, and that are like the land from the point of view of the increase in the value of their production in a progressive economy.

History teaches us that essential and radical changes in the organization of society have almost never been achieved in an orderly and peaceful fashion. To achieve the abolition of slavery, the ancient world, which made use of it, had to collapse and be replaced by the feudal society. Serfdom did not disappear, and the feudal society did not give up its place to the modern society, except through a violent revolution. It seems, more and more, that it would be the same with the transformation of individual landownership into collective property, for, **[348]** far from thinking of letting the State have possession of all the land anywhere, it is, more and more, everywhere deprived of the part of rent that had been reserved for it by a land tax. In the Vaud Canton, where, at the beginning of the century, a land tax was established on the basis of a proportional share in the income of land, we have refrained from ascertaining the increase in the value of the produce of land in order to prevent giving a greater fraction of rent to the State. In France, where a land tax was instituted by the Revolution on the basis of a fixed share, there is now an even more extreme arrangement: fixed at 240 million at a time when the value of the annual produce of land was estimated on 1,200 million, taxation has now been reduced to the benefit of the landowners to less than 180 million, in a period in which the produce of land has attained an annual value of about 4 billion. The notion of the State that was upheld to such a high degree by certain aristocratic or monarchical governments in Antiquity or the Middle Ages is obviously lacking, in general, in democratic governments, be they representative or parliamentary. They are inclined to consider the public interest – which is the interests of the totality of the individuals – as a number of coalitions of private interests that are enough to constitute an electoral majority. As a matter of fact, it would be a great illusion to count upon them for the many things necessary to achieve such a gigantic financial operation as the one we sketched above: to undertake the preliminary studies, to devise the master plan, and to work out its subordinate details.

However, it is not necessary to despair completely. The aberrations we just indicated may possibly less be imputed to democracy itself than to the economic science that should be its guide but that behaves like its accomplice in abandoning the heritage of all the people to the covetousness of some. With ideas becoming more clear and correct, facts could change entirely. After all, in the social order, an operation like the one in question would be no more difficult and complicated than, in the industrial order, was the drilling of the tunnel of Mont-Cenis or the opening **[349]** of the Suez Canal. What made possible the execution of the latter projects was the advancement of pure and applied physical and natural sciences, and what makes the former project impossible is the fact that the pure and applied moral and political sciences, as they stand now, are only meaningless babble. In fact, the moral and political sciences are now in the same state in which the physical and natural sciences were three centuries ago. The cardinal point of social science, resulting from theoretical economics as a whole and dominating social economics entirely, is the fact of the increase in the value of the produce of land in a progressive society, together with the fact that this increase itself is increasing. Once this fact has been demonstrated by the theory of social wealth, the theory of property has only to deal with the overwhelming evidence of the relation between the value of the produce of land and the exigencies of public services, and, as a consequence, to deal with the right of the community or the State to the land and its rent. Well, contemporary economics is ignorant of this fact just as sixteenth-century astronomy was ignorant of the earth's movement. Just as in Galileo's time the consequences of the earth's movement upset the beliefs of certain persons who were in power, so also are the consequences of the fact of the increase in the value of the produce of land[xliv] now contradictory to the interests of certain influential persons who know very well how to oppose publicizing it and how to support the opposite fact. In the preface of his book, Gossen appears to have asserted that the exposure of his ideas cost him his position; and my father, who needed his post to raise his family, was forced to keep unpublished the two last chapters of his *Théorie de la richesse sociale*[xlv] and other pieces of work that presented his theory of property. In contrast, somebody who succeeds in making himself and other people believe that land sold at 1,000, 1,500, or 2,000 francs per square metre has no value, will achieve everything. However, one may always hope that truth will be triumphant in economics, as **[350]** it was in astronomy, and that within one or two centuries from now social science will pass from the hands of the socialists, who only are critical and negative of economics, and the official scholars, who are charged with the responsibility of not studying social science and who, in good conscience, acquit themselves admirably of this task, into the hands of men of science worthy of that name, having enough basic and specialized instruction, and enjoying complete independence and all the liberty that is necessary. It might be that, as a consequence, social progress will, in the fairly near future, take place in a well-organized and peaceful, non-violent and non-chaotic way, just as nowadays industrial progress proceeds rationally and no longer empirically. It might be that the abolition of proletarianism,[xlvi] through the abolition of taxes on income from work, will be brought about otherwise than was the case for the abolition of slavery and serfdom. In a word, it might be possible that the social revolution will boil down to the proportions of the fiscal operation described above. This we must desire, and, whether we are hopeful for it or not, we must act as if it can and must take place. This is why science, after having formulated the ideals of justice and advantageousness, must moreover indicate the ways and means for their realization. Having done this, its mission is accomplished and it is relieved of its responsibility; and the rest is up to politics.[xlvii]

Notes

i This paper appeared for the first time in the *Bulletin de la Société Vaudoise de Sciences Naturelles*, June 1881. Walras also inserted it in his *Théorie mathématique de la richesse sociale* (1883). In the *Bulletin*, it was preceded by a preface that Walras later amended and inserted into his preface to the *ÉÉS*, see Author's preface.

ii We first considered the word 'takeover' in the title of this chapter. 'Takeover', however, does not preserve the notion of buying that Walras wanted to express, as is evident by his use of his word 'rachat'. 'Buying up' is precisely the dictionary translation of 'rachat'. It does three things: first, it preserves Walras's desire to imply purchasing, not confiscation; second, it implies that *all* the land will (eventually) be purchased by the state; 'to buy up' something is to buy it all; third, it avoids the notion of suddenness, which is an implication of a 'takeover'. 'Takeover' in English can also have the implication of force, confiscation, and other connotations that we do not want to introduce. Here is the dictionary definition: 'Takeover: the act or an instance [i.e., not occurring over a duration of time] of assuming control or management of or responsibility for [i.e., not necessarily ownership], especially the forcible seizure of power, as in a nation or political organization.' 'Purchase of the land by the State' is a good possibility; we will use it when the structure of the sentence makes it appropriate. We have not used 'acquisition' because it does not imply purchase; it means obtaining possession of something by any of a variety of means.

iii *De l'impôt dans le canton de Vaud. Mémoire auquel un quatrième accessit a été décerné ensuite du concours ouvert par le Conseil d'Etat du canton de Vaud sur les questions relatives à l'impôt*. Lausanne, Imprimerie de Louis Vincent, 1861; see also *ŒÉC*, Vol. V. For an explanation of Walras's terminology regarding capital, see our Introduction, Appendix A.

iv James Mill, *Elements of Political Economy*, third edition, London: Baldwin, Cradock, and Joy, 1826; cited from James Mill, *Selected Economic Writings*, edited and introduced by Donald Winch, Edinburgh and London, Oliver and Boyd, 1966, p. 338. Walras quoted the French translation of James Mill's book, *Éléments d'économie politique*, Paris: Bossange frères, 1863, translated by J.T. Parisot. Of course, we did not translate the quotation back into English, quoting instead Mill's original text.

v The translator Parisot mentioned in the preceding note translated Mill's 'land rent' into 'rentes foncières', whereas he should have used the word 'fermage'. In Walras's idiosyncratic vocabulary, 'rentes foncières', as everyone who reads our Appendix A knows, means 'land services'. It is interesting that Walras overlooked this, and used the term 'land rent', which makes sense in the given context. Either he was inattentive, or he was inconsistent in the meaning he attached to 'rente foncière'. It should be observed that he possessed the translation of Mill's book, and the wear and tear of his copy, and annotations in his own hand, indicate that he studied it.

vi Ibid., pp. 338–339.

vii Ibid., p. 339.

viii Ibid., p. 339.

ix Ibid., p. 341.

x Hermann Heinrich Gossen's book was translated into English by Rudolph C. Blitz with the title, *The laws of human relations and the rules of human action derived therefrom*, with an introductory essay by Nicholas Georgescu-Roegen, Cambridge: The MIT Press, 1983. All citations are taken from this translation.

xi Page 274 in the English translation.

xii Gossen 1854, p. 150; English translation, p. 274. The emphasis is Gossen's.

xiii The notation is Gossen's.

D xiv Sir John Sinclair, *The History of the Public Revenue of the British Empire. Containing an Account of the Public Income and Expenditure from the Remotest Periods Recorded in History to Michaelmas 1802*, London: T. Cadell, 1783–1789; third edition, London: T. Cadell and W. Davies, 1803, Vol. I, p. 184, cited by Gossen on his page 256; English translation, p. 280.

xv Gossen 1854, p. 260; English translation, p. 284. The emphasis is Gossen's. This chapter affords a number of examples of Walras's inconsistent uses of the word 'rente'. In this sentence, he wrote 'la hausse de la rente foncière', which, on his usual definition, means 'the increase in land services', and which is nonsensical. In subsequent paragraphs, he expressed the same phenomenon correctly as 'la plus-value du fermage', i.e., as the increase in rent. Later in the same chapter, he returned to his definition of 'rente' as 'the in-kind services of land' by writing that 'le prix de la rente, ou le fermage, s'élève sensiblement', i.e., that 'the price [le prix] of land services [de la rente], or rent [ou le fermage], increases considerably'. The 'or' [ou] means 'that is to say'. The context therefore shows that in the sentence initially under discussion, he meant 'the rise in rents', in the sense of ground rent, not 'the rise in land services', so we have translated it in the former way.

xvi Walras means by the expression 'a price of 26⅔ capital for 1' that for an amount of 26⅔ one can buy a yearly income of 1 unit.

xvii *ŒÉC*, Vol. VIII, pp. 429–436. Here Léon Walras is contradicting himself. In 1880, when this paper was conceived, only the first edition of the *Éléments* existed, and Walras referred in the first instance to lesson 49 of that edition. In the second edition of *ÉÉS*, he referred to the fourth edition of the *Éléments*, where lesson 49 of the first edition is part of lesson 28. However, when composing the latter edition, Walras was no longer unaware of the laws of price variations of rent in a progressive economy.

xviii Walras's term here is 'taux de revenue net' (rate of net income). Supposing equilibrium, he meant by this expression, in fact, what we now simply call the rate of interest.

xix *ŒÉC*, Vol. VIII, pp. 583–598, lesson 52 in the first edition, 28 in the second and third, and 36 in the fourth and fifth.

xx With the term 'rate of rent', Walras denoted the fraction a/A.

xxi Some less intuitive clarification might be useful. If one may expect from now onwards an income of a after one year, after two years, after three years, and so on, the total value of this expectation is worth now

$$\frac{a}{1+i}+\frac{a}{(1+i)^2}+\frac{a}{(1+i)^3}+\ldots=\frac{\dfrac{a}{1+i}}{1-\dfrac{1}{1+i}}=\frac{a}{i}.$$

An income of $a\dfrac{i-z}{i}$ after one year from now which grows at a rate z every year is worth now

$$\frac{a\dfrac{i-z}{i}}{1+i}+\frac{a\dfrac{i-z}{i}(1+z)}{(1+i)^2}+\frac{a\dfrac{i-z}{i}(1+z)^2}{(1+i)^3}+\ldots=\frac{\dfrac{a\frac{i-z}{i}}{1+i}}{1-\dfrac{1+z}{1+i}}=\frac{a\dfrac{i-z}{i}}{1+i-(1+z)}=\frac{a\dfrac{i-z}{i}}{i-z}=\frac{a}{i}.$$

xxii Even in Walras's time, one usually wrote

$$\frac{A}{\dfrac{a}{i}}=\frac{a}{a\dfrac{i-z}{i}}.$$

xxiii To deal with this case, in the rest of this section Walras replaced z by $-z$. So, in fact, he did not make z negative; instead he changed his formulas.

xxiv Again, what Walras just wrote is true, but the argument is not very clear.

xxv In this formula, z is in fact not negative, but a positive number between 0 and 1; what Walras did was to replace z by $-z$. This made his mathematics unnecessarily long and cumbersome.

xxvi Here Walras no longer replaces z by $-z$ in the case of a decrease in rent.

xxvii Figure 8.1 is a copy of the one in the original version of *ÉÉS*, drawn, like all figures in his books, by Léon Walras himself. The other figures in the present chapter are likewise Walras's.

xxviii The length of the ordinate of OI is 1/0.04 = 25. The equation of the curves IM, I′M′, and I″M″ is $\frac{(1+z)^n}{0.04}$ with z equal to, respectively, 0.05, 0.01, and –0.01.

xxix Here Walras apparently made a mistake by writing 'this difference is the difference of two negative quantities'. Obviously, this should be 'this difference is the product of two negative quantities'.

xxx Here again, we have an example of Walras's mathematical 'wordiness' and clumsiness. (Of course, we do not point out all such examples.) He could simply have written that for N to be positive, the numerator in the last formula for N should be positive, i.e., $a > a - \mathrm{A}i$, or $\mathrm{A}i > 0$.

xxxi Walras apparently supposes that, in addition, the rate of decrease in rent is less than 1.

xxxii Walras's text reads 'et'. That 'and' would seem to be an error, but he reproduced the sentence without change in section 29, informing the reader that he was considering the case that he had introduced in section 21. He may therefore have meant that rent is decreasing as contrasted with the case of no growth of rent, or that there is a decrease and no subsequent increase. He did not mean he was considering the case of the two possibilities that 'rent is decreasing *or* not growing', because he was assuming that $z < 0$, thus ruling out such possibilities as z not growing.

xxxiii In Figure 8.2, the point A should not be confused with the amount A. Walras used the same symbols for two different things.

xxxiv 'Wenn der Staat keinen Schaden haben soll', Gossen 1854, p. 216; Gossen 1983, page 285.

xxxv Note some insertions and variations of language here as compared with section 21.

xxxvi We added the word 'comparing', because otherwise the phrase would be incomprehensible; moreover in the first edition he wrote 'En comparant. . . .'

xxxvii In the original text, the first member is erroneously OP – OP, an error reproduced in the Dockès edition.

xxxviii Walras did not indicate these distances for A″N″ or α′μ′ν′ in his figure.

xxix In the first instance (see note i), Walras used the even stronger expression 'mettre aux Petites-Maisons' which means 'to commit to a madhouse'.

xl This seemingly illogical phrase becomes clear if one realizes that the purchase price of this piece of land is 100,000 and that this price is supposed (by Gossen) to be the normal price, i.e., the one taking account of future growth of rent. Under these circumstances, however, the duration of the increase in the value of the produce of land cannot be more that 31 years, as Walras's formula rightly indicates. That is the real meaning of Gossen's table: repayment can only start after a number of years (here 31 years), because, in fact, the purchase price is not the normal price, i.e., the buyer pays less than if rent continues to increase.

xli Gossen 1854, page 255; English translation, page 279. In both editions of the *ÉÉS*, Walras gives also the part of the original German text from 'because' to the end.

D xlii Fourth edition, Paris: Guillaumin, 1863, page 91, where, incidentally, the rate of growth of rent for France is estimated to be about half of that for the UK.

xliii The term 'current price' is Walras's term for the price of a good or service in general economic equilibrium. That price therefore reflects expectations. Note that, evidently, Walras's system does not yield the outcome of the economic process once and for all time, as some writers have alleged.

xliv Walras wrote 'the fact of the value of the produce of land'. We think he meant 'the fact of the increase in the value of the produce of land'.

xlv See *ŒÉC*, Vol. II, pp. 171–189.

xlvi Walras meant this in the sense of the class of people who own nothing except their personal faculties, and who have, therefore, to make a living by means of their work only.

Dxlvii There were several reviews of 'Théorie mathématique du prix des terres et de leur rachat par l'État' after its publication in *Bulletin de la Société Vaudoise* and after its publication in *Théorie mathématique de la richesse sociale* (1883). We discuss three of them.

Wilhelm Lexis (1837–1914), a German statistician and economist, professor at Strasbourg and Göttingen, reviewed the present chapter in the 1881 volume of *Jahrbücher für Nationalökonomie und Statistik*, of which he was a co-editor. After a correct summary, Lexis made two observations. First, he remarked that, in his opinion, the anticipation of the acceleration of the increase in the value of the produce of land itself will also be integrated into the market price of land. Second, he contended that Walras's scheme will have to wait until the end of the period of decreasing rent (connected with free exchange of goods), which will occur when the population of the new countries has reached a certain level. Furthermore, he makes the interesting point that, on the one hand, Walras's price theory led him to defend liberalism, whereas, on the other hand, his theory of rent led him to collectivism as far as concerns land.

In the 1882 volume of the *Journal de l'Agriculture Pratique*, a periodical sympathetic to the interests of landowners, there is a review by F. Convert, professor at the National School of Agriculture at Grignon. He refutes both the classical theory of rent and the idea that the imperishable productive faculties of land have a value independent of its cost. This latter conception underlies Walras's doctrine, since such a gift from nature should be returned to the community. However, those, like Walras, who believe that rent may be obtained without work or cost are in error and represent a danger to agriculture. In fact, rent doubled between 1820 and 1880, because the investment of capital greatly increased, Convert argued. He observed that Walras, in contradistinction to the socialists, did not want to harm anyone's interests. Not without making ironic remarks on Walras's taste for endless calculations, he discussed the formula for the normal price of land. With respect to Walras's distinction between the normal, predictable increase in the value of the produce of land (reflected in the normal price), and the exceptional increase in the value of the produce of land, Convert does not see why Walras left the latter increase outside of his normal price, since it is 'by no means less certain, because the State relies on it'.

The 1884 volume of *Philosophy de l'avenir* (subtitled *Revue du socialisme rationnel*) contains a review written by the Belgian economist Agathon de Potter, titled 'Un nouveau partisan de la collectivité des terres'. De Potter is amazed that Léon Walras considers himself and his father as the first socialists to envisage collectivization of the land, and reproached him in particular for having forgotten J.-G. Colins, who also wanted to reconcile liberalism and communism. De Potter should not have made that criticism, inasmuch as Walras, in his second note to this chapter, credited Colins with having advocated that collectivization. Concerning the economists mentioned by Walras, he criticized James Mill, calling him and Gossen socialists, too. Praising Walras for his attempt to set the workers free from taxation, De Potter believes that he lost his way in conceiving his scheme for the buying up of land because such a transformation can never be achieved peacefully. Again, this was an unjust criticism, since Walras himself contended that radical changes almost always are accompanied by violence. Finally, De Potter claimed a similarity of Walras's and his own doctrine of rational socialism.

9 An unknown economist: Hermann Henri Gossen[1]

Those readers of the *Journal des Economistes*[i] who are interested in trying to apply mathematics to economics (believe me, I do not have any illusions about their number) will perhaps remember a memoir titled: *Principe d'une théorie mathématique de l'échange*[ii] that I read in August 1873 to the Académie des sciences morales et politiques, and that was published by this review in April 1874. In that memoir, I presented the mathematical theory of barter with two goods in the following way. First, starting from one of those goods' effective demand by each of the holders of the other one, expressed by curves falling as a function of the price, I observed that *the effective supply of a good in exchange for another one is equal to the effective demand of the latter multiplied by its price in terms of the former*. Consequently, I deduced the effective supply curves from the partial and total effective demand curves, and by the intersection of the former curves with the latter, I found the current price; that is, the price for which total effective demand and supply are equal. Finally, from the utility of each of the goods for any of the exchangers expressed as decreasing functions of the quantity consumed, I demonstrated that, for a person who exchanges at a certain price, a certain amount of a good in his possession for a certain amount of another good not in his possession, *the condition of maximum satisfaction of wants is that the ratio of the raretés, that is the intensities of the last wants satisfied, be equal to the price*.[iii] Hence, from the utility curves, combined with the quantities possessed, I deduced the effective demand curves; this **[352]** demand being the one that procures the greatest possible satisfaction of the wants at any given price. Thus having showed successively (1) how current or equilibrium prices result from demand curves, and (2) how the demand curves in turn result from the utility and quantity of the goods, I have made clear the relation that links the utility and the quantity of goods to their market prices.[2,iv,v]

1 *Journal des Economistes*, April and May 1885 [4th series, 30, no. 4, pp. 68–90 and 260–261].

2 Mr. Joseph Bertrand, who devoted an important article to my *Théorie de la richesse sociale* in the *Journal des savants* of September 1883, raised against these two fundamental points two objections which appear to me easy to refute. With respect to the intersection of the demand and supply curves, which yields the current price, Mr. Bertrand objects that the problem of exchange has not been solved, because in case of an excess of demand over supply or supply over demand, certain buyers or sellers will be satisfied initially, after which the prices have to be increased or decreased

As can be seen, there are here two quite distinct issues, **[353]** both equally essential to the solution of the problem of barter with two goods. The first one leads to the current price, the second deals with the elements of this price. The latter is therefore the basis of the former and the theorem relating to it, which I called the *theorem of maximum satisfaction*, is the cornerstone of the application of mathematics to economics. It would be wrong to judge its importance by the degree to which it is immediately useful in practical matters: that would show a very poor scientific way of thinking. Statics teaches us: *When a body rests on a horizontal plane, touching it at several points, and is in equilibrium, then the vertical line passing through its centre of gravity must intersect that plane in the interior of the polygon formed by the points of contact*. Now, this theorem, that is so fruitful in its consequences for pure and applied theory, is not of any use for keeping us standing upright. Thus, when Philamente and Bélise said to Lépine when he fell down:

> Look there, the crazy guy! Must people fall
> After having learned about the equilibrium of things?
> Don't you see the causes of your fall, you dummy?
> That comes from having put aside the fixed point
> That we call the centre of gravity,

he replied ironically: 'Yes, I noticed that, Madam, being flat on the ground.'[vi]

further in order to satisfy the others. To this, I answer that on the theoretical market in the case of excess of demand over supply, nobody will be satisfied, and that trade will be suspended until raising or lowering of the prices results in the equality of supply and demand, after which everybody will be satisfied. The theoretical current price [i.e., the equilibrium price] is essentially a unique price at a given time, resulting in a general exchange. Under these conditions, the problem of exchange is perfectly determinate. Concerning the condition of maximum satisfaction, according to which the supply and demand curves result from the utility and the quantity of the goods, Mr. Bertrand raises the objection that this idea of utility of goods may very well serve to explain the demand for goods or services by consumers, but not the demand by producers, industrialists, or tradespeople, who do not need these things for themselves. To this I answer that I abstracted from production and capital formation in my first memoir and in the subsequent one, but that I have written the third and the fourth ones with the express purpose of introducing both these phenomena, as well as the entrepreneurs who undertake them, and to take account of the losses and profits governing the demand for services and the supply of products by these entrepreneurs. As I am much more fearful of the criticism of mathematicians than of economists, I must admit that my theory, after having been examined by the eminent secretary of the Académie des Sciences [Joseph Bertrand], appears to me solid enough and to merit somewhat the trouble I have taken to try to share its scientific discovery equitably between Gossen, Jevons, and myself. I add that at the time when this article will appear, Mr. W[ilhelm] Launhardt, director of the Polytechnic of Hanover, will publish a book, titled *Mathematische Begründung der Volkswirtsschaftslehre* [Leipzig: Engelmann, 1885], that is based on the two conditions of utility maximization and current equilibrium prices.

However, if this mischievous young man went further along that line of thought, meaning to insinuate that knowledge of the properties of the centre of gravity and of the mathematical conditions of the equilibrium of a body would be useless, he would be the one to be laughed at, because it is the proper role of science to search for and to find the how and why of things that ordinary persons accomplish or are subjected to every day without realizing it. So, we hope it will be understood that knowledge of the mathematical conditions of market equilibrium can be **[354]** fundamental knowledge in theoretical economics, and also that each of us, when exchanging one good for another, achieves maximum satisfaction of his wants without bothering to determine whether the ratio of the intensities of his last wants satisfied is equal to the price, and even without suspecting that this must be the case.

That being so, it is not astonishing that after having read my memoir, Mr. W. Stanley Jevons, then professor of economics at Owens College, Manchester, immediately claimed priority regarding this theory, because he had already presented, in 1871, in his *Theory of Political Economy*, the expression of utility in mathematical form and the condition for maximum satisfaction. In the June 1874 issue of the *Journal des Economistes*, the correspondence[vii] can be read in which he asked me for that priority, and I restored it to him. For the same reason, it is quite natural that Mr. Jevons and I, alerted by this remarkable coincidence, have carefully inquired into the varied endeavours preceding ours, and were thereby led to the joint compilation of the 'Bibliography' of works relating to the application of mathematics to economics that appeared in the December 1878 issue of the *Journal des Economistes*.[viii] The present article, aimed at doing justice to Gossen analogously as I had already done to Jevons, is in a sense the last act of the incident of which I have just recalled the successive phases. I hope that the managing editor of this Review will extend to me once more his hospitality, and my few readers their attention. I believe that they will acknowledge, after having read my account, that there is, among the quite numerous examples of scientific coincidence, hardly anything as remarkable as the concordance of Gossen, Mr. Jevons, and myself on the starting point of mathematical economics. Personally, I will go further and say that, among the equally numerous examples of scientific injustice, there is none so blatant as the ingratitude received by Gossen. This man was completely overlooked during his whole life, but, in my opinion, he was one of the most **[355]** remarkable economists who ever lived. I do not pretend to say everything that could be said about his work and his career, but only to make known what I know of the subject in such a way as to put on the right path those who, later on, will want to render to this great, neglected man the homage of which he is worthy.

On 15 September 1878, when I had just sent to Mr. Joseph Garnier the corrected galley-proofs of the bibliography mentioned above, Mr. Jevons wrote to me.[ix]

> The matter has been rather complicated, too, by the discovery of a work, published at Brunswick in 1854, which contains many of the chief points of our theory clearly reasoned out. It is by Hermann Heinrich Gossen and is

> entitled somewhat as follows: *Entwickelung der Gesetze des Menschlichen Verkehrs*.[x] The book seems to be totally unknown even in Germany, and as I do not read German I was absolutely ignorant of its existence. My successor Professor Adamson of Owens College found it mentioned in some history of political economy, not that of Roscher,[xi] who seemed ignorant of it I am told. Adamson is going to prepare me an abstract of the book from a copy which he accidentally procured.

One year later, that is, in the summer of 1879, Mr. Jevons published the second edition of his *Theory of Political Economy*,[xii] and in a new preface he gave a detailed account of how Gossen's book had been discovered and of its contents. Mr. Robert Adamson had found it mentioned some years before in *Theorie und Geschichte der National Œkonomik* by Kautz.[xiii] This work, published in 1858, mentioned the book as containing a theory of pleasure and pain.[3,xiv] After having vainly advertised for it, not until August 1878 did Adamson find Gossen's book by chance in a German bookshop's catalogue, and succeeded in acquiring a copy. Apparently, he did not know **[356]** that the British Museum possessed a copy acquired in 1865. At any rate, this is how Mr. Jevons described the book, on the basis of Adamson's information:

> Gossen evidently held the highest possible opinion of the importance of his own theory, for he commences by claiming honours in economic science equal to those of Copernicus in astronomy. He then at once insists that mathematical treatment, being the only sound one, must be applied throughout; but, out of consideration for the reader, the higher analysis will be explicitly introduced only when it is requisite to determine maxima and minima. The treatise then opens with the consideration of Economics as the theory of pleasure and pain, that is as the theory of the procedure by which the individual and the aggregate of individuals constituting society, may realize the maximum of pleasure with the minimum of painful effort. The natural law of pleasure is then clearly stated, somewhat as follows: *Increase of the same kind of consumption yields pleasure continuously diminishing up to the point of satiety*. This law he illustrates geometrically, and then proceeds to investigate the conditions under which the total pleasure from one or more objects may be raised to a maximum.
>
> The term *Werth* is next introduced, which may, Professor Adamson thinks, be rendered with strict accuracy as *utility*, and Gossen points out that the quantity of utility, material or immaterial, is measured by the quantity of pleasure which it affords. He classifies useful objects as: (1) those which possess pleasure-giving powers in themselves; (2) those which only possess such powers when in combination with other objects; (3) those which only

3 Gossen is favourably mentioned in *Die Arbeiterfrage. Ihre Bedeuting für Gegenwart und Zukunft* [Labour demand. Its meaning now and in the future], by Friedrich Albert Lange. Third, revised and augmented edition. Winterthur, 1875 (p. 124).

> serve as means towards the production of pleasure-giving objects. He is careful to point out that there is no such thing as absolute utility, utility being purely a relation between a thing and a person. He next proceeds to give the derivative laws of utility somewhat in the following manner: – That separate portions of the same pleasure-giving object **[357]** have very different degrees of utility, and that in general for each person only a limited number of such portions has utility; any addition beyond this limit is useless, but the point of uselessness is only reached after the utility has gone through all the stages or degrees of intensity. Hence he draws the practical conclusion that each person should so distribute his resources as to render the final increments of each pleasure-giving commodity of equal utility for him.
>
> In the next place Gossen deals with labour, starting from the proposition that the utility of any product must be estimated after deduction of the pains of labour required to produce it. He describes the variation of the pain of labour much as I have done, exhibiting it graphically, and inferring that we must carry on labour to the point at which the utility of the product equals the pain of production. In treating the theory of exchange he shows how barter gives rise to an immense increase of utility, and he infers that exchange will proceed up to the point at which the utilities of the portions next to be given and received are equal. A complicated geometrical representation of the theory of exchange is given. The theory of rent is investigated in a most general manner, and the work concludes with somewhat vague social speculations, which, in Professor Adamson's opinion, are of inferior merit compared with the earlier portions of the treatise.[4]

This exposition will probably not mean much to persons who have not even a superficial knowledge of the subject, but those who have read my first memoir and Jevons's book will immediately acknowledge that, before me and before Jevons, Gossen described utility in mathematical terms and established mathematically a condition of maximum utility. Furthermore, Jevons did, with regard to Gossen, with no hesitation and unpretentiously, the same thing as I did myself with regard to him. He reproached **[358]** Gossen for having used straight lines in his diagrams instead of unspecified, curved ones; he noticed that Gossen did not state the equations of exchange; but, all in all, Jevons acknowledged that, however important his theory still remains to him, it was far from being as completely new as he initially believed; he confined himself to declaring that at the time when he wrote he was ignorant of the existence of Gossen and his book, which was so unknown the whole world over that it was more difficult to discover the book than to discover the theory of pain and pleasure itself.

> Almost nothing – Jevons said in conclusion – is known to me concerning Gossen; it is uncertain whether he is living or not. On the title-page he describes himself as 'königlich preussischem Regierungs-Assessor ausser

4 *The Theory of Political Economy* (Preface to the second edition, p. XXXVI).

> Dienst', which may be translated 'Royal Prussian Government Assessor, retired'; but the tone of his remarks here and there seems to indicate that he was a disappointed if not an injured man. The reception of his one work can have lent no relief to these feelings; rather it must much have deepened them. The book seems to have contained his one cherished theory; for I can find under the name of Gossen no trace of any other publication or scientific memoir whatever. The history of these forgotten works is, indeed, a strange and discouraging one; but the day must come when the eyes of those who cannot see will be opened. Then will due honour be given to all who like Cournot and Gossen have laboured in a thankless field of human knowledge, and have met with the neglect or ridicule they might well have expected. Not indeed that such men do really work for the sake of honour; they bring forth a theory as the tree brings forth its fruit.[5]

Most certainly, the real scientist seeks after truth for the pleasure of the search, like the true lover of whist plays this noble game for the simple pleasure of playing it. Nonetheless, it must be said that seeking and finding theorems like those on the application of mathematics to various sciences exert an attraction that is **[359]** incomparable with that of any game. However, just as it is not forbidden to make whist somewhat more interesting by playing for a little money, so it is also permitted to find in the pursuit of scientific truths some additional satisfaction in the thought that one's name will be attached to some important result. The greatest scientists did not despise such a satisfaction, which may be made evident by the fact that those among them who were so brilliant as to invent infinitesimal calculus were not so free of egotism as to wish to share properly the honour of that invention. Gossen was also not above feeling that sentiment; Mr. Jevons admitted sincerely that he feels it; and I, not having the pretension to be superior to human weaknesses, and often playing two-handed whist, confess similarly that when I received Mr. Jevons's letter of 15 September 1878, that is, one year before I could read the preface of the second edition of his *Theory of Political Economy*, I was extremely intrigued and a little uneasy to know what was left to me after the satisfaction of all the rights of priority that were being successively revealed.

My first care was to try to find a copy of Gossen's book; I had a great deal of trouble procuring one. The publisheres, Vieweg and Son, Brunswick, informed me that Gossen lived around 1850 in Cologne, and that they had sent to him on his demand all the copies still existing of his book, 'which was only an item stocked on commission'. At the same time as I looked for the book in bookstores, I searched for it in several public libraries. Finally, Mr. Halm, librarian in Munich, sent it to his brother-in-law, my colleague and friend Mr. Charles Secrétan, with whom I was able to read it attentively and make a complete translation during the first weeks of 1879.[xv]

5 *The Theory of Political Economy* (Preface to the second edition [1879], p. XLI).

The book is titled *Entwickelung der Gesetze des menschlichen Verkehrs und der daraus fließenden Regeln für menschliches Handeln*, by HERMANN HEINRICH GOSSEN, königlich preussischem Regierungs-Assessor ausser Dienst, **[360]** Braunschweig, Druck und Verlag von Friedrich Vieweg und Sohn, 1854. I will attempt to translate this somewhat freely in this way: *Exposition des lois de l'échange et des règles de l'industrie qui s'en déduisent* [Explanation of the laws of Exchange and the Rules of Human Action Derived Therefrom], by HERMANN HENRI GOSSEN, former Assessor of the Royal Prussian Government. Braunschweig, Printing and Publishing House Friedrich Vieweg and Son, 1854. It consists of a single volume of 277 pages text, preceded by four pages of preface, without division into parts or chapters. Simple dashes without headings separate the various subjects dealt with by the author, but this absence of separation does not harm at all the natural division of the work into two parts of about the same length: the first one, on pure theory, deals with the *Laws of Pleasure and of Labour* (with a discussion and arithmetic tables), the *Laws of Exchange*, and the *Theory of Rent*; the second part is devoted to applied theory and comprises 'Rules for Human Action relating to Needs and Pleasure', and the refutation of certain societal errors concerning *Education*, *Money*, *Credit*, and *Property*; the author proposes plans for reorganization of all these domains, and appears to be very utilitarian, and also highly liberal, that is to say strongly opposed to any State intervention in all situations where individual initiative and free competition can suffice to make economic order prevail. The style is somewhat German, namely a little diffuse and redundant, but, nevertheless, the sequence of ideas remains always perfectly logical and understandable.

The résumé of the book's first part and the critique furnished by Mr. Jevons on the basis of information provided by Professor Adamson, appear exact and correct to me. But personally, I have to add something because my position vis-à-vis Gossen is not the same as Mr. Jevons's.

> From this statement it is quite apparent – Mr. Jevons continued – that Gossen has completely anticipated me as regards the general principles and method of the theory of Economics. So far as I can gather, his treatment of the fundamental theory is even more general and **[361]** thorough than what I was able to scheme out.[xvi]

Well, I am more fortunate than Mr. Jevons, because, believing that I have taken the subject to a higher level than Gossen did, I believe that I can claim priority for a good deal of my discoveries. I ask permission to explain myself frankly on this point.

Gossen and Mr. Jevons found before me the mathematical expression of utility and formulated the condition for a maximum of an individual's utility in exchanging one good for another; this is an incontestable fact. It seems that Mr. Jevons is disposed to concede a certain superiority to Gossen about the first point and to attribute it to himself about the second one. He is right: Gossen only formulated the condition for the absolute maximum. It was Jevons who was the first to formulate the condition for the relative maximum in conjunction with the equality of supply and demand.[6] However, at that point both stopped, as far as the case of exchange of two goods for each other is concerned. Neither Gossen nor Jevons have even broached the question of the determination of the equilibrium price of each of the goods expressed in the other while assuming there is an indefinite number of exchangers. Well, this is precisely one of the two questions I solved in my memoir *Principe d'une théorie mathématique de l'échange* (August 1873),[xvii] from which it results that the equilibrium price is obtained by bidding up in case of excess of demand over supply and by underbidding in the opposite case. In this way we have at the side of the circumstance of the greatest possible satisfaction of the wants, or the maximum satisfaction, the circumstance of the uniformity of the exchange ratio for all exchangers, or a single price for each commodity. Only under these two circumstances can the theory of exchange be complete, even in the very restricted case of barter of two goods. Exchange taking place under the regime of the mechanism of free **[362]** competition is an operation according to which all exchangers obtain the greatest satisfaction of their wants compatible with the condition of giving the good they sell and receiving the good they buy in a proportion that is the same for all and identical. In connecting the second condition with the first, I completed the principle of the mathematical theory of exchange. Pursuing this double condition in the case of exchange of an arbitrary number of goods with a *numéraire* as intermediary – as I did in my second memoir, titled *Équations de l'échange* (December 1875)[xviii] – I completed the mathematical theory of exchange itself. In addition to the law of the determination of the prices, I stated, moreover, the law of their variation. After having done so, I am convinced that I have not only formulated, but also demonstrated rigorously the law of supply and demand.

That is the situation regarding the problem of exchange and the determination of the prices of the goods. With the same sincerity, I will say that I do not think that Gossen or Mr. Jevons have dealt with the problem of production and the determination of the prices of productive services as completely as I did, the former's work appearing in his *Laws of Labour* and *Theory of Rent*[xix] and the latter's in his *Theory of Labour*, *Theory of rent* and *Theory of capital*.[xx] In this respect, the difference between my two precursors and me can be condensed into the following essential point, which I bring to the attention of the reader.

Gossen and Mr. Jevons assume always that there is an individual or a group of individuals who, by means of labour alone, or labour combined with land, or labour combined with capital, make products. For the most part with much ingenuity and favourable results, they investigate the mathematical conditions of production determined by obtaining a maximum of pleasure with minimum pain. Well, personally I do not believe that this analysis, however ingenious and successful, will attract definitive and fruitful attention, because **[363]** I consider the hypothesis on which it is based as a particular, exceptional one outside of the

6 See in the present volume: *Theory of property* [Chapter 5], pp. 136–8 and following.

general case. Things might happen in that way for Robinson on his island, and perhaps in isolation or in a primitive situation. I will not say that they cannot happen in that way in our socio-economic situation. However, under the abstract and ideal socio-economic circumstances that are the subject of pure economic theory, things do not happen in that way; there, a person does not always possess labour, land, and capital, and certainly not all the types of labour, land, and capital required to produce by himself the various products he needs. So, what will he do? He sells his *labour*, i.e., the service of his personal faculties, for a *wage*; he sells the *produce of his land*, or his land-services, for an amount of *rent*; he sells the *produce of his capital*, or his capital-services, for an amount of *interest*.[xxi] With the wage, rent, and interest so obtained, he buys the products. As far as I am concerned, this is the point of view to which I subscribe in my third memoir, titled *Équations de production* (January and February 1876).[xxii] I defined there the mechanism of production under free competition, just as I defined the mechanism of exchange under free competition in the first memoir. I portrayed the *entrepreneur* as somebody absolutely distinct from the *worker*, *landowner*, or *capitalist*; the function peculiar to him is to transform productive services – labour, land-services and capital-services – into products. In a market called the *market for productive services*, the entrepreneurs demand, by competitively bidding up, labour, land-services, and capital-services from the workers, landowners, and capitalists, who offer these services while underbidding each other; thus there is, in this market for productive factors, for any type of labour, land-services, or capital-services, an effective demand, an effective supply, and the equilibrium prices that are wages, rent, and interest. In a second market, called the *market for products*, these same entrepreneurs offer, by competitively underbidding, products to the labourers, landowners, and capitalists, who demand them by competitively bidding up; thus, **[364]** there is an effective supply, an effective demand, and equilibrium prices in the market for products, for any sort of product. And just as the equilibrium of exchange comes about by equality of the effective demand and supply of the productive services and of the goods, so also will equilibrium of production be brought about by equality of the price of the products to their average cost in terms of production factors. Here we have, I think, the mechanism envisualized by economists through which services are exchanged for services. Gossen's and Mr. Jevons's case of an individual making products for his own use, is a special case completely fitting in the general case: the individual in question becomes an entrepreneur, and theoretically he should only begin the production of the goods in question on his own if the quantities of the products resulting from his labour, land-services, and capital-services, are equal to those he would have obtained had he acted in the two markets.

In a fourth memoir, titled *Équations de la capitalisation et du crédit* (July 1876),[xxiii] I dealt with the fact that whereas personal faculties and land are natural capital goods that are always hired in kind, artificial capital goods are products resulting from savings as a function of the rate of income[xxiv] that are mostly lent in the form of money. So, I dealt with the problem of capital formation and credit after those of exchange and production, and have developed the theory of the determination of the rate of interest after that of the determination of the prices of products and services. In all this research, I have carefully maintained the condition of a single price in each market for products, services, and money capital, together with the condition of maximum satisfaction. This has allowed me to grasp the fundamental basis of the phenomenon of value in exchange. In the case of exchange of two goods against each other, we observe that, simultaneously, on the one hand, each exchanger makes the intensities of his last wants **[365]** satisfied, or his *raretés*, proportional to the values,[xxv] because this is the condition of maximum satisfaction, and that, on the other hand, the ratio of the values is the same for all exchangers. Hence, the ratio of the intensities of the last wants satisfied is also the same for all exchangers, and *the values are proportional to the raretés*. I have demonstrated that this proportionality of the values to the *raretés* persists in the case of exchange of several goods against one another with a *numéraire* as intermediary, in production, and in capital formation and credit. Finally, in all these cases, I have deduced the laws of the variation of the values. I would therefore reproach Gossen for having neglected this whole sequence of investigations, if to do so were not to express matters badly. It is not reproaches, it is thanks, very great thanks, that I owe and I give to Gossen and Mr. Jevons, who, while taking away from me the starting point of all economics, had the thoughtfulness to leave me nearly completely in possession of all later conclusions.

I do not share Professor Adamson's opinion on the applied work that constitutes the second part of Gossen's book. No epithet appears less appropriate than that of 'vague' with respect to the *rules of human behaviour* as founded by Gossen on the *laws of exchange*. His theories of money, credit, and property display perfect clarity and precision. Even if these theories were not correct, the extreme thoroughness with which they are deduced would make them still very valuable. But they are not incorrect, and, for example, the one on which I have presented a thorough analysis in my memoir titled *Théorie mathématique du prix des terres et de leur rachat par l'État* (November 1880),[xxvi] is one of the most beautiful theories I have ever encountered in economics.

The general theory of the determination of prices under free competition forms, in my opinion, the real subject of economic theory; as we have seen, it comprises a theory of the **[366]** produce of land. In Ricardo's theory, it is assumed that the produce is obtained with the use of a single type of land; this theory results in a value of the produce of land in terms of units of product, and explains the increase in value of the produce of land only with the help of an increase of the prices of the products. This is a crude and infantile theory that could be constructed without the help of mathematics. Rent, i.e., the price of land-services, is determined, as I said above, in the market of productive services, and depends on the supply of the landowners and the demand of the entrepreneurs, who want to use them in manufacturing products, and the demand of the consumers, who want to consume them [i.e., the products] directly. Moreover, the values of all capital-services, all labour, and all land-services are always proportional to the intensities of the last wants satisfied, or *raretés*, of the capital-services, labour, or land-services directly consumed. Now, the intensities of the last wants satisfied, or *raretés*, of directly consumed land-services will increase with population growth. Parks and gardens will decrease in spaciousness; houses will increase in height; apartments, halls, and staircases will become narrower. Hence, *the value of land-services will also increase in a progressive society*; this is how it must be, and is in fact. As in several other cases, taking the notion of *rareté* into consideration, which is an absolute element, instead of the notion of value, which is a relative element, will suffice to put an end to any uncertainty.[7]

[367] The fact of the increase in value of the produce of land in a progressive society being clearly established by observation and well explained by reasoning, it follows that leaving the land to individuals instead of reserving it for the State means that a parasitic class will benefit from profits that should be used to satisfy the ever-growing demand for public services. I remember an evening, as we were leaving [the Parisian restaurant] Douix together after a session of the Société d'économie politique, when Mr. Laboulaye maintained that all value originates from labour. I pointed to a development site where work had not yet started, but that nevertheless had an enormous value. 'That value', he said to me, 'originates from labour of the society.' 'Well', I asked him, 'if its value originates from society's labour, why does society not benefit from it?' Very well! Let us draw a curtain over the past. But why not provide for the future? The State might perhaps make an end to the loss by expropriating the land. Even if, instead of immediately benefiting from the increase in value of the produce of

7 This is not the place for continuing the polemic that started recently on this major question, the buying up of the land by the State. Nevertheless, I cannot resist the desire to refute in two words an argument claiming to ruin the foundation of our entire theory. I want to talk about the unbelievable argument that contends that, far from benefiting from an increase in value of the produce of land, the landowners will hardly get back in the value of their land the value of all capital they have invested from the origin of society onwards. In a memoir *Le cadastre et l'impôt foncier* [below, Chapter 12], published in the *Bibliothèque Universelle et Revue Suisse*, November and December 1873, I made, in this regard, the observation that, regardless of how little one knows about economics, it must be admitted that the interest and amortization of rationally employed capital in agriculture will be part of the price of the products of agriculture, and that, consequently, the value of the land as such can always be found by deducting from the total value of a landed property the assessed value of all fixed and circular capital associated with it. The economists of Carey's school, I said [Chapter 12 below, p. 317], notice very well how capital enters the land in the form of seeds, husbandry, ameliorations, drainage, irrigation, etc., but they fail to see them come out in the form of corn, vegetables, and all kinds of fruit. This is, indeed, the little error made by these gentlemen: they are present when the farmer irrigates, works, sows, spreads manure, plants, or constructs, but they are absent or distracted when he mows, harvests, or picks the grapes. And these same economists, who revel in this phantasmagoria of an enormous, invisible, and impalpable mass of capital, buried in the ground, are accusing us of living in an abstract world, taking the chimeras of our imagination as real facts, because, after having verified a hundred times the fact of the increase in value of the produce of land in a progressive society, we explain it by connecting it with the laws of exchange.

land, the State used this increase to pay for the land, it would not only have secured the future, but mended the past.

Here an objection arises that was overlooked by Gossen. If the fact of the increase in value of the produce of land in a progressive **[368]** society is an economic fact demonstrated by experience and reason, the current price of land should be determined accordingly. If the State pays the current price to the owners, it will obtain the normal income from its investment wholly from the growing rent, but will obtain nothing with which to repay the money borrowed for the acquisition of the land. It is evident that a new element should be introduced in order to eliminate this difficulty. In my memoir on the *Mathematical theory of the price of land and its buying up by the State* [the preceding chapter], I drew this element from the following considerations. With several authoritative economists, I believe that humanity is presently going through an important economic evolution in passing from the agricultural regime, under which it has lived for several thousand years, to the industrial and commercial regime, which is essentially characterized by the fact that agriculture has to be undertaken with a very large investment of capital in order to nourish a much more numerous population. I believe that this evolution, which has as a consequence a further increase in value of the produce of land without an increase in the *rareté* or value of products from agriculture, and which until now has been noticed only by some open-minded and forward-looking persons, has not yet been taken account of by the landowners.[8] I believe, therefore, that if the State would buy up the **[369]** land before the evolution just mentioned, and then would do everything in its power to bring this evolution about (and the buying up alone would be helpful), it would amply find in the increase in the value of the produce of land the means of amortizing the purchase price. I do not believe, it is true, that the democratic and parliamentary State under whose blessings we are now living, is aware of such a possibility, but the value of an economic and social theory does not necessarily depend on the chances it has of being applied immediately or not. Suppose that some stoic philosopher in the second or third century of our era had given the exact and precise formula for a society without slavery, indi-

8 This new increase in value of the produce of land, resulting from the economic evolution in question, will only occur after the end of the present crisis of the worldwide levelling-out of rent brought about by the development of ways and means of transport, and the ensuing communication between the markets. Far from invalidating it, this confirms entirely our theory of the produce of land and its increase in a progressive society. Indeed, all in all, this theory comes down to the determination of the prices of land-services in conformity with the law of supply and demand. When two regions of a country, or two different countries, unevenly rich and populated, come into communication with each other, land-services are exported in the form of agricultural products from the place where they are less scarce to the place where they are scarcer. Hence there will be an increasing supply and, consequently, a fall in prices in the latter place, and a rise in prices in the former. This is what is happening at present between England and France on the one hand, and, on the other, the less-developed countries of Europe, America, and Oceania, and which, perhaps complicated by the scarcity of money, started what is called the agricultural crisis.

cating the way to and the means for emancipation of the slaves. It would then not have been difficult for short-sighted people who have reason to be quite happy with the existing social order to argue that the man's plan was completely in contradiction with the organization of the Roman society, and that his plan did not have any chance to be adopted; nevertheless, that would not have prevented this man from having truth and the future on his side. This is the case of Gossen's theory of the State's buying up of the land, combined with paying back its purchase price by means of its rent. Furthermore, in addition to the glory of Copernicus, which Gossen claims and is rightly due for his conception of mathematic equilibrium of the economic world, he merits, in my opinion, some of Newton's glory for his solution of the social question. Having said this, I have not a word to add to express my opinion of his merits.

I was deeply moved by the thought that a book like the one I have just analysed could be so neglected in a country like Germany, where it is claimed that scientific work is organized as to ensure that no idea will be lost. I know that humanity, like nature, finds satisfaction in creating for the sake of destroying. I have often said to myself that Copernicuses and Newtons are stifled at birth or in the prime of their life. But having before my eyes and touching a splendid book, which cost its author years of reflection and study, and which fell nearly into complete oblivion, is something I never expected to experience. I decided to gather **[370]** information on Gossen's life and to save his name from forgetfulness. Gathering information on a man who has been a Prussian civil servant appeared to me not to be extremely difficult, but nevertheless it took me three years from the time I heard for the first time about him before I was able to write the present paper.

Because there are many foreigners living in Lausanne, including several prominent people, it was easy to find someone in a position to ask the Prussian government for information. In February 1879, when I had just finished, with the aid of Mr. Charles Secrétan, the French translation of Gossen's book, I had found the right places to express my desire to get detailed information on the author's governmental and scientific career, along with the observation that a relative of Gossen's, if alive somewhere, could undoubtedly provide it. After only one year, I received a note informing me that Gossen died in Cologne at the age of 47 on 13 February 1858, leaving behind one sister, the mother of Dr. Hermann Kortum, professor of mathematics at the University of Cologne. Once having the latter's name, I wrote to him on 21 February 1880. He promised me without delay to satisfy my desire, but it was only on 29 July 1881, after having taken the time to delve into his uncle's papers, that he sent a note, which I summarize below.[9,xxvii]

Hermann Heinrich Gossen was born on 7 December 1810 in Düren, a town situated between Aachen and Cologne, and belonging at that time to the department Roër.[xxviii] His father, of German nationality, was tax inspector for the French Government, and kept this position in the service of the Prussian Government after the fall of the Empire; however, **[371]** in 1824, he abandoned his

9 I preserve the note *in extenso* in order to add it to a translation of Gossen's work.

post and moved to Cologne and later to Muffendorf, near Bonn, to devote himself to an agricultural enterprise. There, Gossen did his first studies, and developed a taste for mathematics. In the autumn of 1829, after having passed his final examination, he enrolled at the University of Bonn, with the aim of preparing for an administrative career, as was his father's wish.

In February of 1834, he presented himself for the examination necessary to enter the civil administration. On that occasion, he had to write an essay on the subject 'Comparative value of direct and indirect taxation from the point of view of State credit'. Gossen dealt thoroughly with the question, adopting, the rational method, not at all historical, that became his habitual one. Then he was nominated 'Referendar' [a trainee] in Cologne. He not only lacked the talent for administration, he disliked it. Vainly, he asked his father for permission and the means to continue his studies at the University for two more years so that he could take up some other profession. Thus, it was only in 1841 that he passed his second examination. In July 1844, he was made 'Assessor' in Magdeburg, and, later, in Erfurt. After his father's death in 1847, he abandoned the civil service and moved to Berlin. Politically liberal, and concerned already with the social question, he supported the 1848 revolution, without, however, having played an active part in it.

Then he met a Belgian who intended to set up a general insurance company with the purpose of offering successively all types of insurance. Gossen joined the project, and in 1849 he moved to Cologne to manage insurance against hailstorms and mortality of cattle. At the same time, he was meticulously preparing a plan for a 'General German Savings Bank' that was to be engaged in the life insurance business. However, because neither the hail insurance nor the cattle mortality insurance gave favourable results, he withdrew from business in order to prevent the loss of too large a part of the amount invested.

[372] These varied activities confirmed his economic ideas and made them more precise. This motivated him to present them systematically, and, from 1850 to 1854, he devoted all his time to this work, leading a retired life in Cologne in the vicinity of his two sisters. He attached much importance to his work and expected much from its publication. However, because of its mathematical form, which made it highly original, the book failed to make any impression or even to be read, except by a few people.

To this lack of success, illness was added to sadden Gossen's last years. In 1853, a serious attack of typhoid fever ruined his health, excellent until then, and somewhat later the first symptoms of rapidly worsening pulmonary tuberculosis became apparent. Confined in retirement and unable to find a new position, Gossen, musician and violinist, found some solace in music, the mathematical theory of which he studied seriously. He died on the 13 February 1858, enfolded in the affectionate care of his sisters. He was a man with an idealistic and optimistic way of thinking, impractical, and not caring about his personal interest, very kind, gentle, frank, good-natured, and of an receptive and naïve, child-like mind that opened everyone's heart to him.

Such was this man's life; one recognizes the traits of the traditional German character. Combining genius and naïvety, he died at the age of 47 years, certainly never having doubted the value of his ideas, but perhaps convinced that he would never be honoured for them. I wrote this article, exactly as it is now, with the exception of three footnotes, in which I have tried to pay him homage as carefully as possible without denying my own contributions, during the first days of August 1881, together with the translation of Mr. Kortum's biographical note. I put them aside then because I feared to attach premature and excessive importance **[373]** to theories in whose success I am personally interested. Now, however, I think I should no longer hold them back. In the summer of 1882, Jevons died, and immediately the full significance of his work became evident. A group of admirers, among which, indeed, England's most eminent statesmen and scientists were included, took the initiative to try to set up a foundation in honour of his memory. In the Call for Contribution, signed by, among others, Mr. Foxwell and Mr. Adamson, Jevons's successors at the University College of London and Owens College, Manchester, respectively, reads as follows:

> However great a logician he was, he was nonetheless a greater economist.… It is not an exaggeration to say that his *Theory of Political Economy* was the most original economic work of this time and that by this book, and by his admirable statistical research, he marked a new period in the development of economic theory, whose scientific character he has put beyond any dispute.

Nothing is more truthful, but is this not the right occasion to remember that Gossen, before Jevons and just as skilfully (as Jevons himself acknowledged), established economics in mathematical form, which will be its definitive form? There is more to say. Everyone has read Mr. Charles Gide's article 'De quelques doctrines sur la propriété foncière' in the May 1883 issue of the *Journal des Economistes*.[xxix] In the second part of this article, the author examined the theory of the buying up of the land by the State. Rejecting this policy for the developed countries of Europe, he personally wished for the experiment to be made in new countries like America, Australia, and Algeria. This study, one might say, has put the question on the agenda. Mr. Paul Leroy-Beaulieu tackled it in his third series of lectures at the Collège de France, published recently under the title *Le collectivisme, examen critique du nouveau socialisme*.[xxx] Mr. Alfred Fouillée has devoted an article to it in the issue of 15 June 1884 of the *Revue des Deux Mondes*, titled 'Les études récentes sur la propriété',[10] **[374]** in which one can read the author's following conclusion:

> All things considered, why would the State renounce benefits for itself from a phenomenon that is eminently social: the progressive increase in value [of the produce of land]? And why would it leave all legitimate benefits solely to individuals? It is up to the economists to indicate the best way to proceed.

10 This article forms Book I of [his] *La propriété sociale et la démocratie* [Paris: Hachette, 1884].

> Suppressing taxes by means of profits made by the State, substituting the spontaneous rent increase for the charges weighing upon the taxpayers, extinguishing public debts consistently bit by bit; those are results so desirable that we should seriously seek the means to realize them.

Mr. Gide did mention Gossen, but Mr. Leroy-Beaulieu and Mr. Fouillée failed to do so. It seems to me that one should do a man the honour of mentioning his name when one does him the honour of refuting him, and even more so when one does him the honour of taking his ideas and spreading them throughout the Old and the New World. It seems to me that the time has come to prevent from happening to Gossen, as has happened to others, that an injustice started by negligence be perpetuated intentionally. That is why I decided to attract so emphatically the attention of economists to his name and work, and to ask French science and critics to bring credit on themselves by treating this profound and original thinker, insufficiently appreciated in his own country, with all the respect he deserves.

Notes

D i The editor in chief (Gustave Molinari) added the following warning to this article:

> When publishing this article by one of our former and erudite collaborators, we have to express some reservations; first, on the usefulness of the application, which we believe to be greatly exaggerated, of mathematical methods to a science of observation such as is ours, and, second and above all, on the State taking possession of the land motivated by a fact that is at least disputable, namely the increase in value of the produce of land in a progressive society. In England, for example, the increase in value of the produce of land gave way to a decrease some years ago, but England did not cease to be a progressive society.

D ii Memoir read before the Académie des sciences morales et politiques (Paris, sessions of 16 and 23 August 1873). Published in *Séances et travaux de l'Académie des sciences morales et politiques*, Paris: Piccard, 33rd year, new series, Vol. CI, January 1874, pp. 97–120. Republished in *Journal des Economistes*, 4th series vol. XXXIV, no. 100, pp. 5–21, later in *Théorie mathématique de la richesse sociale. Quatre mémoires*, Paris: Guillaumin, 1877, and in *Théorie mathématique de la richesse sociale*, Paris: Guillaumin-Corbaz, 1883. See also the definitive version in *ŒÉC*, Vol. XI, pp. 27–46 and Vol. VII, pp. 261–281.

iii We leave the typically Walrasian term 'rareté' (marginal utility) untranslated.

D iv The *Journal des Savants*, founded in 1665, is the ancestor of all literary reviews. After having lost most of its importance during the eighteenth century, its issuance was interrupted during the Revolution. It restarted in 1816 under the patronage of the Government (first presided over by the Minister of Justice, and from 1857 onwards by the Minister of Public Education). This venerable publication functions like an Académie. Bertrand wrote a joint book review of Walras's *Théorie mathématique de la richesse sociale* and Cournot's *Recherches sur les principes mathématiques de la richesse sociale* (1838).

v Third memoir: 'Équations de production' (1876); fourth memoir: 'Équations de la capitalisation et du crédit' (1877) in *Théorie mathématique de la richesse sociale*, op. cit.; see also *ŒÉC*, Vol. XI, pp. 73–99 and 100–130.

vi Molière, *Les femmes savante* (The Learned Ladies), Act III, scene 2.

vii *Journal des Economistes*, June 1874, pp. 417–422, where Walras published a translation of Jevons's letter dated 12 May 1874, and his own answer dated 23 May 1874. See *ŒÉC*, Vol. XI, pp. 47–52 and also *Correspondence*, Letters 393 and 397.

viii *Journal des Economistes*, December 1874, pp. 470–477, 'Bibliographie des ouvrages relatifs à l'application des mathématiques à l'économie politique', by W.S. Jevons and L. Walras. See *ŒÉC*, Vol. XI, pp. 614–622.

ix *Correspondence*, Letter 417.

x See the preceding Chapter 8, section 3.

D xi Wilhem Roscher, *Geschichte der Nationalökonomik in Deutschland* [History of Economics in Germany], München: R. Oldenbourg, 1874. Roscher does not mention Gossen.

xii London: Macmillan, 1879.

xiii Julius Kautz, *Theorie und Geschichte der National-Oekonomik* [Theory and History of Economics], two volumes, Vienna: C. Gerold, 1858–1860.

xiv In a first note, Kautz (1858–1860, Vol. 1, *Die National-Oekonomik als Wissenschaft* [Economics as a Science], p. 9), wrote: 'Recently Fr. [sic] Gossen tried to present a veritable theory and philosophy of pleasure [des Genusses] (and even on a mathematical basis!) in his book *Entwickelung der Gesetze des menschlichen Verkehrs*, 1854 (pp. 1–45 ff.).' In a second note on the same page, we read: 'Gossen remarks (op.cit. p. 2): that all individuals always try to maximize their pleasure, and that this has been established in human nature by God himself as the eventual life-purpose of Man.' It is not amazing that this piqued Jevons's curiosity. Thus, it seems that Gossen was saved from total neglect, on the one hand, by Kautz's two remarks and, on the other, by the fact that Adamson was very well-read in German economic literature and happened to know Jevons's *Theory*. According to Jürg Niehans ('Gossen, Hermann Heinrich (1810–1858)', in John Eatwell, M. Milgate and P. Newman (eds), *The New Palgrave, a Dictionary of Economics*, Macmillan, London, 1987, Vol. 2, pp. 550–554), these footnotes, and another equally scanty one in the book by F.A. Lange (1875; see Walras's footnote 3), are the only references to Gossen before Jevons and Walras did justice to him.

xv This translation has been published under the title *Exposition des lois de l'échange et des règles de l'industrie qui s'en déduisent*, introduced and annotated by Jan van Daal, Albert Jolink, Jean-Pierre Potier, and Jean-Michel Servet, under the auspices of the Centre Auguste et Léon Walras, Université Lumière Lyon-2 and the Tinbergen Institute, Erasmus Universiteit Rotterdam, Paris: Economica, 1995.

It should be noticed that Walras wrestled with the translation of the title of Gossen's book. The above editors found many draft versions. In particular, for the German expression 'der menschliche Verkehr', tentative translation 'les relations humaines', 'les relations entre les hommes', 'le trafic social', and 'l'échange' were found; finally, Walras chose the last one, as the reader can infer from the above title. For 'das menschliche Handeln', the French translators tried 'la conduite', 'les activités humaines', and 'l'industrie'. The last expression found a place in the definitive title.

The translators into other languages were perhaps likewise hesitant, as might be inferred from the fact that the two Italian translations have different titles. The first Italian translation was: *Sviluppo delle leggi del commercio umano*, translated and introduced by Tullio Bagiotti, Padua: Cedam, 1950. Later on, a revision appeared: *Sviluppo delle leggi di comportimento umano e delle regolo d'azione che ne derivano*, revised translation and new introduction by Tullio Bagiotti, in *Marginalisti matematici (Gossen, Launhardt, Auspitz, Lieben)*, UTET, Turin 1975, pp. 87–425. There is one English translation: *The laws of human relations* *and the rules of human action derived therefrom*, translated by Rudolph Blitz, with an introductory essay by Nicholas Georgescu-Roegen, Cambridge: The MIT Press, 1983. There exists also an abridged Japanese translation, dating from 1920.

xvi *Theory of Political Economy*, second edition, Preface, p. XLI. Below we quote what Jevons said about Walras in the same preface, pp. XLII–XLIII:

> It remains for me to refer to the mathematico-economic writings of M. Leon Walras, the Rector of the Academy of Lausanne. It is curious that Lausanne, already distinguished by the early work of Isnard (1781), should recently have furnished such important additions to the science as the Memoirs of Walras. For important they are, not only because they complete and prove that which was before published elsewhere in the works described above, but because they contain a third or fourth independent discovery of the principles of the theory. If we are to trace out 'the filiation of ideas' by which M. Walras was led to his theory, we should naturally look back to the work of his father, Auguste Walras, published at Paris in 1831, and titled *De la nature de la richesse, et de l'origine de la valeur*. In this work we find, it is true, no distinct recognition of the mathematical method, but the analysis of value is often acute and philosophic. The principal point of the work moreover is true, that value depends upon *rarity* – 'La valeur', says Auguste Walras, 'dérive de la rareté.' Now it is precisely upon this idea of the degree of rarity of commodities that Leon Walras bases his system. The fact that some four or more independent writers such as Dupuit, Gossen, Walras, and myself should in such different ways have reached substantially the same views of the fundamental ideas of economic science, cannot but lend great probability, not to say approximate certainty, to those views. I am glad to hear that M. Walras intends to bring out a new edition of his Mathematico-Economic Memoirs, to which the attention of my readers is invited.

xvii See note ii above.

D xviii Memoir read before the Société vaudoise des science naturelles, 1 and 15 December 1875, published in *Bulletin de la Société Vaudoise des Sciences Naturelles*, second series, Vol. XIV, no. 76 (October 1876), pp. 367–394. Later in *Theorie mathématique de la richesse sociale. Quatre mémoires*, 1877, op. cit. and in *Theorie mathématique de la richesse sociale*, 1883, op. cit., pp. 33–53. See also *ŒÉC*, Vol. XI.

xix See Chapters 2 and 8 of Gossen's book. Gossen did not employ numbered chapters, but the translations all have an identical separation into chapters and numbering thereof.

xx *Theory*, Chapters V–VII.

xxi See Appendix I for Walras's terminology regarding capital and capital-services.

D xxii Memoir read before the Société vaudoise des science naturelles, 19 January and 16 February 1876, published in *Bulletin de la Société Vaudoise des Sciences Naturelles*, second series, Vol. XIV, no. 76 (October 1876), pp. 395–430. Later in *Theorie mathématique de la richesse sociale. Quatre mémoires*, 1877, op. cit. and in *Theorie mathématique de la richesse sociale*, 1883, op. cit., pp. 55–82. See also *ŒÉC*, Vol. XI.

D xxiii The memoir 'Équations de la capitalisation' was read before the Société vaudoise des science naturelles, 5 July 1876, published in *Bulletin de la Société Vaudoise des Sciences Naturelles*, second series, Vol. XIV, no. 76 (October 1876), pp. 525–546. The complete title (with 'et du crédit' added) appeared for the first time in Italian translation (*Biblioteca dell'economista*, 1878, third series, Vol. 2, pp. 1357–1383), and subsequently in *Theorie mathématique de la richesse sociale. Quatre mémoires*, 1877, op. cit., and in *Theorie mathématique de la richesse sociale*, 1883, op. cit., pp. 83–112. See also *ŒÉC*, Vol. XI.

xxiv Walras wrote 'rate of income', not 'rate of interest'. If, using his terminology in dealing with capital formation, he had written 'the rate of net income', the variable in question would essentially be the rate of interest, and that is doubtless what he intended.

xxv I.e., the quantity of one of the two goods which has to be given in exchange for one unit of the other good. The value of the other good is then equal to one.

xxvi See the preceding chapter.

xxvii A French translation of the note has been added to the introductory material of the French translation of Gossen's book (pp. 33–38); see note xv above. The German manuscript, written in 1881, is lost. Walras had sent it back to Kortum for reasons unknown to us; see *Correspondence*, Letter 649.

xxviii During the Napoleonic period, this region (approximately the present Ruhr Region in Germany), was a French department. That is why Gossen's birth certificate, the only thing concerning his existence that survived wars and negligence, is in French. A copy of this birth certificate is included in the French translation of Gossen's book (p. 39).

D xxix *Journal des Economistes*, Vol. XXII, fourth series, no. 5, May 1883, pp. 169–200. This article dealt largely with Henry George's 1879 book *Progress and Poverty*.

xxx Paris: Guillaumin, 1884.

Part IV

Taxes

10 Remembrances of the Lausanne Conference

[377][i] The 'Remembrances of the Lausanne Conference', that follows now, preceded my *Théorie critique de l'impôt*, which I published in 1861.[ii] The next chapter, 'Taxes on income and capital', the purpose of which is not to establish the excellence of a tax on capital, but only its superiority to a tax on income, formed a part (§4, 'Taxes from the point of view of equity') of the *Théorie critique*. The three preceding sections: 'Social wealth and its laws; status of the problem of taxation', ['Different economic consequences for the different kinds of income'][iii], 'Possibilities and problems regarding taxation', have been put into the *Éléments d'économie politique pure* and into the memoir *De l'impôt dans le canton de Vaud* (1861).

I did not insert the 'Remembrances of the Congress of Lausanne' in the first edition of the *Études d'économie sociale* because I had found some mistakes in it:

1. I wrongly thought that Garnier's and Girardin's *single* taxes, which were *personal* taxes, were the same as the English income-tax, which is a group of direct taxes on certain incomes and, consequently, a tax that is both *multiple* and *real*.[iv]
2. I attributed to direct *personal* taxes some incidences that are only incidences of direct *real* taxes on rent, wages, and interest payments.[v]
3. Finally, I attributed to the direct tax on interest payments[vi] an incidence that it does not exactly have. Even as a real tax, it does not have the character of a consumption tax to the degree I initially believed; it has that character only partially, and only more or less. A tax on a payment of *a single type* of interest would have that character to a high degree and would have the character of a tax on income to a small degree. The incidence of a tax[vii] on *all types* of interest would not fall at all on consumers and would fall entirely on capitalists. From the former case to the latter, the incidence would decrease, and the character of a consumption tax would disappear and would be displaced, more and more, by the character of a tax on income.[1]

1 See *Éléments d'économie politique pure*, last Lesson; *ŒÉC*, pages 673 ff.

[378] Nevertheless, when rereading the 'Remembrances' with a view to a second edition of the *Études d'économie sociale*, I thought that these mistakes were in no way an obstacle to a reprint.

For the correction of the first mistake, eliminating one word is enough.

The second one, it seems to me, is also rather a mistake in the minutes that I wrote afterwards than one made at the Congress itself, and I could render it less serious in the course of my refutation of the single or personal tax, without making it disappear, subject to the condition of informing my readers, as I am doing here, that I have revised and corrected my minutes on this point.

The theory of taxes on capital proper, on which I lectured in Lausanne, and that I reproduced in the first two editions of the *Éléments*, has been rectified only in the third by means of the *law of the establishment and variation of prices of capital goods*, furnished by mathematical methods; I must, even now, allow this to appear as it was in order to present an exact narrative of my role at the Congress. I have restricted myself to pointing it out in a note.[viii]

One might perhaps ask me why these 'Remembrances' are so dear to me. The answer is that the Congress of Lausanne was for me a decisive success. The proposal to exempt wages from taxation, presented in the piece that follows and that was suggested to me by my father, made a great impression. A young lawyer who attended the sessions of the Congress in the public stands, and who did not have the opportunity to meet me at Lausanne, came to visit me afterwards in Paris to say how struck he had been. We got along well with the enthusiasm of youth. His name was Louis Ruchonnet and he aspired to a political career. Ten years later, when he was Head of the Department of Public Education and charged with the reorganization of the Academy of Lausanne, he came to see me a second time, and offered to create a chair of political economy for me in the Law Faculty, if I would promise to appear to compete for obtaining the position. I accepted, and it was, therefore, the Congress on Taxation at Lausanne in 1860 that truly launched my career.

June 1899
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Remembrances of the Lausanne Conference

[…][ix]

The International Congress on Taxes was held from 25 to 28 July 1860 in the Vaud Canton, in Lausanne, a nice city perched on three hills whose name can hardly be pronounced without remembering, at the risk of being boring, that it is situated at the northern shore of Lake Geneva, just like Coppet, where Madame de Staël lived, and Vevey, scene of the love between J.-J. Rousseau's Saint Preux and Julie.[x] The meetings were held in the sessions room of the Great Council building and presided over with firm dignity and politeness by Mr. de Miéville, a lawyer.[xi]

Among the 94 participants from France, Spain, Italy, Russia, Poland and elsewhere were the following prominent persons: Messrs. Frédéric Skarbeck, author of *Théorie des richesses sociales* [1829], Joachim Pepoli, Louis-Maria Pastor, and André Zamoyski, whose titles do not need to be mentioned; several other men of fame in science or politics; and, finally, the most distinguished men from the Vaud Canton, and others who were notable like Messrs. Joseph Hornung and Edouard Secrétan, professors at the Académie de Lausanne, and Bory-Hollard, member of the Great Council.

There will be no doubts that France was well represented if I say, in particular, that Messrs. Joseph Garnier and Émile de Girardin were present. – Wherever a scientific congress is held, French ideas are eagerly expected and favourably received.[xii] This being so, Mr. Garnier, unyielding supporter of the direct and single tax on income,[xiii] and Mr de Girardin, inventor of the direct and only insurance of capital,[xiv] must be, and indeed were, the most outstanding persons of the conference.

Among the French economists, a group consisting of scholarly and diligent men can be distinguished, well versed in the works of the Physiocrats and the **[380]** English economists, and all more or less disciples of J.-B. Say, who have done a great deal for economic science in shedding light and solving nearly completely and definitively all the problems relating to industry and commerce. These gentlemen's doctrines regarding the questions I have just mentioned have been explained by them in the *Dictionnaire de l'économie politique*, a praiseworthy and remarkable work. Mr. Joseph Garnier is in the top rank of these economists.

In our opinion, however, these gentlemen were not only wrongly averse to metaphysics, but also to moral philosophy, which precluded them, as we see matters, from being able to clarify and get to the bottom of either the natural theory of value in exchange and social wealth, or the moral theories of property and taxation. In this respect, Mr. Garnier should not be considered separate from his school and from the other disciples of J.-B. Say. Anyway, he should be considered as an educated, conscientious man who did not obtain his reputation and position as an economist by presenting to the credulous public, in the name of political economy or statistics, his own reflections on private morality, matters of hygiene, or whatever, as so many others have done.

Mr. Émile de Girardin is not a better philosopher than Mr. Garnier, and he is much less an economist. Nonetheless, if Mr. de Girardin's ideas on taxation seemed to us highly inadequate, his way of presenting and upholding them appeared to us to be very remarkable. Without at all being a skilled orator, Mr. de Girardin has the most solid and valuable qualities in discussing his ideas: a deep-rooted conviction and a strong belief, resulting in complete absence of charlatanism and an uncommon measure of frankness. Mr. de Girardin never goes beyond the realm of his ideas and never stays within it. Furthermore, Mr. de Girardin has a boundless broad-mindedness: the most extreme, the most direct, and the least concealed disagreement never annoys or astonishes him. Add to this that this man, who is illustrious, and who is certainly worthy of being so, if not as a theorist at least **[381]** as a political activist, is absolutely devoid of arrogance and pedantry, that he has a simplicity that is both distinguished and informal, and it will be understood easily how many talents he can draw upon to captivate an audience. No, Mr. de Girardin's socialism is not ours, but we feel great sympathy for him because he has the soul and the character of a true liberal.

In this respect, I remember a typical incident.

The participants of the congress were initially split into two sections: one had to deal with the rational theory of taxation, and the other had to examine critically existing taxation. The discussions in the first section were extraordinarily lively. The chairmen, who included Mr. J. Garnier, tried to direct the discussion by having some formulas adopted. Some members of the section, including Mr. de Girardin, refused forcefully to take a position prematurely on the essential questions. The chair asked the participants if they wanted to discuss according to a schedule or not, and the majority of them answered that they wanted to discuss the subjects in their natural order and not according to the chair's. Thus, abandoned more or less to itself, the discussion very quickly concentrated on the definition of the State: a good or a bad theory of taxation depends on a good or a bad conception of the nature and role of the State. It was therefore rather peculiar that Messrs. Garnier and de Girardin espoused the same doctrine about the role of the State and the nature of taxation; the only difference being that the one tried to impose his ideas by authority, whereas the other aspired only to make his ideas to triumph in a free debate.

* * *

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- How much do you pay for your rent?
- 1,000 Fr.
- 1,000 Fr.? This means that you have *about* 5,000 Fr. of annual income. Hence you pay only and directly one-tenth of your income; that is, 500 Fr. tax per year.

Such is the tax on income.

- What is the value of your possessions of land, houses, railway shares, furniture, clothing, works of art, etc.?
- *About* 100,000 Fr.
- About 100,000 Fr.? Hence, you pay only and directly one per cent of your capital or *net assets*; that is, 1,000 Fr. tax per year.
- Such is the tax on capital.

Taxes on income and on capital differ in two respects. To begin with, in the first case, every citizen's amount of tax is calculated on the basis of his income, and in the second case, on the amount of his capital. Next, for the income tax, income from human faculties is considered as income, whereas for the capital tax, personal capital is not considered as capital: in the first case, the tax tries to affect and tax the wages, interest payments, and rent all at once; in the second case, the tax tries to spare the people's personal faculties, work, and wages.[2]

Taxes on income and capital are similar in two respects. First, in both cases, it is believed that each person should pay the same proportion of his income derived from both work and capital: the ratio will serve as a basis for the calculation of the amount of the tax. Second, in both cases, it is believed that the differences in the economic nature of the taxpayer's wealth do not have to be taken into account: thus, the income tax is calculated without considering whether the income consists of rent, or interest, or wages; and the capital tax similarly is calculated without regard to whether the capital is landed capital or capital properly speaking.

[xv]What is more, Mr. Garnier does not doubt that the amount paid in house rent by a taxpayer is roughly proportional to his income **[383]** consisting of rent, wages, and interest; and Mr. de Girardin is quite convinced that, when the State has been given the monopoly of insuring against any kind of risk, the citizens will not fail to declare as exactly as possible the total amount of their landed and other capital. There are writers, however, also highly attached to the principle of proportionality of taxes, either to capital or to income, who consider achieving it highly uncertain under present conditions, and who try to arrive at it by imposing taxes on things rather than asking persons about their finances. The direct tax will then become *real*, instead of *personal*, and *multiple* instead of *single*. Then, however, one will be confronted with the phenomenon of *incidences*: because of the economic mechanism, taxes have very different effects according to the kind of social wealth that is taxed.

The intellectual and physical faculties of people form capital that has not been created industrially and is not sold commercially. From this twofold fact, it follows that taxes, insofar as they are imposed on the price of labour, are purely and simply a confiscation by the State of a part of individuals' wages without subsequent incidence, if there are no exceptional cases. This is different, however, for taxes on the produce of land or on the profits of artificial capital.

Pieces of land are no more produced than are men, but they can be sold and purchased. From this results a quite particular and remarkable incidence of a land tax. Taxes, when levied on rent, consist less of a permanent confiscation of a part of landed income than, purely and simply, of a confiscation of a part of landed capital; in other words, by establishing a land tax, the State declares itself, no more **[384]** and no less, to be the owner of a part of the land and receives the rent of this part. The Physiocrats knew this,[xvi] and it has been perfectly demonstrated by Destutt de Tracy, and nowadays it is accepted by the most distinguished economists. What is more, Destutt de Tracy has correctly shown that the landowners in possession of land at the time of the institution of the tax, thus paying all at once and completely the fund for the annual taxes, in

2 In his *Traité de finances* (second edition, note VII [1862]), Joseph Garnier reproduced approvingly these definitions and distinctions.

this way freed all their successors. In other words, the land tax formerly instituted '*is no longer really paid by anybody*'.

A scientific analysis has never been made of taxes on interest yielded by artificial capital, i.e., on capital properly speaking.[xvii] To do so, the capital goods should be considered as products whose price, under normal conditions, must be the same as the average cost. Taxes on interest payments have, as a first effect, that the ownership of the income, and therefore of the capital goods, is shared between the owners and the State. Hence, its second effect is a temporary reduction of their market value below their average cost, which means a loss for the producers. But this irregular situation cannot last long. The production of capital goods slows down; their quantity decreases; the value of their income, and therefore their market value, increases. And when the value of their income includes the amount of the tax, and, as a consequence, their market value is the same as their average cost, production of the capital goods is resumed. Then, however, the tax is paid by the consumers of the services of capital, i.e., by the consumers of the goods in the production of which these services are used; hence, the tax functions as a consumption tax, that is to say, its incidence is shifted from the interest recipients onto the landowners, workers, and capitalists personally.[3]

[385] Even without raising the practical question of whether the burden of real taxes falls more on things than personal taxes do on persons, we leave for reflection the question of whether, because of such incidences, the direct and multiple tax would more effectively bring about proportionality than the direct single tax or the indirect consumption tax. We have even more to say, however: we contend formally that proportionality of taxes is required by justice. We contend that direct taxes on things and direct taxes on persons seek to satisfy, without the former doing so any more than the latter, a principle that is as false as it is unachievable.

* * *

As one knows, it is universally, or at least quite generally accepted, that the more substantial is a citizen's wealth, the more he is interested in public services, and that, consequently, he has to contribute to the expenditure needed for the public services in proportion to his wealth. But, personally, we are no less convinced that the State's services are, or at least should be of equal importance for all citizens, and that, consequently, all have to contribute an equal part to the public expenditures. So, we part with direct taxes, single or multiple, personal or

3 This is a thesis that is too absolute and that the mathematical theory of social wealth enabled me to put within its correct limits in the last lesson of the *Éléments d'économie politique pure*. The assertion is only true under the condition, in fact often fulfilled, that there be a certain number of types of capital goods that are not taxed toward which savings are able to flow, and insofar as a redirection can take place. In the absence of that condition and if the redirection cannot take place, the tax can be transformed into a reduction of income. [See *ŒÉC*, Vol. VIII, pp. 672 ff., *Éléments*, Lesson 42.]

real, when it is a question of taking into account, theoretically, the citizens' wealth from the point of view of taxing them proportionally.

Going here strongly against the prevailing opinion, but unable, for the time being, to provide all the evidence supporting the opposite opinion, we will simply try to shed light on the point in contention.

Let us take criminal justice as an example of a public service. A robbery has been committed and the man suspected of it is arraigned. In the most widely held opinion, a service has been produced, in a sense, by the magistrates, and this service is consumed by the person who has been robbed. In our opinion, **[386]** matters are quite different. As we see it, when the magistrates prepare a case, it is not a question of avenging an injury to a private person, but one of avenging the disturbance of order and the disrespect of law. The robbed person is not the only person concerned in the case, and he is no more concerned than any other person; all citizens are equally anxious that order be maintained, that the law be respected, hence that justice be done. We remark in passing that the common mistake has not been committed by the legislators who have instituted our laws and arranged their execution. When, indeed, a man suspected of a robbery is taken to court it is not the victim who is acting, either personally or by a lawyer's voice. The man is taken to court by the whole society, accused through the instrumentality of the public prosecutor's office; it is the entire society that declares the person guilty or innocent of the crime, by means of the instrumentality of the jury, and it is the entire society that administers the sentence by means of the instrumentality of the judges. Hence, if we want to use the words production and consumption in this case, we should say that we have to do here with production and consumption of a public service equally by all the citizens.

What just has been said of penal law, could be said equally, with appropriate reservations, of civil law. If our country were invaded, there would be, according to the society of our opponents, a proportional interest of the owners to have their land and capital defended by an army; in our society, there would be, in such a case, an equal interest of all the citizens in saving the independence of the nation and the land of their mother country.

These two examples will perhaps suffice to cause some minds open to philosophical inspiration to reflect. To them we say that, in our opinion, two categories of interests, corresponding to two domains of activities, should be distinguished: on one hand, the private and particular interests, all dissimilar, forming the domain of individual activities, and, on the other hand, the general interests, all the same, forming the domain of **[387]** collective or common activities and the State's services. We add that, moreover, there are two systems opposed to ours; absolute *communism*, tending to see everywhere only general interests, only equality, striving constantly for the incorporation of the individual into the State; and absolute *individualism*, tending to see everywhere only private and particular interest, only inequality, striving constantly for the destruction of the State to the advantage of the individual.

Now that these considerations have been presented, we feel comfortable about evaluating direct taxes from the moral point of view.

Mr. Joseph Garnier, when presenting his definitions and formulas at the first session of the Congress of Lausanne, affirmed his desire to arrive at '*the most simple and least interventionist government*'.[4] About this, we say that the point is not simplicity or complexity, or frequent or infrequent government intervention; we say that the point is rather to determine in a scientific way the category of general, equal interests, and the domain of collective or common activities and State services; that category may be large or small, that domain may be wide or narrow, but that is not for us to judge, because to do so is simply not within the economist's province. Mr. Garnier wanted also to make clear that '*properly conceived taxes are above all the price of the service of safety*'.[5] To this, we will answer that safety probably is not the only, not even the first general, equal interest, and that the State surely does not sell safety, justice, or defence of the country, and the private individual does not buy them as one buys and sells cloth or spices, by the yard or by the pound.

No: that way of seeing the things is anti-philosophical; it is petty, erroneous. The truth is that public expenditures are the expenditures necessary for State services, these services being those that are of interest to all individuals to the same extent. From this principle, if admitted, one can **[388]** directly deduce a very important consequence, namely: – All citizens must, first, contribute equally to the public expenditures, and, second, must participate equally in the benefits of public services.

Let these reflections suffice to make some persons see that the very idea of taxation, or of having the State supported by individuals as far as concerns its expenditures, would seem to be a poorly justified idea, and that the problem of taxation is a problem whose weak philosophical position would necessarily be made apparent by its scientific insolubility.

* * *

At the opening of the session of 26 July, Mr. L.-Maria Pastor, former Minister of Finance of Spain, developed a system of personal taxes not levied on capital or income, and he proposed maximums, averages, and minimum contributions for several categories of taxpayers. – It should be observed that the tax in question, direct and single, levied on wealth, is as empirical as possible, and, because of that, as indeterminate and arbitrary as can be imagined. The rest of this story will easily show how numerous personal taxes, all direct and single, even the most arrogant and least tractable, may easily and without the least reluctance be taken together or divided, isolated, or merged, without thereby becoming worse or better.

> When Mr. Maria Pastor had finished – Mr. Garnier said – Mr. Pascal Duprat invited Mr. E. de Girardi to explain his system of capital taxation, but since

4 [Joseph Garnier, 'Congrès international réuni à Lausanne les 25, 26, 27 et 28 juillet 1860',] *Journal des économistes*, [October] 1860, p. 78.

5 Ibid.

the latter had transmitted the right to speak to the defenders of the income tax, who did not seize the opportunity, the result was that the discussion took a wrong direction, and that the first session was largely devoted to a new explanation of Mr. Léon Walras's theory.[6]

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The fact is that, when Mr. Maria Pastor became silent, the two direct and single taxes on income and capital began to engage in provocations mixed with flirtations.

- Please give a performance, the income tax said to the capital tax; I will appear on stage afterwards.
- I will not do that. You speak first and I will answer.
- Spare me that attitude. Begin!
- Begin yourself.

True, we[xviii] talked in the privacy of our session, but we did not think that that would prohibit our talking to the entire congress. We asked permission to speak and we received it. Did we have nothing more urgent to talk about than painting or music, rain or good weather, or problems in the Orient? Of course we did. We summarized quickly §1 of our *Théorie critique de l'impôt*, where the types and the laws of wealth are explained, and we presented in full §2, where the different economic effects of taxes on the various kinds of income are analysed. Concerning a tax on rent, we had only to repeat and complete Mr. de Tracy's demonstration; with respect to a tax on interest payments, we had to present our own, original demonstration; in concluding, we stated that produced wealth, or artificial capital, escapes from taxes due to economic necessity, and that taxes affect and have their incidence upon natural wealth only; that is to say, on the produce of land and labour.

Thus, the Congress had just had the pleasure of considering a first case of a direct and single tax; it would soon have the chance to consider four or five other examples of it; and because we interrupted this bliss with some economic analyses, we gave the discussion 'a wrong direction'! That is undoubtedly the opinion of the 31 participants who voted in favour of personal taxes, but perhaps it was not that of the 63 participants who voted against them or abstained.

[390] Here an obscure point was clarified. It became evident that, in the opinion of the 31 supporters of personal taxes, the purpose of the Congress should be aimed, on the one hand, at the extermination of all existing taxes, and, on the other, at the glorification of single and direct taxes on income and capital together. Well! These gentlemen must then be daring and sincere, must arrange the Congress as a show, and must organize its deliberations like the beginning of a ballet. One could have called it THE TRIUMPH OF THE SINGLE TAX. First,

6 Ibid. p. 81.

we would see the appearance of *Direct consumption taxes*, *Duties on imports*, and *Fiscal monopolies' duties*, only to be sent flying by a *Tax on capital* and a *Tax on income.* Then the *Tax on capital* and the *Tax on income* would perform some courteous dance-steps, unite and kiss each other, finally being carried heavenward in a grand apotheosis. The programme of the festival would have been published, and those participants of the Congress who were not supporters of either the status quo or the personal tax would have abstained from disrupting the entertainment.

> After Mr. de Girardin had asked to speak, the discussion rose to a more rational level, and during the rest of the session, the main question discussed (except for some tangential interruptions cut short by the audience and the chairman) was that of a capital tax compared with an income tax, raising the question of real or personal taxes.[7]

Indeed, during the remainder of the session we heard five speakers, all supporters of direct and single taxes, either on income or on capital: Mr. de Girardin, on two occasions, and Messrs. Figuerola, Duprat, Serno-Solovevich, and Garnier. So, matters came back to the order of the day. Moreover, none of these speakers believed he should base his system on principles of moral philosophy, much less on economic principles. There was hardly a mention of the role of the State and the individual in society, and absolutely none of tax **[391]** incidences. Furthermore, neither the income tax, nor the capital tax said or wondered for even one moment why the one is levied on income and the other on capital, i.e., according to what principles of equity or rules of convenience the tax has to be calculated based on the amount of income or the amount of capital. The whole question was whether the tax should be real or personal; that is to say, in more precise terms, whether the wages should be taxed, as the income tax does, or whether the people's personal faculties should be spared, as the capital tax does. It can truly be said that, on this point, the discussion was eminently scientific and serious.

- Really! said the tax on income, here we have, for example, a journalist, a famous journalist, an editor in chief of *La Presse*;[xix] this man earns money, a lot of money; and he would not pay any tax.
- Well, the capital tax answered, what do you think he is doing with his money, this journalist? He will buy a magnificent property in the neighbourhood of the Lac d'Enghien, splendid furniture, statues and paintings; tax his house, his furniture and his objects of art. And, if everything should be considered, since I have a carriage and horses, well, tax them.

To this, the income tax could have said:

- Yes, but if instead of those uses of your money, you had just wasted it?

7 Ibid. p. 82.

To this the capital tax would undoubtedly have answered:

- In that case, I would have nothing to pay. I am 'an agent of circulation who accomplishes an important task by accelerating the movement of the numéraire'.[8]

They went on to investigate what would be the fiscal basis of the tax on a singer's income, what would be the tax base of a female dancer, etc., etc. Following this discussion, which was initially, it is true, going in a 'wrong direction', but which the supporters of all kinds of single direct taxes, fortunately, elevated just in time to **[392]** 'a more rational level', those supporters manifested an intense desire to do a little voting. The majority of the Congress, however, wanted to adjourn the continuation of the discussion until the next day.

* * *

The next day, the 27 July, there was first an address by Mr. Édouard Secrétan, professor of law at Lausanne, in favour of the existing multiple taxes: land tax, indirect consumption taxes, etc.

> While Mr. Secrétan was refuting the idea of both the income tax and the capital tax, the chairman received a collective motion from Messrs. de Girardin, Pascal Duprat, and Joseph Garnier, formulated as follows: 'The Congress is of the opinion that taxes, to be just, must include all elements of wealth, and be levied on both on capital and income;'
>
> This motion caused some surprise when read to the audience.[9]

The motion was simple and pleasant. It remained only to know what is the nature and role of a tax, and why, to be just, a tax must include all elements of wealth. It remained also to know what the elements of wealth are, and whether the tax would fall as adequately as it should on all these elements. An explanation would also still be necessary here: what is meant by 'the burden falls on both capital and income'? It is certain that the tax cannot and must not be levied on capital, and that it cannot and must not be levied on anything but income. Hence, when one speaks of a tax *levied* either on income or on capital, one is not saying that the amount of tax will be *collected* from either income or capital, but only that it is *calculated* on the basis of the amount of either income or capital. Finally, when it is said that the burden of a tax must be on both capital and income, it is meant that the amount **[393]** of the tax should be calculated on the basis of the amount of both capital and income. As such, there is nothing impossible about this calculation, and other variables could even be introduced and taken into account: the taxpayer's age, his height, etc. Even if one agrees to a figure composed of income and capital, it would be desirable to justify roughly the principle of the tax, and to specify, however cursorily, how it will be applied.

8 Émile de Girardin, *Les 52: Le socialisme et l'impôt*, [Paris: Michel Lévy, 1849], p. 152.
9 *Journal des économistes*. October 1860, p. 84.

So, the *direct and single tax on wealth* was born at the Congress of Lausanne. It was not a scientific edifice, but simply a large hangar to shelter all personal taxes; and its reading caused not only some surprise, but also much mirth: it made one think of the actors in a mediocre play who, not having learned and rehearsed their parts, skipped half a dozen of the acts to arrive at the ending.

Under these circumstances, we were there just at the right time to lead the discussion of the meeting once more astray.[xx] We began to speak, and summarized §3 of our *Théorie critique de l'impôt*, discussing the opportunities and difficulties involved in creating a tax, and we explained §4, in which taxes are studied from the point of view of equity. – Following the single direct tax step by step on its terrain, and supposing for a moment that it has been demonstrated that, according to the theory of taxation, the taxpayers should all pay the same share of their income or property, we investigated first whether a proportion of income or a proportion of capital should be considered. Decomposing gross income into its constituent elements, we put net income on one side, and the payments for depreciation and interest on the other. Then we proved that, for the case of a proportional or progressive tax, it should not be calculated on the basis of gross income, i.e., income properly speaking, but on the amount of net income, or on the amount of capital. – Focusing more and more on the impact of the direct and single tax on property, we produced, for the first time ever, a proof according to which the **[394]** personal faculties of the people and their wages should be spared from taxes.

At that moment, we were in full agreement with Mr. de Girardin's conclusions concerning the system, according to which, as is well known, the tax is proportional to the amount of capital, taxing only land and capital properly speaking. But Mr. de Girardin does not go further; we, on the contrary, having demonstrated that, in principle, wages escape taxation because of justice, upheld furthermore that interest payments in fact escape it because of the natural and necessary laws of economic incidence. We concluded that the direct single tax on wealth, completely purified through the inspiration of science and method, has been reduced to a single tax on rent.

Here I will relate a fact in favour of Mr. de Girardin that clearly reveals his sincerity. When I was forcefully arguing against the abandonment of wages to the rapicity of the tax office, he exclaimed:

- You are not saying that as a criticism of me? he cried.
- Certainly not, I answered. My conclusions are in favour of a capital tax against an income tax, and against the collective motion.
- Very well, said Mr. de Girardin, I accept them.

After us, Mr. Clamargeran, a lawyer, spoke, and he said everything that it is possible to say against the multiple taxes existing at present, against the indirect consumption taxes, and in favour of direct taxes, without bothering with either social and moral principles or the economic laws that are the true bases of the theory of taxation. He taught us that direct taxes existed in Athens at the time of

Pericles, in Florence under the Medici, and in Holland, and that they existed in England and New York. He considered my work separately specifically in order to refute it, and, on this occasion, he declared that he wished that all citizens would bring their taxes *to the altar of the nation*. Very well. Let us just remember that the direct land tax is not a tax, that the direct tax on artificial capital is a consumption tax, and that only the worker **[395]** has no way to escape direct taxation of his wage or to escape from all indirect taxes; and let us say it is good to follow the religion of the nation, but one must also make sure that the workers do not exclusively pay the costs of this worship. – After this, it was decided to vote.

* * *

We had put the following motion into the hands of the President:

I If we want to reduce the various taxes back to a single tax, while obliging ourselves to follow all the instructions of economics and justice, we will arrive logically at the establishing of a single tax on rent.

II This could very well be done practically, and would be favourable rather than harmful to agriculture.

III It would be equivalent, purely and simply, to the confiscation of land by the State, and would, consequently, be an iniquitous and flagrant robbery, disregarding the interests and the rights of the landowners.

IV The problem of the single tax has no solution.

This is the place to make an interesting comparison.

Our single tax on rent is nothing other than the single land tax of the Physiocrats, the true single tax. With quite different theories on the nature, the origin, and the laws of social wealth, we and the Physiocrats arrived at identical conclusions on taxation. So, in the eventuality that our system would enjoy some favour among the economists, we would be happy to give it the name of *neo-Physiocracy*, or new Physiocracy, and to see this name used by the public.

But although we come close to Quesnay and his disciples in points I and II of our proposition regarding the theory of taxation, we diverge completely from the author of the *Tableau économique* and his school as far as concerns points III and IV relating to practical applications.

[396] With a remarkable talent for scientific investigations, but only having at their disposal economic definitions and classifications that were mostly imperfect and sometimes erroneous, the Physiocrats believed that all taxes, whatever their nature, would always fall, from incidence to incidence, on landed income. We tend to believe, on the basis of better information, that all taxes, from incidence to incidence, unquestionably fall partly on landed income and partly on personal income, i.e., partly on rent and partly on wages. According to the Physiocratic doctrine, on the one hand, all existing taxes should be abolished, and, on the other hand, a single land tax should be established, and they emphasized that subsequently the landowners would pay directly under the tax all that they paid indirectly under the multiple taxes, minus the heavy costs of collecting the taxes. We, on the contrary, in our opinion, can only oppose strongly, on the one hand, the suppression of all existing taxes, and, on the other, the establishment of a single tax on rent, and we must repeat obstinately that such a procedure would consist of transferring suddenly onto the services of land and rents all the taxes borne by work and wages.

If we now think of the land tax not an as appropriation of a part of landed income, but as an abrupt confiscation of a part of landed capital, we will admit that simple application of the theory of the single tax on rent would be an iniquitous and flagrant theft to the detriment of the landowners.

On the other hand, if it is true that converting all multiple taxes existing at present into a single tax on rent, abruptly and tactlessly introduced, would ruin a whole generation of landowners, it is no less true that this operation, when carried out over a certain period and with more or **[397]** less thoughtful precautions, would even be the achievement of the ideal tax. Here, an observation should be made, however. As long as the conversion was incomplete, taxes would be multiple, and once the operation was consummated, there would no longer be any taxes: the State would be the effective owner of a part of the land, the rent of which it would receive. It is therefore equally true that the problem of the single tax, in the sense understood in Lausanne by our 31 supporters of 31 different personal taxes, is an insoluble problem.

At the same moment that we submitted our motion to the chairman, Mr. Secrétan also submitted one that was equally hostile to direct taxes, formulated as follows:

> The Congress considers that the conversion of existing taxes into a single tax is undesirable.

The vote took place in the German way, which is perhaps more fitting for arriving at a political decision than for ascertaining scientific opinions. The motions considered were the collective motion, Mr. Secrétan's, and ours, and the opponents of the single tax were asked to say which of the two latter motions they preferred to compare with the first. There were 26 participants who declared that they preferred Mr. Secrétan's motion, and only three declared that they preferred ours. So, the collective motion and Mr. Secrétan's were put to a vote, and, finally, with 31 votes against and 29 in favour, and a certain number of abstentions, the collective motion won by two votes. The Congress then declared:

I The various taxes that modern nations inherited from the fiscal systems of former eras may be reduced to a smaller number, and in the future to one single tax.

II This transformation will become increasingly feasible with the progress of public liberties, of the independence of nations and of civilization in general.

III To be just, the taxes must be levied on all kinds of wealth and fall on both capital and income – and on assets acquired at no cost.
IV To facilitate creating this system, the public should be educated, beforehand, by making the principles of social economy widely known.

Point III of this motion is nothing other than the collective motion of Messrs. de Girardin, Duprat, and Garnier, decorated by Mr. Clamageran with the supplement on assets acquired at no cost. Only by referring to the philosophical and economic principles of taxes, however, can the full beauty of the collective motion thus completed be recognized. In this system, the tax is the price the taxpayer pays the State for security; now, when Pierre dies and Paul inherits his land and his capital, I ask to be told what service the State renders either the heir or the dead man. – But I realize that my question is pointless, for at the Congress of Lausanne it was hardly concealed that the only reason for the tax on free acquisitions was that they can be taxed.

Well! A fine idea! There truly does not lack anything more for the direct and single tax, levied both on capital and income, the offspring of heaven only knows what promiscuity of empirical doctrines, than to be mated with fiscal beggary in order to give birth first to a tax on inheritances, and later on, if God so pleases, to duties on the occasion of a cheerful accession to the throne, royal duties, windfall duties, and all kinds of fiscal duties.

* * *

Having created such a vast, impressive, and solid new theory of taxation, it remained only for the Congress to tear down, piece by piece, the edifice of existing taxes. This was done at the two sessions of 28 July by means of the following resolutions:

I Excise taxes must be totally suppressed.
II Consumption taxes must, in principle, not be levied on any goods of primary necessity. (Tobacco is not a primary necessity.)
[399]
III The Congress totally rejects the whole idea of tariff walls.
IV Monopolies for production or sales of the various consumption goods must be repealed.
V The same with respect to the 'décimes de guerre', which are concealed taxes.[xxi]
VI The same for duties on the transfer of property.
VII Continuation of the tax on the net value of inheritances according to a graduated rate, steeper for legatees outside of the direct line of inheritance. – This should be made the subject of international treaties.

Certainly this was quite a nice collapsing of existing taxes; as far as we are concerned, we would have liked it to be more complete. Indeed, in the system of the single tax on wealth, where ends the primary necessity and where begins the secondary? And what, in this system, is the reason for taxing consumption of luxuries and tobacco? Furthermore, what, in this single tax system, is the reason for not only taxing inheritances but also for a progressive tax, steeper for collateral legatees? We have already said it: the inspiration that dictated all these compromises was not that of truth or absolute right, it was the tax office's inventive genius.

All this done, and well done; the occasion was nice, the circumstances were favourable, the time was well chosen for investigating, finally, what taxation is, and, consequently, for wondering whether taxes should be *proportional* or *progressive*.

In his own words, Mr. Garnier told us that he did not know very well how to go about expressing his thought and his opinion, but that it seemed to him both to be desirable and something he was very willing to believe, that the services produced by the State are not consumed by individuals in proportion to their wealth and not progressively with their wealth either, but somewhere in between proportionality and progressivety, etc. Therefore, he proposed the following formula: – 'An income tax should be progressive without being able to exceed a small fraction of income.'

[400] This motion was rejected by a great majority. That was certainly a great pity: if the direct tax on property, combined with some indirect taxes on luxuries and tobacco, together with an inheritance tax, could be, in addition, both proportional and progressive with capital and income, then this tax would certainly be an admirably *single* one, at least of its kind.

Let us take a more serious tone and say, in conclusion, that the meaning and the impact of the Congress of Lausanne amount entirely to the moral defeat of personal taxes. In this respect, our expectations have been exceeded. Indeed, knowing beforehand that we would meet the single tax on capital and the single tax on income at the Congress, represented by their most important authors, supporters, and protectors, our ambition was certainly not to defeat them both, but to let the one pay a high price for a victory over the other. 'If I am only better, I am worth nothing', said the one to the other, but we were far from supposing that the two systems, previously so proud, would have, after the first blow, no other defence than to quickly unite their double scientific discomfiture in order to find at least in their partnership the elements of something that looks like a parliamentary success.

This is an enormous result, especially if one considers how many such systems, empirical, superficial, and facile, are attractive, precisely because of their mediocrity, to a mediocre public. Let us therefore hope that in the near future, when the defeat of the personal tax becomes more and more complete, it will be at last possible to tackle and solve completely the great problem of how the State should be financed in a rational society.

Notes

i From this point onwards, the numbers in boldface in crotchets are the page numbers of the second edition of *ÉÉS* only, because chapter 10 was added by Walras to his revision for that edition. See the first editorial note of chapter 11.

ii *Théorie critique de l'impôt, précédé des Souvenirs du Congrès de Lausanne*, Paris: Guillaumin, 1861, XXXVI + 119 pages. This book contains the basis of a paper delivered at the International Congress on Taxation, July 1860. Walras's presentation was favourably received, and the Vaud Council paid for the publication of 500 copies of his contribution, which appeared under the title *De l'impôt dans le canton de Vaud. Mémoire auquel un quatrième accessit a été décerné ensuite du concours ouvert par le Conseil d'Etat du canton de Vaud sur les questions relatives à l'impôt*, Lausanne: Imprimerie de Louis Vincent, 1861, 100 pages.

iii By mistake, Walras did not mention this section.

iv What Walras meant by the terms 'personal taxes' and 'real taxes' ('impôts personnels' and 'impôts réels' in French) will perhaps become clearer in the text below. Briefly, 'real' taxes are levied on things (like capital, wages, interest payments, and so on) and have incidences on persons; personal taxes fall directly on persons. Personal taxes, like the income tax, have a very well specified incidence; they cannot be shifted; they are borne by the person on whom they are levied. In his translation of Walras's *Éléments*, Jaffé translates the terms by 'taxes on persons' and 'taxes on property' (Walras 1954: 450); the first translation is perfectly accurate, the latter, we think, is confusing. Our translations are closer to Walras's terms.

D v Initially, Walras wrote in his manuscript: 'I attributed to the single *personal* tax (in the sense of a tax imposed on persons) the incidences of the land tax, the personal tax (in the sense of taxes on the services of persons), and taxes on artificial capital, which these taxes have only in their capacity as *real* taxes on rent, wages, and interest.'

D vi The manuscript and the galley-proofs say 'tax on artificial capital'.

D vii Here too, in the manuscript, Walras wrote 'tax on artificial capital'.

viii See footnote 3.

ix In the first version (1861) of the *Théorie critique de l'impôt*, the 'Remembrances' start with an introduction that Walras did not insert in the second edition of the *Études d'économie sociale*. We think it is worthwhile to present this passage (see also *ŒÉC*, Vol. V, pp. 343–345):

> The *Théorie critique de l'impôt* that I am publishing now was written a year after I decided to go to Lausanne and participate in the international congress on taxation starting the 25th of July 1860.
>
> Below, I shall try to tell what transpired at the congress in my opinion. But first, to discharge a most pressing duty and, at the same time, benefiting from a most advantageous privilege, I must declare immediately that this *Théorie critique de l'impôt* is the work of both myself and my father, Mr. A. Walras, inspector at the Academy of Pau, and the author of several works on economic science, in particular of two very important ones: *De la nature de la richesse et de l'origine de la valeur* [Évreux, 1831; *ŒÉC*, Vol. I, pp. 35–233] et *Théorie de la richesse sociale* [Paris, 1849; *ŒÉC*, Vol. II, pp. 107–170].
>
> I am not going to point out here the merits of these outstanding works, known and appreciated by all economists; I ask only that I be permitted to say how closely the ideas explained in the present study on taxation are linked to my father's original and fruitful economic reflections in his *De la nature de la richesse et de l'origine de la valeur* and *Théorie de la richesse sociale*.
>
> In his book *De la nature de la richesse et de l'origine de la valeur*, my father established, in 1831, that the fact of value in exchange does not find its cause in work, as Adam Smith and Ricardo asserted, nor in the phenomenon of utility, as J.-B. Say stated, but in the fact of the limitation in quantity of useful things. This theory is the true one, and it is the only one from which it

can be inferred that value in exchange is measured by *rareté*, i.e., the ratio of demand to supply, that is to say the ratio of the sum of the needs to the totality of supply. – The public, at least the French public, does not suffer in the least from the fact that such books are no longer produced nowadays, books where the best philosophy, patient and artful logic, most rigorous methods and an acute, pure style, as befits science, are used to shed light on essential and fundamental points of doctrine; everything that looks like a discussion of principles, fatiguing them because of their laziness and being beyond the scope of their knowledge, is a horror to them. They accept only articles in periodicals and newspapers, superficially systematic and altogether ephemeral. They seem to me like a man in very bad lodgings who, though having the means to construct a house, is unable to stand his architect laying the foundations for one, and therefore always lives in hovels that always need repair and are always in a state of collapse. Books are no longer written; article follows after article, piling up in dreadful numbers; nevertheless, the same ideas are repeated thousands of times, and thousand of times reveal sterility and weakness; and, for ten years, no system with an appearance of greatness and soundness has been proposed either in philosophy, or in the physical and natural sciences, or in the moral and historical sciences.

In the *Théorie de la Richesse sociale*, not only the nature and origin of wealth are studied, but also its types, laws, and effects. The most innovative and ingenious theory in that book is the theory of capital and income. My father defines *capital* as any scarce and useful thing that still exists after the first time that it has rendered us a service; he defines *income* as any useful thing that disappears the first time that use is made of it. Certain useful things are capital by their nature, and certain other things are income by their nature. Some, finally, may be either capital or income, but not at the same time, according to which service is required of them and to which use they are applied. This theory is the correct one, and there is no other by means of which one may give an exact account of all the phenomena of exchange, rent, sales and purchases, lending and borrowing. – Open now a journal or a newspaper and you will see that the authors eternally wonder *if there are immaterial products*; this possibility is affirmed and rejected by turns, as if the materiality or the immateriality of wealth are more important to economic science than its colour or odour.[†]

The totality of all capital goods was called the *production fund*, and the totality of all income goods the *consumption fund*. The production fund can be divided into three types of capital, and the consumption fund into three types of income; just as wealth had been defined by considering limitation in quantity or extent, so also did it find itself classified by considering its limitation in duration or use. Through this way of seeing matters, I deduced how to consider the natural interaction of production and consumption explained in §1 and repeated at the end of §3 of the present *Théorie critique de l'impôt*. There one will see how the entirety of consumption goods produced is represented as a sum of the product of land services, work, and capital services, or as a sum of amounts of rent, wages, and interest according to whether one considers the matter from the point of view of production or from the point of view of consumption. These definitions and classifications form the basis of my studies on taxation; I hope therefore that the economists who have appreciated the intrinsic merit of these novelties in my father's works, will appreciate the value of their development in my work as well.

Regarding the responsibilities and honours of this *Théorie critique de l'impôt* belonging respectively to my father and to me, that can easily be settled. The idea of the work was my father's brainchild, and, as far as I am concerned, knowing from where I had to start and knowing where I had to arrive, I needed only to discover the successive intermediate points without getting lost. I add that the plan and the divisions of the work were indicated to me by my father, and that I did the editing and writing. Finally, I may say again that it was my father who found the demonstration given in §4, according to which wages escape from taxation through equity, and that it was I who discovered the demonstration given in §2 that interest payments escape from taxation owing to economic necessity.

† Léon Walras referred to a distinction made by Léon Say, and discussed many times in the journals, that had already been rejected by Auguste Walras in his 1831 book.

x J.-J. Rousseau, *Julie ou La nouvelle Héloïse*, 1761.

xi Lawyer and member of the Great Council.

xii Unbelievably, Walras initially finished this sentence as follows: 'for it is incontestable that we are the most scholarly people in the world, just as we are the bravest and most spiritual'. See *ŒÉC*, Vol. V, p. 346.

D xiii Joseph Garnier, *Traité de finances (avec notes historiques et documents statistiques)*, Paris: Garnier frères, 1858, second edition 1862, third edition 1872.

xiv It seems that the idea of the direct and single insurance of capital was already known in the eighteenth century. It can be summarized as follows: Everybody should pay for the protection of his wealth by the State in proportion to the value of the property that is protected. De Girardin proposed that the citizen should be free to pay or not. See *ŒÉC*, Vol. V, p. 656, n. 33.

xv The next five paragraphs date from the period when Walras was composing the second edition of *Études d'économie sociale* (which saw the light only 28 years after his death). They replace two short paragraphs (less than half a page) of the 1861 original edition (*ŒÉC*, Vol. V, pp. 348–349). The text of these five paragraphs evidently benefited from hindsight; it is therefore interesting to compare it with the 1861 text that follows here:

> The analogies between income tax and capital tax are essential in our opinion, and the dissimilarities are secondary. It seems to us very important that, in the theory of taxation, a citizen's wealth is taken into account from the point of view of its disposable portion and not from that of its economic nature. Having adopted this position, it seems to us, on the contrary, rather unimportant whether the tax is calculated on the basis of the taxpayer's wealth measured in income or in capital, or even whether personal capital and income are taxed or not. This is why we take taxes on income and capital together in order to evaluate them from the double point of view of moral philosophy and economics.
>
> We have only one preliminary observation to make. Both the income tax and the capital tax are adorned with the title 'direct and single tax'. It will soon be seen that this pretension is very poorly justified. As far as we are concerned, we reserve the name of a single tax for a system well known to science by this appellation, namely the single land tax of the Physiocrats, and we shall call the quite modern taxation system, with its double feature of taking account of the disposable share of the taxpayer's wealth and of disregarding its economic nature, by its true name, an 'income tax'.

xvi The Physiocrats were in favour of a single tax on landowners' rent.

xvii In Walras's vision, most capital goods properly speaking are bought by the entrepreneur by means of money originating from the capitalists' savings. The interest payments made by the entrepreneurs to these capitalists are therefore to be considered as the entrepreneurs' payments for using the capital goods, and as remuneration of the capitalist for putting the capital at the entrepreneurs' disposal.

D xviii The 'we' in this paragraph (and below) indicates Walras himself: his 'pluralis modestatis'. From the session of 25 July onwards, Walras took part in the discussions. Joseph Garnier, op. cit. p. 79, reported:

> One of the youngest participants of the congress, Mr. Léon Walras, attracted attention; a gifted speaker, he presented, a little pretentiously and aiming at novelty, an ideological talk, with the final conclusion that the problem of taxation has no solution. Mr. Walras repeated his theory during the Congress, so we will comment on it later on.

Walras is therefore accused of having presented his contribution twice, as we may conclude from the above quotation.

xix Émile de Girardin was, as everyone at the Congress knew, editor in chief of *La Presse* before becoming its political director. See also Chapter 1, note iii.

D xx J. Garnier, *Journal des économistes*, October 1860, p. 85: 'After Mr. Secrétan, permission to speak was again given to Mr. Léon Walras, who, in accordance with his theory presented yesterday, fought against an income tax and furnished Mr. de Girardin with weapons in favour of a capital tax'.

xxi This was a ten per cent levy on most registration fees, dating from 1799, to pay for the war then taking place. It remained in existence until Walras's time.

11 The tax on income and the tax on capital

[401] [i] The reform, even to a radical degree, of the present scheme of taxation has for some time been the concern of public law specialists. Among the new systems proposed, none was given more attention than that of the *direct single tax*, so I cannot forego subjecting its theory to a special analysis. Moreover, not wanting at all to consider all the possible varieties of that tax, or to condemn myself to making boring repetitions of things already said, I am going to discuss in particular some points concerning, above all, moral philosophy and justice.

Without further dwelling on it, I will make an initial remark, namely that the great majority of the authors who have recommended the single tax agree wholeheartedly upon the definitions of the State and of taxes. Nearly all accepted the social order as being established by convention; some of them likened society to a theatre *that one is free not to enter*, but where, as soon as one enters, one has to pay for a seat. Starting from this, they stated that a rational tax is primarily the price of being secure, or even, more explicitly, that the compulsory tax should disappear to make place for voluntary insurance. As will be easily recognized, this is seeing matters in the way seen by the eighteenth-century philosophers. It is perhaps ||[ii] not correct for me to state without further proofs that the idea is erroneous, but I am certainly permitted to say that it is at present forcefully contested by philosophers and politicians of the greatest merit and the highest authority, who consider the social order as a natural state and society as a necessary fact and not at all optional. If, therefore, the nature of things perhaps seems to indicate that we must share in common the expenditures for certain social services that probably are not restricted only to **[402]** security, then the nature of things will perhaps also indicate that we have to generate in common certain revenues. Thus, the problem of taxation is presented from a point of view other than the one taken by most of the supporters of the single tax. Taxation so defined would have as its principal characteristic that it is not voluntary, but that it is forced, compulsory, and not optional. It does not resemble insurance, by any means. The thesis of the authors in question is eminently individualistic; other systems are communist; there are also minds that are preoccupied with finding the truth in regard to the economic regime by a reconciliation of the opposing theories. The problems are enormous: I return to my subject.

The most important point to discuss concerning the subject of the direct single tax is to know whether the tax must be assessed on income or on capital. Here, however, an explanation is in order. When speaking constantly about taxation *of capital*, opposing always a capital tax to an income tax, it is not meant, we must realize, that the tax should be collected from capital itself. Undoubtedly, it is very well known that, in principle, any contribution whatsoever should not be collected from productive resources or from capital, but only from consumables, that is to say, from income or the price of income.[iii] Apparently, we also know that it would be impossible to require from a landowner a one-hundredth part of his land, from a capital-owner a one-hundredth part of his house or his ship, or from a worker a one-hundredth part || of his personal faculties. Land is capital that cannot be consumed. Most artificial capital[iv] consists of capital that has a specific use, and its purpose cannot be changed without loss of a good deal of its value. Personal faculties form non-transferable capital; it cannot be separated from its owners; they can only divest themselves of their income. Thus, it is well understood that taxes will always be collected from income; although in the system of capital taxation, the tax will not be proportional to the citizen's **[403]** amount of income but to the value of his capital. This idea appears important to me, and I do not hesitate to adopt it to justify it somewhat better than, I think, has been done thus far.

Assume there are three citizens, each with an income of 5,000 Fr. The first is a landowner possessing land worth 200,000 Fr. The second is a capitalist possessing 100,000 Fr. invested in mortgages or deposited in a bank. The third is a civil servant receiving a salary of 5,000 Fr.: the service he fulfils assumes abilities, knowledge acquired, and intellectual and moral qualities that, from an economic point of view, can be considered together as capital with a value of 50,000 Fr. You claim to take account of the taxpayers' wealth when distributing the tax burden; and, accordingly, under the system of income taxation, you will tax them the same amount. How can you, in all sincerity, put on a par a man who possesses 200,000 Fr. in land, an inconsumable capital whose value grows every day before his eyes, with a man possessing 100,000 Fr. that are exposed to all the bad risks of mortgage loans or unsecured loans, and to all the grievous risks of industry and commerce? Above all, how can you put on a par three men, two of whom possess 200,000 Fr. and 100,000 Fr., respectively, in material transferable capital, which their owners may sell, leave to their children, etc., whereas the third possesses || a value of 50,000 Fr. in immaterial untransferable capital that will exist only as long as he lives?

Let us get to the heart of the matter and settle the question as economists. The three incomes of 5,000 Fr. cannot be declared to be equal, considering that the first remains intact, but that, regarding the second, there has to be deducted depreciation charges and insurance premiums of 2,500 Fr. per year from consumable income, and, regarding the third, of 3,750 Fr. per year. Speaking rigorously and scientifically, the 2,500 Fr., on the one hand, and the 3,750 Fr., on the other, are not part of income, but are part and parcel of capital. If these three citizens **[404]** each spend 5,000 Fr. per year, evidently it pleases the latter two to do so, or they are forced to eat their capital. – From this it follows that the so-called tax *on capital* is, in truth, a tax on income, and that the so-called *income* tax is in reality a tax on capital.

I repeat: in my opinion, proportional insurance is not the ideal from the point of view of either justice or economics; but, nevertheless, if one must take account of the taxpayers' wealth in the distribution of the tax burden, I ask at least that the income be considered after deduction of the depreciation charges and insurance premiums; in other words, I ask for a tax that is proportional to capital.

That is a first point with respect to which it is impossible for me not to show my sympathies in favour of the direct single tax on capital. But this is still not all, and I am going to try to explain another element of the system that is much more praiseworthy. I am going to shed light on an idea that is really just, really democratic, that has been applied perhaps unknowingly and surely without explanation of the principle involved.[1]

Justice has unexpected demands; when you decide to consult it, it turns out that it takes you much further than you || thought would happen. Let us go back to our three taxpayers: the owner of a piece of land worth 200,000 Fr., a capitalist possessing 100,000 Fr., and a civil servant with personal capital of 50,000 Fr. You believe you have done everything possible to bring about equity if you have taxed the three citizens in proportion to their capital as just defined? You are now going to see, by looking at the situation a little more closely, how much you are mistaken.

In principle, we tax all incomes; that is to say, the productive services rendered by each capital. What is the income in kind of **[405]** land? It is the service of land: let us tax the service of land. What is the income of artificial capital? It is capital services: let us tax capital services. What is the income [productive service] of personal faculties? It is work, you are going to say. – But wait a moment: the income of personal faculties is work to the workers, but it is also leisure to the idle rich. We are taxing work. Hence, leisure should also be taxed; and if we do not tax leisure, work should not be taxed either.

I introduce to you a civil servant, and two persons of independent means, one of whom is a landowner, and the other a capitalist. The civil servant possesses a personal capital from which he gets an income; this income is his time, his work, and his efforts. The two gentlemen of independent means, however, also possess a capital and draw an income from it: this income is their time, their leisure, and their pleasure. The civil servant's work is paid 5,000 Fr. Why should we not value the landowner's and capitalist's leisure at 5,000 Fr.? You tax the worker for having a capital of 50,000 Fr. Why not value the personal faculties of the idle persons of independent means at 50,000 Fr. and tax them accordingly? – Or, if you wish, do not tax at all the landowner and the capitalist for having an unproductive income from a virtual capital that is difficult to measure. I agree, but

1 The system in question is the direct single tax proportional to capital advocated by Mr. de Girardin.

then you should not tax the civil servant for productive income from a real capital that you can easily measure. || Therefore, in the special case we are dealing with, exempt the civil servant's 5,000 Fr. income from taxes; and, in general, exempt all wages from taxes.

This proposition must look important to you. Allow me to consider it again and to develop it.

The total amount of social income[v] is the sum of the total amounts of income of the different types of capital. To measure the monetary value of social income completely, the income of land, of artificial capital, and of personal faculties should be completely calculated. This can be achieved by knowing **[406]** the prices that these different incomes have when they are sold and bought on the market, or, briefly, when they are exchanged. In this respect, however, the incomes are divided into two kinds, because there are among them incomes that are exchanged and incomes that are not exchanged. There are incomes the value of which is determined when they are brought to market; and there are incomes that are not brought to market, the value of which can only be determined by comparing them with the incomes of similar or analogous types of capital. The incomes of the second kind are those consumed directly by the owners of the capitals that produce them. Examples are:

1 The income from a public garden, where neither corn nor beets are cultivated, but where paths, ponds, and lawns have been laid out.
2 The income produced by a house inhabited by its owner.

The strictest analogy leads me to an example of a final category:

3 The income of personal faculties that are used for travelling, strolling, recreation, and not for working.

Once this kind of income has been thus defined, it will be admitted that we wonder if there are reasons to tax them or, rather, to exempt them from taxes. The answer to a question like that cannot be doubted. Although being consumed directly, the incomes of these types of capital are nonetheless useful, and, although not being || exchanged, they nonetheless have value. Hence there is no reason to exempt them from taxes. Let us therefore tax all incomes, whether directly consumed or indirectly.

1 If it pleased some landowner to transform his fields into an ornamental garden, will that excuse him from paying taxes? – Certainly not. What is the income of land? It is the service it renders when it receives and enfolds the seeds from the moment of sowing until harvest time, favouring their development, etc. **[407]** It is also the service it renders by supporting flowerbeds and bushes. We tax the fields; let us also tax the gardens.
2 If the owner of a house uses it as his own lodgings instead of renting it out, will he then be exonerated from the burden of public expenditures? – Defi-

nitely not. What is the income from this artificial capital? It is the capital services drawn from it either directly or after an exchange. Let us tax the houses occupied by their owners.

Our answer with respect to the two former categories being so positive, our answer concerning the last category will not be uncertain.

3 If therefore the people of the leisure class, whether landowners or capitalists, consume the income of their personal capital in leisure instead of exchanging it in the form of work, will that be a reason for their not paying taxes? – Not at all. What is the income of personal faculties? It is the work of the people who put their faculties at the service of other people; and it is the leisure of those who put it at their own service. We tax work, let us also tax leisure. In actual fact, do you really deny that people of independent means have, like the workers, twelve hours per day, and intellectual and physical faculties that they could apply productively, if they did not utilize them for their own pastimes? Do the people of the leisure class really not have a body and a mind that you can tax just as you tax a worker's body and mind?

|| Given the three citizens, landowner, capitalist, and civil servant, all enjoying an annual income of 5,000 Fr., there is not only between them the difference shown above on the subject of their capital, namely 200,000 Fr. for the first, 100,000 Fr. for the second, and 50,000 Fr. for the third. There is an additional consideration. Besides their landed and artificial capital, the landowner and the capitalist undeniably possess personal capital and a personal income perfectly analogous to those of the civil servant. And if the two persons of independent means do not **[408]** consider it appropriate to do as the worker does, to dispose of their time, to exchange their work, to sell their efforts, they are nevertheless consuming the income of their personal faculties; but they consume directly what the worker consumes only after having exchanged it. Each of those two people looks like a man who would drink his wine instead of selling it. The 200,000 Fr. of landed capital of the one and the 100,000 Fr. of artificial capital of the other really do not preclude, moreover, that 50,000 Fr. of personal capital be allocated to each of them, and that they certainly can possess, and that they would have and use in order to live in the manner that they live, if their incomes[vi] were taken away from them.

From this it follows that if we tax the worker, we must tax the landowner and the capitalist on the same basis, except that in addition the landowner must be taxed for his land and the capitalist for his capital. Let us continue to take as examples the three persons of whom we spoke above, the first receiving yearly an amount of rent of 5,000 Fr., the second interest payments of 5,000 Fr. and the third a salary of 5,000 Fr. If we demand 50 Fr. in taxes from the last person, then it would be just to demand 250 Fr. and 150 Fr. in taxes from the other two persons. Indeed, if there were a man with 200,000 Fr. in land and 100,000 Fr. in artificial capital, we should tax him 300 Fr.; if there were one with 200,000 Fr. in land and 50,000 Fr. in personal capital, we should tax him 250 Fr.; and if there were one with 100,000 Fr. || in artificial capital and 50,000 Fr. in personal capital, we should tax him 150 Fr. There exists, however, another procedure, a better one, by which it is easier and more certain to realize the ideal of equity: exempt personal faculties, work, and wages from taxes, and tax only rent and interest payments. Everybody would then be treated on an equal footing relative to personal capital and the income from it: nobody would pay taxes on it. The landowners and capitalists remain subject to taxes for their land and artificial capital, and I add that they should be **[409]** taxed in proportion to their capital and not to their income. It appears that at this level of viewing matters, economics would be in agreement, or very nearly so, with the most profound and wise moral philosophy, which has always disapproved and will always disapprove of slavery and serfdom, as well as of proletarianism and of taxes, and which has always argued that the personal faculties of humans, and the fruits of their work and their savings, are the true domain, the sacred and inviolable domain, of individual property.[2]

2 At the beginning of an article entitled 'The Bases of Taxation' in the March 1888 issue of the *Political Science Quarterly*, General Francis A. Walker cites another article, 'Taxation of Labor', in the September 1886 issue of the same journal, in which Dr. [Charles B.] Spahr opens with the statement, which Mr. Walker does not want to argue against, that 'the system of taxation which the great mass of Americans instinctively accept is this: The equal taxation of all property, the non-taxation of labor.'

This formula is, indeed, quite attractive, but its full and entire application meets with an insurmountable problem. The *proportional tax on all landed and artificial wealth* would not remain a tax with its incidence on landowners and capitalists, except on the condition of being *personal*. Now, the establishment of an absolutely personal, or as we now say, *global* tax is impossible without vexatious investigations, and even at that price, because a registry of artificial wealth, like that of landed wealth, is impossible. It would then be necessary to adopt the establishment of a double *real* tax: first, a tax on the *land*, second, a tax on those *artificial capitals* that are easily taxable. And then, as I have explained in the *Souvenirs du Congrès de Lausanne*, these direct, real, and non-personal taxes would have the following incidences. The land tax, diminishing the price of land, would constitute a partial appropriation of land by the State, having its incidence fall completely on the present holders of the land and not || on the future buyers. The capital tax, redirecting the stream of savings from the production of taxed capital to that of untaxed capital, would result partly in an increase in the interest yielded by the taxed capital, which would be burdensome to the consumers of capital services; and the capital tax would have only partially the effect of a reduction of the rate of net income the burden of which falls upon all capitalists. I repeat, therefore, that the problem of taxation, which consists of making the State subsist upon the payments of individuals, after having given the State's fortune to the individuals, is a problem outside of the province of science, and that we must not be amazed to find that is it is scientifically insoluble.

Notes

i In the first edition of *Études d'économie sociale*, this chapter starts at page 377. Walras added the following footnote, which he suppressed in the second edition:

> This demonstration, the purpose of which is not to establish the excellence of a tax on capital, but only its superiority to a tax on income, formed a part of §4: *Taxes from the point of view of equity*, of my *Théorie critique de l'impôt*, published in 1861. The three preceding sections: *Social wealth and its laws*, *Status of the problem of taxation*, and *Possibilities and problems regarding taxation*, have been put into the *Éléments d'économie politique pure* and the memoir *De l'impôt dans le canton de Vaud* (1861). I want to reproduce here the result concerning the exemption of wages from taxation that was furnished to me by my father and that made a sensation at the Congress of Lausanne in 1860.

See also Walras's introductory note to the preceding chapter. Because of the presence of the above footnote in the first edition, the page breaks of the two editions of this chapter differ. The page numbers in bold between square brackets indicate, from this place until the end of the book, the page numbers of the second edition only. In order not to overload the text with typographic signs, the page breaks of the first edition in this chapter are indicated by two vertical bars: ||. From the next chapter onwards, the words on corresponding pages are again the same, except for small typographical changes in the second edition, as was the case in the three preceding parts of the book. Hence, new pages start at about the same place in both editions. We repeat that a page in the first edition after the first three parts has the number of that page in the second edition minus 23.

ii See note i above.

iii What is the price of income supposed to mean? Paying someone to manage my assets? That cannot be, because that is the price of the service rendered. Is it the cost to the worker of earning income? That does not make sense either. We think Walras means the price of income in kind. That would mean the money value of the income in kind, but that *is* income. It makes no sense to say the tax is collected *from* the price of unsold goods and services. If that is true, he should not have said 'the price'; he should have said 'the value'. He was suggesting that in-kind income can be valued and taxed, as appears some lines below.

iv Also called capital proper. Walras most frequently called it 'capital properly speaking'.

v Walras sometimes refers to incomes as rent, wages, and interest in monetary terms, as in this passage, and sometimes as services in kind.

vi Here, in the French text, is another glaring example of Walras's inconsistent use of the word 'rente'. One wonders why he did not write 'revenus' (incomes), as he did earlier in the paragraph? However, he used 'rentes', not 'revenus', so if we used his definition, he was writing '…their *land services* were taken away', which makes no sense in this context. He evidently meant 'incomes'.

12 The cadaster and the land tax[1]

[410][i] I The present organization of the cadaster

A land tax is a tax on the income of land. Normally, it is understood, in fiscal language, that 'land' is not only the natural, imperishable capital that is the land properly speaking, but also other capital, mostly artificial, and in all cases perishable, that is generally associated with the land in agricultural industry: enclosing and retaining walls, irrigation systems, drainpipes, products for land improvement and fertilizers, trees, plants, etc. As for houses and buildings, they are usually considered apart. Sometimes, however, the land and the houses are grouped together under the name of real estate, and the tax levied on the one or the other is then called a real estate tax. To what degree would it be acceptable to reconcile a tax on the income from houses and a tax on the income of land? And to what degree would it be acceptable to let the land tax be levied not only on the income of land in the strict sense, but also on capital associated with agricultural land? These are very important issues that we want to examine in the course of this survey. For the time being, we leave them aside, and investigate what a cadaster is, before wondering what it should be. We will use the words 'land tax' in the way commonly accepted and as we have defined them above.

The land tax, thus understood, is a universally established tax. Its equity and its ease of application are not disputed at all. True, this does not prove much, because, **[411]** it must be confessed, the theory of taxation is completely unknown to science and, with all the more reason, by public opinion. If necessary, one could show the masters of economics to be in disagreement on all points concerning taxation, and even on questions of principle. For instance, the first of Adam Smith's well-known four maxims[ii] states that the taxes should be proportional, but that does not prevent J.-B. Say from saying that progressive taxes are the only equitable ones.[iii] The rest is in keeping with this. Thus, there are no moral or economic considerations that have guided the establishment of the land tax, or any other tax, apart from some exceptional cases. The dominat-

1 *De l'impôt et des garanties de la propriété territoire* by Gaston le Couppey, – *Bibliothèque Universelle* [*et Revue Suisse*], November and December 1873. [This chapter is a book review by Léon Walras of a work by Gaston le Couppey (Paris: Didier, Guillaumin, 1867).]

ing point of view has until now certainly been the exclusively fiscal point of view, and it is, at the present, adopted by governments; it consists of taking wealth from wherever it lets itself be detected. Now, of all wealth, land is the most difficult to conceal; it is spread out in the sunshine; the tax official can always see it, measure it, evaluate it, and know who is the owner. The land tax is therefore the most widespread tax because it is the easiest to establish. In some countries, where political power and influence are in the hands of either an aristocracy of large landowners or a democracy of small landowners, the land tax is vigorously attacked in the more or less justified interests of agriculture, and it has even been successfully partially replaced by an income tax and by several consumption taxes; but, in spite of everything, the land tax is everywhere still one of the most solid foundations of the system of public taxation.

The cadaster is the entire group of documents in which the elements of the land tax are specified in detail, namely a parcel's location, its size and nature, its quality, its value, the amount of tax it yields, and the name of the owner who has to pay the tax.[iv] The use of cadasters, in a form more or less crude, is therefore naturally as old as the land tax. In **[412]** the Roman Empire, there existed public registries in which the landed property of each province was described in great detail. After the Barbarian invasion, those registries served, particularly in Gaul, in the collection for Frankish, Burgundian, and Visigoth kings of the taxes formerly paid by landowners to the imperial tax collectors. Later, when the land had passed completely into the conquerors' hands and the feudal system was established, the lords, the sole masters of the land, drew up their own *land registries*[v] for collecting the charges imposed on their vassals. The most famous work of this kind is the *Domesday Book* [AD 1086], commissioned by William the Conqueror in England, and religiously preserved in the Exchequer's archives.[vi] These first attempts were, of course, very imperfect. The maps and title deeds drawn up for the dukedom of Milan and the kingdom of Savoy form the oldest cadastral operations that have been carried out rigorously and whose complete elements have been preserved; they are more than a century old. It is said that J.-J. Rousseau, during his stay in Chambéry around 1732, was an employee of the cadastral office.[vii] Work started under Victor-Amadeus, and was continued and completed under his son Charles-Emmanuel. Its purpose, Rousseau tells us, was to subject the nobility to a tax,[viii] and to carry out its collection in order that it be levied equitably.

Since then, the use of the cadaster has become widespread in Europe. It exists at present in two quite different forms: it may be purely *fiscal*, like in France, where its only purpose is to identify the basis for the land tax, or it may be both a fiscal and a landownership cadaster,[ix] like in Germany, where it serves as an instrument for guaranteeing landed property, and for providing a basis for the land tax. The work whose title we mentioned at the beginning of this article [footnote 1] compares both types, and demonstrates the superiority of the second over the first. Its publication some years ago marks the beginning of a movement **[413]** characterized by interest in questions regarding the cadaster. With the help of it, we will first state what may be called its principles or its theory, putting aside the examination of several other books and brochures more recently published until the moment when we take up the aspects of its applications or practice.

To determine the location of a parcel, its size, and its nature, a map is needed. Hence, the first of the cadastral operations is a *survey*. The survey may be carried out either according to the parcels' usage; that is to say, according to the existing boundaries, or according to legal rights; that is to say, according to the true boundaries, after a prior survey of these limits, and with a statement of agreement by the owners. In the first case, the cadaster is purely fiscal; in the second case, it is both a fiscal and a landownership cadaster. To explain the importance of this point of departure, it is necessary to remember that most frequently usage is not in conformity with the legal rights, and that the existing boundaries are not the true boundaries. Every day, this fact causes many problems and lawsuits among owners. And, as we will see, it is also this fact that introduces a germ of rapid corruption into the purely fiscal cadaster. In any case, in both systems the map is drawn up, following the normal rules of this sort of operation. First, a *triangulation* is carried out; that is to say, a network of triangles is spread over the region, the vertices of which are determined by landmarks, and the angles and sides of which are measured with the greatest precision. After the triangulation is finished, the next task is to draw up the survey and measure the *parcels*, which are 'all pieces of land differing from each other by the kind of their cultivation or by the name of their owner'. Thanks to the network of triangles, no error can be made in this operation without it being detected.

In this way, a detailed map is obtained; that is to say, a map representing exactly the division of the land into parcels, with the size of each of them. But in **[414]** order for this map to be able to serve for the assessment of taxes, the parcels, and the evaluation of the incomes they provide must be *evaluated*. This is the second cadastral operation, which is in turn composed of three other operations: *classification*, *ranking*, and *drawing up the list of evaluations*. The classification consists of deciding on a certain number of classes in which, considering separately each type of use, all the parcels of the same nature will be placed according to their quality: gardens, vineyards, meadows, fields, forests, etc. To decide on the class limits, for each class a highest quality parcel and a lowest one are chosen, and it is specified that all parcels of a quality intermediate between the highest and the lowest will be placed in that class. The ranking precisely effectuates the placement of all parcels into the classes that have been defined. Then the list of evaluations is considered in order to determine the average income of each class.

These are the two fundamental operations of the fiscal cadaster: the survey and the appraisal of the parcels. The tax base then being given, there remain only the *distribution* of the tax among the taxpayers, and the *collection of the tax*, which are completely distinct operations.

The elements of the fiscal cadaster are confined to three main parts: first, the *map*, representing the region divided into parcels; that is to say, as we have explained, into plots all differing according to either ownership or the type of cultivation; second, the *state of the section* of land under consideration, in fact the map's legend, showing, in topographical order, the location, size, and nature of the parcels, as well as their taxable income and the name of the owner; third, finally, the *cadastral roll*, that lists, under the name of each owner, all the parcels possessed by each of them, with the same details as in the state of the section. It is clear that the state of the section and the cadastral roll contain, in fact, the same information, the one in the order of the parcels and the other in the order of the owners, just **[415]** as in bookkeeping the daybook and the ledger contain the same entries, the one in chronological order, the other in the order of the accounts. This work and its organization have met with quite serious and numerous problems in their execution from a purely technical point of view; but these difficulties have progressively been overcome, thanks to the perseverance of students of the problems. The last of them, which still exists in every respect, will now be examined.

Establishing a cadaster is not an end to the matter; it should also be kept up to date; in technical terms, *maintenance* or *preservation* should take place. It should be clear that, in fact, there are two causes that may modify at any time the state of the parcels: changes of cultivation and changes of ownership. Some meadow becomes a field. Some wooded land has been cleared, and becomes partly a vineyard and partly a garden. And, on the other hand, sales, exchanges, and inheritances make the land pass from one hand to the other, either entirely, or, most often, with all the complications from subdivisions of the parcels or consolidation of their ownership. These two causes are always active, and are combined most of the time; their effects are so frequent and rapid that, in only a few years, a cadaster that is not maintained no longer gives a good idea of the region that it described faithfully at the time of its establishment. This maintenance is not in itself impossible, by the way. It does not require any operation other than the same operations as those required for the cadaster's establishment, as described above. Its organization is quite secondary to that of geodesy and public administration. What might therefore be the reason that the maintenance of the fiscal cadasters is nearly always neglected, and that the distribution of the land tax happens nearly always to take place in a rigid, unchanging way, whereas it was intended to be applied proportionally, as rigorously as possible? How could it happen, in France, for example, that a cadaster started under the First Empire, having remained in existence until now, and which has cost 180 million, has been left idle as completely useless, even before having been finished? This fact is explained precisely **[416]** by the fact that the fiscal cadaster has been established on the bases of factual usage and not according to legal rights. Let us now study the conditions for a landownership cadaster; after having done so, we will see clearly that a cadaster that is not both a fiscal and a landownership cadaster, is necessarily destined soon to function only very inadequately, or even not at all, as a basis for the land tax and for the distribution of the tax.

II Landownership cadaster and fiscal cadaster

In a sense, certainly, the interests of the tax office and those of the landowners are opposed to each other, because it is important to the tax office that its share of the land's income be greater, and it is important to the owner that its share be smaller. In another sense, however, their interests are in agreement, because it is important to the tax office to be sure to get, say, a tenth of the land income, and it is important for the landowner to be sure of getting the nine remaining tenths. This security is a condition the importance of which was pointed out one day very forcefully by Napoleon I to the State Council. So one can see, a priori, that the fiscal point of view and that of the landowners unite at a certain moment, without becoming merged. After having considered exclusively the interests of the tax office, let us now consider exclusively the interests of the owners; we shall see, indeed, these two interests acting in concert in the matter of the cadaster.

In order to ensure that the owners can enjoy their rights, it is necessary that these rights be established by means of a rigorous determination of the land belonging to them. And how can this determination of landownership take place? Obviously, by its *delimitation*. So, the whole problem of the guarantee of landownership rests, at last, on the question of the delimitation of land. This delimitation must be carried out, in first instance, on the **[417]** land itself. A way of doing this that presents itself immediately would be to separate the properties by walls and enclosures; however, this method would be extremely costly. There exists another one, much cheaper, consisting of the use of *boundary markers*, i.e., marking out the land. These boundary markers are material signs indicating the separation lines between the properties. By themselves, however, they are not always sufficient, and often information contained in the *deeds* should additionally be considered.

The boundary markers once placed and the deeds drafted, care must be taken that the former will not be moved or the latter changed, and this has been attempted, since the beginning of the ownership of land, by increasingly perfected methods. The Jews made a respect for boundary markers a religious rule. Deuteronomy XIX, 14 and XXVII, 17 state the curses put upon those who move the markers.[x] In France, during the Middle Ages, it is said that children were required to be present when boundary markers were placed; they were pinched, their ears were pulled, and they were slapped to impress strongly upon them the memory of the operation and the place where it was performed. In Germany, another habit existed and still exists, particularly in Hesse: the authorities placed the boundary markers secretly, and placed other markers, known only to them, in proximity to the boundary markers. These methods are inadequate, and there are better ways of doing the job.

Let us go back to the triangulation we discussed when dealing with setting up the fiscal cadaster, and assume it has been achieved. The region has indeed been divided into a network of triangles the vertices of which are determined by landmarks consisting of prominent things, natural or artificial, like spires, pyramids, etc., and the sides of which are imaginary lines from one vertex to another. Each triangle is defined by the length of its sides and the magnitude of its angles. Everybody knows that knowing the length of only one side of only one triangle and **[418]** the magnitudes of the two adjacent angles, exactly measured on the spot, enables us to determine the elements of this triangle, and, starting from this, to determine the elements of all other triangles by the magnitudes of their angles. Measuring by use of the angles is even much more precise than measuring by the sides. Everybody knows also that once the complete network of triangles, so measured, is inserted into the map at the selected reduced scale, the landmarks protect each other in the sense that if some of them were replaced or destroyed, it would be easy to find their original position by means of the other ones. Hence, the reticulate map provided by the triangulation is in a way indestructible and unquestionable. The network of the property boundaries[xi] will therefore be made equally unquestionable and indestructible by linking it to the reticulate map of the triangulation; that is to say, by linking the boundary markers to the landmarks, on the land and on the map. Consider a boundary mark A, and two landmarks B and C. The length BC is known; if the angles ABC and ACB are also measured, then the position of point A is fully determined, and the smallest boundary error may be recognized and corrected thanks to the extreme precision with which angles can be measured.

This is the scientific and rigorous method of preventing errors of the boundary markers. This operation requires a survey generating the reticulate map of triangles with the reference points, and that of the landownership with the boundary markers. Once the map is finished, it is necessary only to add to it, in the form of a legend, the indispensable complementary data we have mentioned under the name of titles. Above all, this map legend has to contain the magnitudes of the angles linking the boundary markers to the landmarks. Furthermore, the legend has to designate how the boundaries are determined by the boundary markers, which is easy if it is borne in mind that the lines separating the properties are, in general, straight lines, and that sinuous lines may be reduced to broken straight lines. Hence, the determination of the limits in question will always consist **[419]** of straight lines and their lengths. It is also easily understood how the survey permits all necessary information to be inserted into the legend. Finally, the properties being defined, it only remains to identify the owners. The legend can be even more useful if the conditions attached to the property are added, like the easements, mortgages, other financial obligations, etc.

Those are the elements of the landownership cadaster, which, like those of the fiscal cadaster, can be recorded: first, in a map representing the region divided into properties; second, in a map legend pointing out the location, the sizes of the parcels, and the names of the owners, with an account of their rights; third, finally, in spread sheets, if so desired, making a separate registry that provides, in the order of the owners, the same information that the legend does in topographical order. Furthermore, it is clear that there is no particular obstacle that prevents keeping these elements up to date.

This method of guaranteeing landed property by the institution of a cadaster is not the one generally practised. In many countries maps are lacking, and the title deeds are the only documents available, or, if maps exist, they mention only official, public titles of ownership. This system is imperfect and gives rise to the greatest inconveniences. First, the simple written description in a title deed does not have the precision necessary for the determination of a piece of land; the map is indispensable for that. The title deeds written exclusively in the interests of private individuals cannot furnish the base for a right of property. Those deeds are usually deeds of sales, succession, lease, mortgage contracts, etc. The records of sales and purchase are the sole ones, however, that may be considered as titles of property. They certainly have value in a debate between buyer and seller, and between co-heirs. It is clear enough that they are worthless in the case of a dispute with a neighbouring owner. They may have evidential validity between **[420]** contracting parties, but not with respect to third parties. All the authors that have dealt with this subject, like Mr. Noizet[2] and Mr. Robernier,[3] have noticed the inadequacy of these deeds. Replacement of the boundaries, exaggeration of the sizes, mixing-up of the parcels, and many other causes resulting from bad faith and that are not predictable, have given rise to lawsuits. It is sometimes the seller who sorts out previous encroachments in the deed and sometimes it is the buyer who prepares future encroachments in it. If there is no bad faith, it can happen that inaccuracy, inattention, and other unintentional causes likewise give rise to encroachments. The frustration of personal interests aggravates all these conflicts, and the wounds of the chicaneries take their toll. Another very important consideration, moreover, reveals itself: even in the absence of any deceit or mistake, problems may occur, in particular with respect to easements. Let a field be divided into two parts with an easement on one part for the benefit of the other; for example, a prohibition to construct a building within a certain distance of the latter's boundaries or above a certain height from the ground. Suppose the two parts are sold to two distinct buyers, and by them to others. In all deeds relating to the benefiting part, the easement is mentioned, but in those relating to the other part it is lacking. The last buyer of the latter terrain constructs a building in good faith, and, when the building is finished, his neighbour makes him demolish it.

We must therefore consider the system in which public titles are supported by official maps. True, the survey and the maintenance of the cadaster lead to high costs. The whole question is one of knowing whether these costs are higher or lower than those of, first, making private, individual maps and title deeds, and, second, the lawsuits caused by the shortcomings of these documents. Undoubtedly, a rigorous comparison of the two types of costs is impossible, but it is not difficult to establish that the latter is superior to the former **[421]**. In his *Mémoire sur le cadastre et sur la conservation perpetuelle*, Mr. Truchy,[xii] chief land surveyor of the French Cadaster, calculated that in France there are 16,000 persons employed in measuring land, who, at an average wage of 400 Fr. annually, put a burden of 6,400,000 Fr. per year on landownership. This amount, augmented by the costs of lawyers and judicial costs, is certainly higher than the total amount of interest payments on the capital necessary to draw up a landownership

2 [François-Henri Noizet] *Du cadastre et de la délimitation des héritages* [Paris: Dupont, 1861].

3 [Félix de Robernier] *De la preuve du droit de propriété* [Alais: Veirun, 1843–1844].

cadaster and the cost of its maintenance. Why then hesitate, if, moreover, the cadaster is indispensable to the maintenance of the fiscal cadaster, which, furthermore, can be merged with the former or inferred from it very easily?

III The cadaster in France, Belgium, and Germany

Whether the point of view of the interests of the tax office is taken, or the point of view of the interests of the landowners, it is necessary to have a cadaster, be it a fiscal or a landownership cadaster, the principal element of which is a prior triangulation. The map of the fiscal cadaster represents the region divided into properties according to ownership, and then into parcels according to their cultivation. The map of the landownership cadaster represents the land divided into owners' properties only. This summary furnishes at once the similarity and the difference between the two maps. The landownership map and the fiscal map both contain as a common element the division of the region into properties according to ownership; the fiscal map contains, in addition, as a special element, the division of the region into parcels of cultivation. Consequently, it is certain that the same triangulation, and the sole and unique drawing up of the property network, connected with the triangular network by linking the boundary markers with the landmarks, may serve for the two cadasters. Briefly, the landownership map can be the basis for the fiscal map.

[422] Not only can it be so, but it should be so. The fiscal map should not be drawn up independently of the landownership map, but simultaneously with it; in other words, according to property rights and not according to usage. The importance of this principle can easily be made clear. Suppose that the fiscal map has been drawn up separately, according to usage and not according to rights. This means that maintenance of the fiscal cadaster is impossible, or at least quite difficult, without first bringing usage into conformity with rights by discussions among owners, without presenting title deeds, without the intervention of commissions, without judgements being rendered or agreements recorded. Indeed, that maintenance is carried out mainly by means of the presentation of titles, and these titles will not fail always to make evident the absence of agreement between rights and usage. Let, for instance, a sale take place that leads to a subdivision of property; assume that the relevant parcels appear on the map as having greater or smaller sizes than those stated in the deeds presented. The surveyor who makes the modifications to the map necessarily knowingly makes a mistake in giving the new parcels greater or smaller sizes, with, as sole compensation, only the foreknowledge of making more mistakes in the case of modification of the neighbouring parcels. This example shows all the imperfections of the system.

Under these conditions, one of two things can happen: either governments renounce the maintenance of the fiscal cadaster, which will become just as useless as if it did not exist, as happened in France, or they undertake its maintenance with difficulty and incorrectly, and with results that are not very useful, as is done in Belgium.

The law of 15 September 1807 that prescribed the establishment of the French cadaster was not, however, mistaken about the importance of the conformity between usage and rights. It was meant to be at the same time a fiscal and a landownership cadaster. In the *Recueil méthodique des lois, décrets, règlements, instructions et décisions sur le cadastre français*, published in **[423]** 1811 by the Ministry of Finance, this instruction is to be found:

> In his dealings with the owners, the surveyor should explain to them the advantages offered by the cadaster: first, by assuring the equity of the distribution of the land tax and the invariability of the basis of their contribution, and, second, by determining the boundaries of their properties in order to prevent disputes and lawsuits that would take place again and again.

Unfortunately, this idea was abandoned in the execution. The surveyors contented themselves with an approximation that sufficed for the basis of the land tax, without worrying about the thoroughness that would have been required to guarantee landownership. The first of these points of view prevailed more and more over the second. From this, it resulted that the French cadaster was eventually totally fiscal. This is the true nature of this cadaster, the history of which is a striking confirmation by experience of the predictions of theory.[xiii] The decline of the cadaster began the day after its birth. From the beginning, afraid of the problems of maintenance, the administrators of direct contributions stopped specifying changes on the map, and limited themselves to recording them only in the cadastral registry. When complaints began to be made, the question of the maintenance of the cadaster nevertheless once more began to be considered. Only those who know what in France is called ‘to consider a question’ can form an idea of the turn of events. Long and arduous groping around at the Ministry; the formation of a commission; maintenance proposals; stubborn and tenacious resistance of the agents; maintaining the status quo since 1840; resumption of studies; preparation, around 1846, of a bill and a circular letter; persistence of the administrators’ resistance; the revolution of 1848. Since 1821, however, the departmental shares did not change, and the land tax has become completely invariable. Thirty years later, in 1851, the tax, of which the principal was on average 6.06 per cent of income, varied from 3.74 to 9.07 per cent among the departments. The ‘additional monies’ averaged 3.59 per cent, and their **[424]** inequality was added to that of the principal sum. Moreover, the distribution over the districts, communities, and the owners being just as defective as among the departments, it finally turned out that some owner paid 25 per cent, whereas another paid only 3 per cent of his income. That was the result of more than 40 years of work and an expenditure of nearly 200 million. On 20 January 1866, the Minister of State said in a report to the Emperor: ‘The renewal of the cadaster has for a long time been the subject of studies by the Ministry of Finance; it would require considerable expenditures, and the time does not yet seem opportune to adopt a definitive proposal.’ It is impossible to predict the day this huge problem will be solved.

In Belgium, the cadaster has been established on the same basis as in France; that is to say, according to usage, without any concern for property rights. But, instead of abandoning it, the maintenance has been organized properly, thanks to regulations dating from 10 February 1835 and 22 March 1845. This is done as follows: the original map does not undergo any changes, but it is accompanied by *supplementary sheets* on which the new state of affairs is represented. The modifications that have taken place are introduced into a copy of the map deposited with the municipality, after effacing the old information by scratching it off. This system has permitted the approximate maintenance of the proportionality of the taxes, but it was common knowledge that the practice had developed, as predicted also by theory, of representing, with full knowledge of the facts, incorrect figures on the cadastral maps in the case of parcels whose actual sizes differed from those represented in the title deeds.

We cannot give here all the details of the organization of the cadasters in Switzerland. Nevertheless, we cannot excuse ourselves from mentioning in particular the cadastral system in the Vaud Canton as also being one that confirms the accuracy of our observations. Like in France and in Belgium, this cadaster is established on usage and not on law. Its maintenance has not been properly organized either. It is performed only by bringing up to date **[425]** one fiftieth of the canton's communities per year, which means a revision twice per century. The evaluations have not been modified, and the tax has been the same since its origination. But efforts are now being made to remedy this state of affairs.[4]

Nowadays, the fiscal cadaster can and must have the landownership cadaster as its basis. Does it follow from this that the two cadasters can and should be united and merged into one single cadaster, fiscal and legal? Certainly, that can be done, but whether it should be done is another question.

That complete union has been accomplished in Germany. Not all German states ['Länder'] have taken equal care or have applied the same thoroughness in setting their cadaster up. In Bavaria, for instance, the owners have been obliged to agree, before the geometric operations, on the position of the boundaries and to show them by means of stakes. In case of a lack of agreement, a commission intervened. But in other cases, confirming the maps and having them approved by those concerned has been neglected. Thus, the cadaster remained, in spite of everything, simply fiscal. On the other hand, in the grand duchy of Hesse, the duchy of Nassau, and the grand duchy of Bade the cadasters are both fiscal and legal, because a consistent and complete demarcation, legally confirmed, preceded the surveyors' work. Here, the maps are documents that can be used as proofs in matters of property. Moreover, the two cadasters have been joined: the fiscal elements are combined with elements concerning landownership. A single map represents both the division of the region into parts by owners, and the division into parcels by cultivation. A single legend indicates the location, sizes, and

4 The Vaud cadaster has been reorganized by a 'Loi sur l'inscription des droits réels immobiliers', dated 20 January 1882 and a 'Loi sur le cadastre' dated 30 August 1882. It is now a landownership cadaster and a fiscal cadaster, and is constantly kept up to date.

nature of the parts and parcels, as well as taxable incomes and names of the owners. A single registry, finally, provides, in order of the owners, all information that is provided by the legend in topographical order. In the duchy of Nassau this registry is called **[426]** the 'Stockbuch'. Under the name and address of the owner, every page contains nine columns displaying: first, the reference number of the landed property, and the number it has been given in the book; second, the size of each parcel; third, its class, value, and the original amount of the tax; fourth, its location, nature of its cultivation, and lengths of its boundaries; fifth, the nature of the title with respect to its manner of acquisition, the date of the title, the character of the parcel with respect to its being personal property or undivided property of a married couple; sixth, the easements and other constraints weighing upon the property; seventh, the amounts of annuities due for certain special purchases; eighth, the mortgage payments, the registration date of the mortgage, and their possible cancellation dates; the ninth column being reserved for remarks. This cadaster, so established, is kept perfectly up to date, and is current regarding all changes in the conditions of both ownership and cultivation.

Such is the present organization of the cadaster in Germany. Mr. Le Couppey has criticized it with regard to the combination of the landownership map and the fiscal map into only one. According to him, this method keeps the cadaster maps from getting the degree of accuracy they must have. Indeed, these maps have to be drawn with the greatest precision. Whatever the scale, it cannot be so large that a mistake of a few millimetres on the map does not correspond in fact to a fairly large area of land. The fiscal maps, on the contrary, are only meant for the distribution of the tax; a mistake in the map can cause no more than a nearly insignificant difference in the tax. But if the latter maps do not require such a meticulous precision, they must, on the other hand, show the nature of the cultivation, which is completely redundant in the case of landownership maps. We admit that these reasonings do not seem absolutely decisive. The Germans, who like **[427]** complicated things, enjoy drawing woods, vineyards, etc.; on their maps. The words 'wood', 'vineyard', etc., written on the paper would be enough. But there is perhaps another more decisive consideration. Changes in ownership should certainly be shown on the fiscal map, but they are not useful for modifications in cultivation to be inserted into the landownership maps, and those maps, if unburdened by that information, would be free from frequent and costly alterations. Once drawn up with the greatest care, they would serve for making the fiscal maps on the basis of a copy, or even a simple tracing. The tracing would be handed over to the administration of the Ministry of Finance, which would have only to subdivide the parcels of ownership into parcels of cultivation and to calculate the surfaces, which can be done easily and quickly. In this way, the fiscal maps would be deduced from the landownership maps, and no longer mixed up with them. This idea deserves the practitioners' attention.

IV The nature of the land tax

We have preferred to settle first the very important question of the combination of the landownership and fiscal cadaster. Having now suitably ascertained that there should be a cadaster to provide the necessary guarantees for landownership, and having ascertained that, once this cadaster is in existence, nothing is more simple and easy than deducing a fiscal cadaster from it as a basis of taxes, we will now deal especially with the latter in order to study how it should be in reality, and to investigate how it must be used.

To that end, one should, with the greatest exactitude, understand the principles of taxation in general and land taxation in particular. This is Mr. Couppey's idea, and that is why the first two chapters of his book deal with the land tax. But, however strongly positive we feel about the ingenious and satisfying technical views of the author, we feel equally strongly negative about **[428]** his weak and superficial economic reasonings. They are none other than the poor things that form the baggage of present-day economics in matters of taxation. Mr. Le Couppey sets himself to demonstrating that the tax must be proportional. He starts with demonstrating the opposite:

> If it is necessary – he says, in effect – to proceed with rigorous equity, it should be said that the State has the right to ask of everybody not a sum proportional to the service rendered to him for the protection of the enjoyment of his income, but a sum proportional ([insertion by Walras:] Mr. Le Couppey, who is a mathematician, should have said 'equal') to what it costs the State to protect either his capital, or his income, or his work, or even persons. To give an example: the protection the State offers to an industrialist when assuring him the benefits of the products of a factory yielding 10,000 Fr. does not cost the same amount as the protection given to a landowner whose land gives him an equivalent yield.

Nothing is less demonstrated than that statement; but that is not important: good or bad, the principle of equity has been stated there. How is the author going to apply it? He makes haste to declare that he will abandon it, and that 'the tax should be proportional'. And so on. Let us put aside these worthless statements. We do not have, here and now, the space and the time necessary for theorizing on taxation any more than on property. Let us take landownership and the land tax as facts that are essential for the existence of society as it is now constituted. Let us accept as another postulate the principle of freedom of production and exchange, and see what the organization of the land tax should be under these conditions.

Now, the question put in this way is dominated by a fundamental fact, completely misunderstood, or, rather, ignored by the public, acknowledged by some economists and some politicians or legislators, but soon forgotten by them; this is the fact that the land tax, under the social condition specified above, is not a tax.

The capital goods and incomes forming social wealth are **[429]** of two kinds: those that are natural and the quantity of which is given, and those that are products, and of which the quantity may be increased or decreased. The prices of the former type depend only on their utility and quantity; the prices of the second type depend on their utility and quantity combined with their average cost. From this it follows that a tax has very different effects on the former and the latter. We will not give an a priori and rational demonstration of these different effects of taxes on the incomes from natural capital goods and on the incomes from produced capital goods. That demonstration would require a complete course of economic theory. We will instead describe it purely and simply, and for that purpose we take two examples.

Assume there are two owners: one has a piece of land worth 100,000 Fr., rented out at 3,000 Fr.; the other has a house worth 60,000 Fr. rented out at 3,000 Fr. It is decided to levy a tax of $^1/_{10}$ on both incomes. Here is what will happen.

The 60,000 Fr. selling price of the house, being produced capital, represents in the normal situation its cost or the expenditures for its construction. The day after the creation of the tax, the 60,000 Fr. houses that yielded 3,000 Fr. will now yield only 2,700 Fr., and will have a value of no more than 54,000 Fr. Hence, the selling price will be 6,000 Fr. less than the cost, a loss of 6,000 Fr. for the builders of houses. Hence, the construction of houses stops for a while, old houses will disappear without new ones being erected. The utility of the houses remaining the same while their quantity is decreasing, their rent will increase. When this rent has increased $^1/_{10}$, corresponding with the tax, the selling price and the cost will again be in agreement, and production will begin again. Our house is then again worth 60,000 Fr. and brings in 3,300 Fr., of which 3,000 Fr. is for the owner and 300 Fr. is for the tax office. The tax is paid by the tenants.

With respect to land the situation is quite different. Land is a natural capital good; it is not produced. The day after the creation **[430]** of the tax, a piece of land of 100,000 Fr. bringing in 3,000 Fr., will only yield 2,700 Fr. and have a value of no more than 90,000 Fr. Everything has then be said, and the second part of the economic consequences does not take place. By taking $^1/_{10}$ of the income of the land, the State has taken $^1/_{10}$ of the ownership of the capital good. Consequently the tax has been paid [once and for all], in capital, in the amount of 10,000 Fr., by the person who possessed the land at the moment of the establishment of the tax.

We said that we have not provided an a priori and rational proof of these effects. But the a posteriori or experimental proof is to be found on all the pages of history. Land taxes, under the names of *censes*, *dimes*, etc., benefiting the lords or the clergy, existed in various countries not long ago. In their greed, the beneficiaries often increased the amount of these taxes. As it increased, and as, consequently, the unencumbered and available part of the income of the land decreased, the market value of landed capital decreased exactly in the same proportion. The amount of the tax has been seen to increase up to the point of completely absorbing landed income, and so the value of the landed capital has been seen to be reduced to nothing. At that precise moment, the owner was completely transformed into a leaseholder. More has been seen. The amount of the tax has been seen to exceed the amount of landed income, which made the market value of the land negative; that means that the owner, having become a farmer, would have been obliged to accept that the average cost of his products was higher than their price by an amount equal to the excess of the tax over the landed income, and would have suffered that much loss. Serfs were seen to run away to escape from this situation; and the lords to run after them to bring them back to their land and force them to keep their pathetic properties. Therefore, history, just like science, authorizes us to state that *the land tax is not a tax, but co-ownership of the land by the State.*

We have assumed, in our example, that a land tax is suddenly instituted without compensation. Under such conditions, the establishment of the tax is purely and **[431]** simply a confiscation of a part of landed capital from the owners of land. Exactly the same thing would happen if a tax were put on a State bond; for instance, if a tax of $^1/_{10}$ was levied on the 3 per cent bond. That very day, the price on the Bourse of the 3 per cent would decrease by $^1/_{10}$. But a land tax is not always instituted in this way. If, in a country where there are land taxes for the benefit of the lords or the clergy, the State buys out the holders, abolishes those rights, and replaces them by a land tax, in that case there will not be any confiscation of landed capital; there will simply be a substitution of the State in place of the lords and the clergy regarding co-ownership of this capital, without any other change for the owners than a change of form. This situation is very important with respect to the interests of the generation of owners possessing the land at the time of establishment of the tax. But what is certain is that the next generations' interests are completely indifferent with regard to the tax. This is an essential point and cannot be emphasized enough. In whatever way the land tax has been established originally, it can never be a burden to more than one generation of landowners; it can never in any way be a burden to all the other generations. The subsequent generations have obtained the land by purchase or inheritance for a value reduced by the tax, abstraction made of the State's portion. They do not have anything to do with the tax. This is a direct consequence of our principle, or, if so desired, another way of expressing it: *the land tax instituted in the past is not paid by anybody.*

Hence, there is nothing that is less of a tax than a land tax, and evidence of total lack of thought is given if it is represented as part of a general system of income taxes, as happens nowadays. That way of seeing the matter, recommended by so-called economists, shows only the deepest ignorance about economics. Nevertheless, we meet only writers and speakers delighted by their own abilities, and by the just and happy proportions in which they merge theory **[432]** and practice, when they propose a direct tax of, say, 5 per cent on landed income or on the rent of land, existing harmoniously alongside of a direct tax of 5 per cent on personal income or the wages of labour. These persons are in general too busy with writing and speaking for it to be expected that they can be converted to a less hasty and less superficial science. But we assert to those who attach more importance to fundamentals than to a seemingly exterior symmetry that there is no assimilation to be made of the three aforementioned types of taxes. The tax on the incomes of *artificial capital* would have the effect we described for houses: the result would be an increase of interest rates, and the tax would be paid by the consumers of the products in whose creation these capital goods are used; it would be a consumption tax. The tax on personal income would be paid by the workers, with no other incidence. As for the tax on the income of landed capital, we repeat that it would be paid, in capital, by the first generation of owners, would in no way be a burden upon later generations, and would constitute a rent due to the State for the land that it owns jointly with the land-owners of the nation.

V The basis of the land tax. State co-ownership of the land

Once definitively admitted that the land tax is not a tax but co-ownership of the land by the State, we have no problem granting Mr. Le Couppey, if that would be agreeable to him, that this co-ownership must be *proportional*; that is to say, in a common ratio, the same for all owners. Let us observe that no concern for equity is involved in the question. There would be no injustice if the State were the owner of **[433]** $^1/_{10}$ of Peter's land, of $^1/_8$ of Paul's, and of $^1/_{12}$ of Jack's, inasmuch as, these different proportions once having been fixed, Peter, Paul, and Jack would each have bought or inherited their land according to the particular proportion applying to it, and they would be able to sell it or will it according to that same proportion that applies specially to each of them. Hence, there is a matter of convenience at issue: in a word, it would be simpler and more practical if the State were the owner of $^1/_{10}$ of the land of Peter, Paul, and Jack, and of all other owners.

Under these conditions, we are quite ready to admit that the proportionality established in the beginning must be maintained always, and here we are on our author's side against what he calls the doctrine of the invariability of the land tax; however, since our point of view is quite different from his, we must support our opinion by our own reasons.

The doctrine of the invariability of the land tax is the doctrine of the most authoritative economists, who deduce it precisely from the theory set out above of the nature and effects of the land tax.

> It is – Mr. Passy says in the article 'Impôt' in the *Dictionnaire de l'économie politique* – essential to remember: a consequence of the land tax is that part of the rent of the land should be earmarked for the State, who has become its rightful claimant, and the important thing is that this part of the rent, remaining invariable, passes from the persons upon whom the tax originally was imposed to the land itself. Now, changing the tax distribution in order to grant tax relief on the parcels that yield the smallest amounts at the expense of the parcels whose yields increased will stop this earmarking; in fact, that is taking from some to give to others; and, under the appearance of

> justice, it is committing a real injustice with respect to those persons. Everything in redistribution is bad and vicious, and other interests than those of equity combine to forbid it categorically. In a country in which the State is believed to be authorized to modify the land tax, transactions would no longer be safe. At the moment of purchase, no one would know **[434]** whether the net income, which determines the price of a property, will not be decreased in the future, causing worries that leads to a restriction of the sale of properties. Furthermore, fear of tax increases would weigh heavily on agricultural enterprises.

It seems to me that we have here a mistake or an ambiguity that is easy to clear up. Let us take again the first of our three individuals, Peter, of whom we have spoken above, owner of a piece of land of, say, 100,000 Fr., bringing in a rent of 3,000 Fr. upon which a tax of 300 Fr. is levied. If, when establishing this tax, the State said: 'I levy on this land for myself a perpetual annuity of 300 Fr.', Mr. Passy's reasoning would have been perfectly correct, as much from the point of view of justice as from that of the interests of society. Sales and purchases of the parcel in question are carried out and must be carried out in the future as sales and purchases of a piece of land burdened by a perpetual annuity of 300 Fr., and not otherwise. Any increase or decrease of the amount of this annuity, at a certain time, would mean a decrease or increase of the value of the landed capital to the disadvantage or the advantage of the holder of the land at that time. This would be an injustice, both in the one case and in the other. And any uncertainty in this respect would be harmful for the trade in real estate and for the agricultural enterprises. But who is forcing the State to act like that? The State, when establishing the tax, could as well have said: 'We declare ourselves in perpetuity to be a co-owner of this land with a $^1/_{10}$ share.' From that time on, sales and purchases of land are carried out as sales and purchases of the remaining $^9/_{10}$ part of the land. And this is precisely in accordance with justice and social interests, which would have called for maintaining the ratio established in the beginning. Indeed, suppose the income from Peter's land becomes no more than 2,400 Fr., corresponding with a landed capital of 80,000 Fr. If the State continues to take 300 Fr., it will no longer be a co-owner for $^1/_{10}$, but for $^1/_8$ of the land, and Peter, already suffering a loss because of the decrease in value of his land, will be doubly disadvantaged. Suppose, on the contrary, that the land begins to bring in an income of 3,600 Fr., corresponding with a landed capital **[435]** of 120,000 Fr. If the State continues to take 300 Fr., it will no longer be co-owner for $^1/_{10}$, but for $^1/_{12}$ of the land, and Peter, already benefiting from the increase in value of his land, will benefit doubly. So, the opportunities for profit and loss inherent in landed property create an additional degree of uncertainty that is harmful to trade and industry. The State should therefore reduce the tax to 240 Fr. in the first case, and increase it to 360 Fr. in the second.

Certainly, both methods for instituting a land tax are possible. The economists in general and Mr. Passy in particular seem to grasp only the first method clearly; but the second has nonetheless indisputable advantages for the State, if one takes into account that of the two hypotheses, decrease of the value of income and of landed capital, or increase thereof, the second one is continuously fulfilled in a progressive economy.

Here we touch upon the much talked-about question of the existence and the development of rent, and, just as in the case of the effects of taxes, we are led to produce a solution that we are unable to base on theory, but that can, at least, be founded solidly on the results of meticulous observation. The fact of the existence of rent and the fact of its continuous increase in a progressive economy form, when all is said and done, a single and unique fact observed at two different moments. Societies living, in the primitive stage, on hunting and fishing, or, in the pastoral stage, on the produce of their flock, need very large areas of land for their subsistence. This land has a certain value for them. The primitive or pastoral tribes keep other tribes from their land, or concede them the right of hunting, fishing, or pasture only in return for some form of payment. But, when a society passes from one of these two early stages into the agricultural stage, or when an agricultural society takes the place of a primitive or pastoral society, it can live at first by using a much less extended area of land. There is then a time when land is available in unlimited quantity, just like air and water **[436]**; that is to say, people can have all they want; land is, like water and air, not part of social wealth; it has no value nor does its services. This time is more or less short. As soon as the increase of the population, unavoidably resulting from the establishment of the agricultural stage, makes itself sufficiently felt, land becomes scarce and becomes part of social wealth; it acquires value, as also does the value of its services. And the same circumstance that produced the emergence of rent will also cause its constant increase, namely the continuous population increase, the creation and opening of outlets for agricultural products. The number of facts in support of this way of seeing the matter is considerable. In a recent book on the educational system in England, being therefore a work without any prejudgment on the economic system, we read that a part of the colleges and universities of that country, those that had been endowed with money capital are near to ruin nowadays, while the others, that had been endowed with landed capital, are richer than ever because of the considerable growth of their rent. The fact of the nearly instantaneous duplication, or triplication of the value of the rent of the adjacent land by the construction of a railway, is a fact that is seen happening daily during the second quarter of this century, in several countries of Europe, and we see it now happening also in America. Let us therefore remark in passing: if Bastiat's and Carey's supporters, who deny the existence of rent, would be so kind as to break away for a moment from their preconceived theories to look around, they would see this rent growing in every progressive country as a result of the same cause that brought it into existence. Now, we ask, if the continuous increase of the value of land and of rent is a certain, indisputable fact, why would the State not take its share of this benefit?

Here we have Peter's land, worth 100,000 Fr. at the beginning of the [19th] century and bringing in a rent of 3,000 Fr. The land and its rent do not cease to increase in value; true, the percentage **[437]** representing the general ratio between the value of the income and that of the capital is decreasing in a progressive society. Nevertheless, around 1820 or 1830 the land's value was, for instance, 200,000 Fr. and brought in 5,000 Fr. at 2½ per cent, and around 1870 or 1880 its value will be 400,000 Fr. and will bring in 8,000 Fr. at 2 per cent. If the State declares itself co-owner for $^{1}/_{10}$ when establishing the land tax, it will see its share of the landed income increase from 300 to 500 Fr. and from 500 to 800 Fr., whereas Peter will see his share increase from 2,700 to 4,500 Fr. and from 4,500 to 7,200 Fr. Why would the State happily content itself with taking from Pierre's land, for its own benefit, a fixed annuity of 300 Fr.?

Such a way of acting looks clumsy and imprudent; but it is, indeed, really the case considering that the progress of society, made evident by the considerable, rapid increase of the value of land and the rent results, at the same time, in a corresponding increase of the State's expenditures on public services: police, national defence, justice, education. Is it not extraordinarily astonishing, and, in a sense, deeply distressing, to see the consequences for a great country like France of an error in the formula regarding these matters? Had Parliament, at the time when the total amount of rent in this country was 1,200 million, not adopted the point of view that made the State the owner of a rent of 240 millions from land, but had instead known and adopted the point of view that would have led to State co-ownership of $^{1}/_{5}$ of the land, then, by the increase of the amount of landed income from 1,200 million then to 3 billion now, the amount of land tax would have increased from 240 to 600 million; this would not have prevented the landowners' part from increasing from 960 to 2,400 million. Because of a lack of a well-drafted law, and also of a good organization of the cadaster, which alone would permit its maintenance and preservation, the State after having abandoned to the landowners the 360 million that belonged to it, in addition to the 1,440 million they already have, **[438]** tries to make up this deficit, without succeeding otherwise than by the most anti-economic solutions, and finally neglects, for lack of funds, all the important interests of civilization. For smaller countries, these amounts are not that high but the results are equally deplorable. Let us therefore admit that, in these cases, some money spent and efforts made on cultivating and teaching economics, especially with a view to working out and disseminating a more serious theory of land tax than the current one, would have been money and efforts well spent.

VI The basis of the land tax. Distinction between land and capital

Here an objection arises. All that we said until now on the nature, the effects, and the consequences of the land tax relates exclusively to the tax on the rent of land; that is to say, on the income of the land in the proper sense, not taking into account the capital that is generally combined with it in agriculture. That having been posited, the objection is as follows: is it possible, not only in theory but practically, to split up the total value of real estate in agriculture by separating the value of artificial capital combined with the land in order to consider only the value of the land in the proper sense? Is it even possible to decompose the total revenue of the real estate by separating the interest on the capital combined with the land in order to consider only its rent? It must be admitted that all economists answer this in the negative. Unfortunately for their opinion, it is only too certain that, most particularly in regard to taxation, all questions that appeared to the economists a little difficult to solve have been declared by them to be insoluble, and that, when all is said and done, their whole theory **[439]** of taxation is reduced to saying that in matters of taxes it is impossible to achieve perfect equity or perfect utility. According to them, God said, when creating man: 'You will discover many things; you will invent the compass, railways, electric telegraphy; you will invent constitutional and representative government; but you will never discover a satisfactory tax.' A strange curse! Once more, we do not want to expound here a theory of taxes, but we will at least try to show that, regarding the point in question, the economists have backed away from an alleged impossibility that is only a difficulty of secondary order.

To begin with, let us be careful, as P.-L. Courier says, not to speak in a figurative sense. People are always speaking about the prodigious, inestimable quantity of capital *buried* in the ground over the centuries. Regarding the matter we are dealing with, that is an inappropriate statement, and science should be undertaken in scientific language. Capital is not buried in the ground; it is associated with the land, in three perfectly distinct and definable ways.

First, there are operations whose expenditures must be recouped wholly, with principal and interest, by the value of the harvests of the same year, such as seeds, labour, etc. This is basically the use of circulating capital under normal conditions of industry and commerce. This capital should be remunerative, which does not mean that it will necessarily break even. It might more than repay for itself: this is the case of a profit for the entrepreneur. It might less than repay for itself: this is the case of a loss for the entrepreneur. In both cases, however, no less than in the case of equilibrium, no capital will remain buried in the ground.

Then there are the operations whose expenditures will not be recouped wholly by the value of the same year's harvest, but whose principal and interest must be recouped in the value of the subsequent harvests of a certain number of years. These are the improvements of the land, drainage and irrigation systems, trees, retaining structures and **[440]** enclosing walls, etc. Let us say it once more: all in all, this is using fixed capital under normal circumstances. When the improvements have produced all their effects, when the drainage pipes and the irrigation installation are no longer serviceable, when the trees are dying, when the walls are on the point of collapsing and should be renovated, just at that time the entrepreneur should have been paid back entirely, inclusive of interest. He might have received more, or less: that means a profit for him, or a loss. But in no case will value be added to the value of the land other than that of the capital that can be seen and touched.

Finally, there are certain exceptional operations whose expenditures must be recouped only by perpetual interest payments in an indefinite series of harvests, such as reclaiming marshland, developing unproductive moorland for good use, etc. Here we have a special application of fixed capital that can be considered a transformation of fixed capital into landed capital. After the transformation, the value of the land is the same as that of land that yields the same income. If this value exceeds that of the capital spent, then there is a profit; if not, there is a loss.[xiv] This is the only case where capital remains buried in the ground. This can be taken into account in one way or another with respect to the land tax. In order to resume its normal relation to landowners without injustice, the State can, for instance, have the new land's value estimated and pay for its part of ownership by means of a compensation. As far as regards the two other cases, which are the general cases, there is nothing mysterious or elusive about them as soon as they are examined carefully and closely. The myth of an immeasurable quantity of capital buried in the ground should be absolutely eliminated from the problem of land taxation. According to Bastiat, that capital determines the whole value of the land, and, if Carey is to be believed, even more. Yes: Carey teaches us that the value of land is far from equalling the value of capital integrated into it. That economist has forgotten **[441]** only one thing, namely that the agricultural entrepreneurs recoup their expenditures, every year and each day of the year, by means of the products they harvest from the land and sell in the market. He, Carey, sees very well that capital enters into the land in the form of seeds, labour, improvements, drainage, irrigation, etc., but he does not see it being recovered in the form of wheat, vegetables, and all sorts of fruits.

What must be done to separate the total value of real estate into that of artificial capital and that of landed capital, and to separate the gross income of the real estate into interest and rent? First, by evaluating the value of the standing crop, the value of the circulating capital will be obtained; second, by evaluating the value of the seeds, labour, improvements, drainage, irrigation, etc., the value of fixed capital will be obtained. The value of the land in the proper sense, of which the State is a co-owner, is obtained by deducting the values of circulating and fixed capital from the total value. The value of the services of the land will correspond with the value of the land by virtue of the known ratio of the value of landed income to the value of landed capital on the market for productive services. Inasmuch as these evaluations constitute the essential operations in making an inventory, if one declares them to be impossible, then the consequence will follow that the agricultural industry is of the very special sort in which the entrepreneur will never know whether he is in a situation of profit or of loss, a consequence that is unquestionably absurd and contrary to the facts. Agricultural accounting may be more complicated than industrial, commercial, or financial accounting, but there is nothing inherently impossible about it, and it can be seen every day that agricultural entrepreneurs lease land, combine it with fixed and circulating capital on a substantial scale during 10 or 20 years, recover the capital, with profit or loss, by means of the successive harvests, and, at the expiration of the lease, return the land to its owners. So, any so-called impossibility to distinguish capital proper from landed capital comes simply down to a stubborn laziness of most of the **[442]** writers to analyse the procedures in agricultural production and to learn about the special accounting practices of agricultural enterprises.

To summarize, understanding the land tax as a tax on land rent and not as a tax on the income of the capital joined with the land; considering this tax not as a tax but as undivided co-ownership of the land by the State, where the proportion in which the land is divided between the State and the landowner should remain strictly unchanged; those are the principles furnished by a thorough study of taxes on land. Once having obtained these principles, it remains only to say in a couple of words what the fiscal cadaster should be from this point of view.

First, as far as the maps are concerned, it is clear that this cadaster can and must always be derived from the landownership cadaster by the simple subdivision of the parcels per owner into plots of cultivation. Then remains only the administrative operation of evaluating the parcels. The present modes of classification, distribution into classes, and evaluation are obviously based on the mix-up of artificial capital with land. Vineyards and gardens are classified in separate, superior classes, evaluated at the highest prices, because account is taken not only of the superiority of the land but also of the value of the vines, fruit trees, and walls. Lower classes, at still relatively high prices, are formed for meadows and fields, taking account more or less of the hay and the harvests, and the fertilizers. Strangely enough, for forests, the land is generally evaluated as such, abstracting from the trees that will provide lumber.

This way of proceeding should be corrected and regularized in accordance with the principle of the distinction between land and rent on the one hand, and capital and interest on the other. Commissions of competent persons should be charged with responsibility for this evaluation; they should perform them for the whole country, exactly as a farmer does at a certain time for a plot that he wants to lease. In this way, the administration would obtain average prices, as it obtains them today. The evaluations should be repeated every 10 or **[443]** 15 years, in accordance with the principle of unchanged proportion of co-ownership by the State and the landowners. Should use of average prices be made to obtain the total amount of the tax and the base for its distribution among the regions, but leave the distribution among communities and individual taxpayers as it is currently? Or could the matter be simplified by letting the taxpayers deal directly with the tax office? That is a question of the distribution of the land tax and not of its basis, so we do not tackle it now.

In principle, the basis developed above for the land tax is not more unworkable than any of the bases commonly used until now. In the Middle Ages, maps and cadasters containing the location and nature of all the parcels of the country would probably have been considered impossible, if the matter had been discussed. It has nevertheless been established in various countries, at least according to usage, like in France. In these countries, the idea of having usage and owners' rights in accordance with each other, and of forming the fiscal cadaster from a cadaster connecting boundaries to landmarks, has been given up as an impossible task whenever it has been considered. In Germany, however, it has been achieved. If the Germans were asked about an evaluation of land not including the capital associated with it, probably many among them would declare that making such an inventory is impossible. Nevertheless, considering the difficulties in cadastral matters that have been overcome, one by one, it is to be hoped that this problem will also be overcome sooner or later like the others. Nothing is impossible in these matters, which does not mean that everything will be done immediately. Although possible in principle, the operation is only possible in fact if it earns what it costs. This is a question that depends in every country on multiple and special circumstances, and it was not our intention to discuss them. In the present study, we wanted to give a thorough analysis of the land tax, and to seek what were, as a consequence, the conditions for the fiscal cadaster **[444]**. This meant that we took entirely the theoretical point of view. Thereby provided with firm principles, we will be able, one day or another, if the occasion presents itself, to study to what degree it would be suitable to modify or improve taxation and the cadaster in any particular country where the question presents itself in an interesting and favourable perspective, and the future course of which will affect us in a direct and special manner.

Notes

i This page is page 387 of the first edition. From here on, the page numbers of the second edition are the same as the first plus 23.

ii Smith's four maxims are:

> I The subjects of every state ought to contribute towards the support of the government, as nearly as possible, in proportion to their respective abilities; that is, in proportion to the revenue which they respectively enjoy under the protection of the state. […]
>
> II The tax each individual is bound to pay ought to be certain, and not arbitrary. The time of payment, the manner of payment, and the quantity to be paid, ought all to be clear and plain to the contributor, and to every other person. […]
>
> III Every tax ought to be levied at the time, or in the manner in which it is most likely to be convenient for the contributor to pay it. […]
>
> IV Every tax ought to be so contrived as both to take out and to keep out of the pockets of the people as little as possible, over and above what it brings into the public treasury of the state.

See, Adam Smith, *An Inquiry into the Nature and Causes of the Wealth of Nations*, Book V, Chapter II, Part II, 'Of taxes', pp. 888–889 of the Modern Library Edition, Random House, New York, 1994.

iii Jean-Baptiste Say, *Traité d'économie politique*, Book III, Chapter IX, §3.

iv The correct translation of Walras's word 'cadastre' is 'cadaster'. In the United Kingdom the terms 'land register' and 'land registry' are also used for that institution. 'Her Majesty's Land Registry' is the official name of the government department charged with guarding and keeping up to date all the relevant documents, including maps, in order to maintain the Land Register of England and Wales.

v Walras used the old French word 'terrier' for such a registry.

vi Now in the National Archives Kew, London.

D vii Indeed, he worked from October 1732 until June 1733 in the cadaster office of Chambéry; see *Confessions*, Part I, Book V.

viii Just as in the language of commoners in previous centuries, Walras used the term 'taille', which denotes a tax that the nobility did not pay until that time.

ix Walras wrote here ‘ou bien il est à la fois fiscal et *foncier*’. The word ‘foncier’ simply means ‘relating to immovable property, in particular land’. Hence, as such the term ‘cadastre foncier’ does not have a very specific meaning; however, the explication that follows immediately after the passage justifies our translation ‘landownership cadaster’.

x In this respect, Walras made a mistake that we have corrected. He wrote XIV instead of XIX; Chapter XIV of Deuteronomy is on purity and impurity.

xi We translate Walras’s term ‘réseau de la propriété’, literally ‘property network’, as ‘network of the property boundaries’.

D xii J.-B. Truchy de Bachouche, *Mémoire sur le cadastre et sur la conservation perpetuelle*, Gap: Imprimerie J. Allier, 1837.

xiii This is a ‘striking confirmation’ of the fact that Walras believed that theory is confirmed by experience. See, Donald A Walker, *Walrasian Economics*, pages 28–112.

xiv Walras apparently assumed that the initial value of the land was zero.

13 The fiscal problem

[445] I Multiple taxes. Single tax: proportional or progressive[1,i]

The story of the variety of economists' religions in matters of taxation is quite amusing.

Of the three main social doctrines: *communism*, which considers only society and regards the individual as being only an element of the State; *individualism*, which knows only man and that believes the State is only a gathering of individuals; *synthesism*, which believes that experience teaches us the fact of man in society, the individual in the State, the second of these is the economists' doctrine, just as it is the doctrine of the bourgeoisie.

Inasmuch as I have cited elsewhere Plato and Aristotle as the champions of communism and individualism, respectively, I feel a need to remark here that these two great geniuses are not, however, unconditionally confined exclusively to one point of view. After Plato, in his *Republic*, divided the citizens into different races: the golden race, which is that of the magistrates, the silver race, which is that of the warriors, and the iron and brass races, which are those of the workers and artisans, he adds that if the children of magistrates have some mixture of iron or brass they should be relegated to the state of workers or artisans, and if the children of workers or artisans manifest silver or gold, they should be elevated to the status of warriors or the dignity of magistrates, 'for an oracle says that the republic will perish when it becomes governed by iron or brass' [Book III]; and so he formulates, in the splendid wording that is so characteristic of him, the principle of inequality of positions. And when **[446]** Aristotle repeats many times in his *Politics* that the State (πόλις) is a community (χοινωνία) of equals and fellow-men (ίσων και όμοόων [Book VII, §viii]), he virtually asserts in a rigorous way the principle of the equality of conditions. In the nineteenth century, this broad and comprehensive view is shared only by some rare minds, like Pierre Leroux, [Charles Brook] Dupont-White, and Mr. Vacherot. Most of the socialists have been communists, so much so that the

1 *Revue socialiste*, 15 October and 15 November 1896 [12th year, Vol. 24, pp. 386–400 and 537–551].

word socialism, created by Leroux[ii] to designate its synthetic conception, eventually became for many people identical with the word communism. As far as the economists are concerned, they are excessively individualistic, and, on that terrain, they follow along behind Mr. Thiers, the philosopher of bourgeois sociology.

As I explained in the sixth lesson of my *Théorie générale de la société*,[iii] when exclusive individualism is applied to the theory of the distribution of social wealth among the people in society, the two questions of property and taxation are separated, and the first is solved by attributing all types of social wealth to the individual alone: personal faculties, capital, and land; then, having done this, the resources of the State are obtained by means of a payment extracted from the various incomes of the diverse types of capital relegated to individual ownership and enjoyment: wages, interest, and rent. Then, having posited the problem of taxation, it is solved by the twofold principle that the amount of taxation should be agreed upon voluntarily and distributed proportionally. That is how Mr. Thiers proceeds. Property and taxation being only the two halves of one and the same theory, they are dealt with [in Thiers's book] in one and the same volume,[2] except that the former is treated in Parts I and II and the latter in Part IV; this means that a question is tackled after it has already been solved. What is the State? It is an institution by means of which individuals are protected in the processes of obtaining and enjoying their incomes.

> The soldier at the frontier or **[447]** in the interior of a country, the magistrate in his courtroom, protect, during the same day, everyone's work, work that represents 2 francs for one person, 6 francs for another, 100 francs for a third, 1,000 francs for a fourth, thereby saving a loss of 2 francs for the first, 6 francs for the second, 100 francs for the third, and 1,000 francs for the fourth, by preventing the damage that would have been caused by invasion, disorder, or violation of the law.
>
> (P. 306 [of *De la propriété*])

The same is true for incomes other than those from work:

> Thus the individual, protected in his work by those who guard, judge, or govern, is protected not only in the work he performs but also regarding the accumulated work of his ancestors, which has resulted in good land, nice dwellings, and rich furniture. All this represents an income of perhaps 10, 20, or 100 francs per day. It is safeguarded, and we must pay a remuneration for the protection of both property acquired long ago and of things we acquire in the present.
>
> (P. 306)

2 [Adolphe Thiers] *De la propriété*, Édition populaire, 1848 [Paris: Paulin, Lheureux et Cie].

What, therefore, is a tax? It is the price of being protected with respect to receiving and spending income.

> A person must therefore pay taxes according to the income from his work, and according to the income from possessions sold or acquired. That is what we mean by proportionality of taxation.
>
> (Pp. 306 and 307)

But, you will say, the State does other things than assuring security. Indeed, in the same line of thought, the State protects other things than our incomes: our lives, those of our children, the honour of our wives and daughters. Is the value of these things then proportional with the amounts of our wages, of our interest income, and our rental income? – I completely agree with you and I find that the cook's boy who answered, when Louis XI asked him how much he earned, 'I earn my expenses just like the king earns his', had a much more refined social philosophy than Mr. Thiers. But this opinion is not the economists' opinion. Nearly all of them consider the matter in the same light as the author of the book *De la propriété*. And, when that work appeared, the school's organ, the *Journal des Économistes*, wrote, with regard to **[448]** the part devoted to the principle of taxation:

> Here, Mr. Thiers has been more felicitous. Seizing, with marvellous adroitness, a comparison already made between the State and an insurance company, he showed in a mathematical way the justice of proportional taxation.

For the economists, it is mathematically certain that the honour of Madame the Countess, whose husband enjoys 200,000 livres of land rent coming from 'the accumulated work of his ancestors' is worth twenty times the honour of the wife of Mr. Joseph Prudhomme, who has only 10,000 livres from 3 per cent bonds accumulated in trade, and 100 times that of the wife of an artisan who earns six or seven francs per day in his workshop. These mathematics are quite aristocratic!

While agreeing on the principle, Mr. Thiers and the economists went their separate ways long ago regarding its application. Having written his chapters II and III [of Part IV of his book]: 'Du principe de l'impôt' et 'De la répartition de l'impôt', in which he stated: 'The burden of taxes must fall upon all kinds of income, from both property and work', and 'Taxes should be proportional and not progressive', he wrote his chapters IV and V, in which he demonstrated: 'Taxation should have, as time goes on, the essential and useful tendency of infinitely diversifying', and 'Taxes should be infinitely distributed, and should tend to become part of the price of the things to the point that everybody bears his share, not in proportion to what he pays to the State but in proportion to what he consumes.' We are learning here that multiple taxes, under the condition of being extremely multiple; that is to say, sometimes direct, like the *land tax*, *personal taxes*, *taxes on windows and doors*, and *licenses*, sometimes indirect, like *import duties* and *taxes on salt*, *beverages*, *sugar*, *railways and carriages*, and *tobacco*, and sometimes both direct and indirect, like *legal fiscal stamps*, *inheritances*, and *transfers of property*, constitute proportional taxation *par excellence*, and that the wish to achieve this proportionality has, in general, determined the governments' behaviour **[449]** in fiscal matters, and not the wish to overburden the people, to milk them dry, to exempt the rich and crush the poor, as one would believe through sheer ignorance of history (P. 334).

> This is – the author says – what I call the *diffusion* of taxation, using an expression borrowed from physical science that calls *diffusion* of light the countless reflections by means of which light, once having penetrated the slightest chink into a dark space, is diffused in all directions so as to reach all objects, making them visible when shining on them.
>
> (P. 337)

The economists must have observed 38 years later that Mr. Thiers here showed himself to be as great a physicist as he revealed himself to be profound mathematician in his theory of the State as an insurance company.[iv] But then they let themselves be bogged down by insignificant details of the great demonstration of multiple taxation's rigorous proportionality to the amounts consumed by the taxpayers. They upheld, for instance, that the land tax, direct and real, is in reality a State co-ownership of the land that does not burden anybody, and not a consumption tax on agricultural products, as Mr. Thiers quite simply believes (pp. 340 and 346). They did not understand clearly how the tax on salt, which was equal and proportional, ceased to exist, so to speak, because it was indirect and was 'a tax per capita made almost imperceptible because it is hidden in consumption' (p. 332). They permitted themselves not to believe that 'because of one of the wisest and most reassuring rules of Providence, no matter how governments go about doing things, the rich are, after all, taxed the most' (p. 343). Consequently, and also because they saw that a taxpayer's exact knowledge of what he was paying has some political advantage, they advocated a single tax, direct and *proportional to income*.

Alongside of them, Émile de Girardin advocated a single tax, direct and *proportional* not to income but to *capital*, and not to all capital, but only to landed capital and **[450]** capital proper. At the Congress of Lausanne on taxation in 1860, we had before us these two single taxes, the tax on income represented by Joseph Garnier and the tax on capital represented by Girardin himself. They had anticipated fighting for our votes; but, confronted with an opposition more strong than they had anticipated against the very principle of the single tax, we saw, at the session of 27 July, the merging of one with the other into a heterogeneous combination of a *single direct tax on wealth* 'including all elements of wealth and weighing on both capital and income'. It was then that I stood up to defend the capital tax at the very moment its author abandoned it, and showed its twofold superiority over the income tax. Since then, I have often had the opportunity to rethink the matter, and I am still convinced of the two points in question. If, for the moment, the point of view of a tax as insurance is taken, the point of view that an income tax and a capital tax have in common without any other consideration, it is clear that the income whose acquisition and enjoyment are assured by public services is not gross income but net income; that is, gross income minus depreciation and insurance premiums, because it is certain that capital will deteriorate and may be destroyed, deterioration and the possibility of destruction being inherent in it; hence, the direct tax should be proportional to net income, i.e., to capital. I did not change my mind with regard to the exemption of personal capital from taxation; far from it. Since 1860, I have had the satisfaction of seeing how, in various countries, the statisticians place personal capital alongside landed capital and capital proper in making the inventory of social wealth; however, in my opinion, they do this incompletely. They consider as part of social wealth only the personal capital the income of which is exchanged against a wage, neglecting the personal capital that is consumed directly in the form of leisure. It is exactly as if they **[451]** took account only of the land the income of which is exchanged against rent and the capital the income of which is exchanged against interest, neglecting the land and the capital the revenue of which is consumed in kind by their owners: parks and gardens, furniture and luxury goods. If Monsieur le Comte, divested of his 200,000 livres of rent, were able to live only by chopping wood for 4 Fr. per day, his personal faculties would have a value corresponding to a gross income of 1,200 francs per year. And if Madame la Comtesse, who can sing to the real delight of her guests, were able, if need be, to perform at the Opéra Comique at the rate of 500 Fr. per evening, two times per week, her personal faculties would have a value corresponding to a gross income of 50,000 francs per year. To these gross incomes correspond net incomes, the enjoyment of which is assured by the State in the form of leisure when they do not work, just as it assures enjoyment in the form of jobs if they do work. Consequently, one of two procedures has to be followed: either evaluate the personal faculties of Monsieur le Comte and Madame la Comtesse, or, if such a course of action seems problematic or indiscreet, do not concern yourself with the personal faculties of the wood-cutter or the opera singer; either impose a tax on the personal capital of the leisure class, or exempt the personal capital of the workers from it.

Unfortunately, it is no longer a question of a tax on income, or of a tax on capital, or of a tax on wealth! From 17 February until 7 April 1886, Mr. Léon Say presented eight lectures on taxation at the École des sciences politiques, in which the ideological element was reduced to an infinitesimal state, while the description of facts and an obsession with circumstances took an immeasurably large space.[3] Comparing society with four workers living in a country without government where, consequently, no security for persons or goods exists, and

3 *Les solutions démocratiques de la question des impôts* [*Conférences faites à l'École des sciences politiques*, Paris: Guillaumin], 2 volumes. 1886.

where one of the four workers stands guard while the others, assured of their **[452]** safety, work and produce, the author tries hard to demonstrate that taxation should be proportional to income, without taking the trouble to tell us if this is net or gross income (Vol. I, pp. 69 and 70). He seems to believe that the tax, however based, is 'naturally' proportional to consumption, forgetting, moreover, to wonder if consumption is equal or proportional to income (p. 71). And, lo and behold, the principles are established. Then he goes on to relate at length the history of the *estimo* and the *castato* of Florence,[v] already introduced to us by Émile de Girardin in accordance with Edgar Quinet's account, and he reviews the fiscal policies tried out in France, in England, in Italy, in Germany, in Switzerland. He concludes then that 'in a country like France, where ideas are as profoundly muddled as they are nowadays, one cannot contemplate without fear the establishment of what the Florentines and the Swiss call a "registry of wealth"' (Vol. II, p. 292). The result of this seems to be that we should retain whatever tax exists, and, above all, reject progressive taxation.

When announcing Mr. Say's book to the well-intentioned public, the *Journal des Débats* of 23 July endeavoured to give an idea of the extent to which thinking, particularly the economists' thinking, is so thoroughly muddled in France:[vi]

> Before the invasion by socialism – the journal stated – the economists led the movement for tax reform; they did not limit themselves to claiming reduction and simplification of the import levies; they called for the abolition of excise duties, and they revealed themselves to be in general hostile to indirect taxes, in which respect they disagreed with financial experts

Now follows a portrayal of the economists' reformist ardour, and a summary of their terminology in promoting a single direct tax:

> Nowadays, this language has changed; this ardour has cooled down, or been extinguished. We are now defending the taxes we attacked yesterday with so much spirit, and, a painful thing to confess, our only ambition would be to preserve them while waiting for better times **[453]**. What use has that?

At the appearance of the single direct tax, no longer proportional but *progressive*, [the journalist wrote:] 'The socialists have arrived, and see now how it happens that the economists are defending today what they attacked yesterday.'

It is an odd science, this official science that shifts course with every changing wind without ever renouncing its attitude of infallibility! How can that be! The economists have proposed the single proportional tax. Others propose the single progressive tax. And this would force the economists to maintain henceforth that the multiple tax is strictly *proportional*! Imagine students of Pasteur who have reasons to believe that typhoid fever, cholera, and certain epidemic diseases are caused by the fact that there are microbes in the drinking water, and who would therefore recommend sanitizing the springs. People now emerge asking that the State pipe drinking water into the houses of all citizens. And then we see our bacteriologists receiving from the Institute the order to maintain henceforth that the water from the pipes is the best that there is! What progress hygiene would have made under this regime! That is where we are in economics. Do you want the arrangements made by orthodoxy at the present time? Open the *Journal des Débats* of 3 July 1896; it will tell you that 'the French financial system has provided striking proofs of its superiority over all financial systems known and applied in the civilized world'. If this is so, we have only two things to do: note the contemporaneous economists' complete abandonment of any theory of taxation, and their unreserved acceptance of the most outdated fiscal routine of governments and financiers, and criticize the only doctrine with which we are confronted from now on: that of progressive taxation. This is how we are going to proceed in trying to take it seriously, and above all taking ourselves seriously also. However, whether the *Journal des Débats* likes it or not, we will not criticize the doctrine as being socialist, but as anti-socialist. **[454]**

II Critique of taxes as a normal and definitive phenomenon

In trying to base the theory of taxation on a principle of justice, it is postulated as a rule that the citizens must contribute to the cost of public services to the degree to which they participate in the benefits of these service. Then one wonders if the citizens participate in these advantages proportionally or progressively with their income or capital, or quite otherwise. This is the first question we have to resolve.

Recently, much light has been shed on several obscure points in economics by the notion of utility curves like those of corn and beef that I employed in the *Théorie de la propriété*.[vii] This idea consists of supposing that immeasurable magnitudes are measurable, for the sake of greater precision of reasoning: namely the decreasing intensities of wants corresponding with successive units of the various consumption goods. This hypothesis admitted, it can easily be imagined that an individual knows beforehand exactly what quantity of grain, meat, this or that foodstuff, clothing, furniture, etc., he would be prepared to consume if he had it at his disposition, irrespective of the price; that he then compares exactly not only the utility to him of the first unit of each good with that of the second unit, the utility of the second unit with that of the third unit, but also the utility of the first, of the second, of the third unit of each good with the utility of the first, of the second, of the third unit of whatever other good; that, the prices being given, the individual finally perceives exactly how he has to allocate his income over the various goods in order to obtain the greatest possible total of satisfaction of his wants. I believe that the best way to solve the question of the participation of the citizens in the benefits of public services, by tearing us from the domination **[455]** of worn-out ideas and from the influence of surrounding facts, is to borrow boldly that conception regarding goods and services of private interest to extend it to goods and services of public interest.

To do so, let us first rise above that narrow and wrong point of view that persists in considering the public services of security, of justice, and of other matters, as consumed by the individual, who asks, for example, what is the use of the Museum of the Louvre to a farmer in the Low Alps who never sets foot in it. Let us try to understand that a decision by a judge in a civil or criminal case does not render more service specifically to the winner than to the loser, to the victim more than to the murderer, but to society as a whole; that the Museum of the Louvre contributes to the maintenance of the superiority of French art from which results the superiority of our luxury goods industries, thanks to which France is sure to pay its imports by its exports. Let us avert our eyes from our parliaments incessantly enticed to plunder the State to the profit of the individual, by ministers borrowing their majority for one day through satisfying the appetites of skilfully assembled groups. Let us, in a House of Representatives resulting from well-organized universal suffrage, try to imagine a statesman of independent position and character, whose personal ambition when speaking is to express the collective conscience, and who would be in favour of the discussion of his budget by the national parliament. Would it then be impossible to imagine that the State, so personified, first, knows exactly what quantity of regiments, warships, courts of justice, universities, and museums it necessarily must have; that it then compares exactly not only the utility it enjoys from the first unit of each service with that of the second unit, the utility of the second unit with that of the third unit, but also the utility of the first, of the second, of the third unit of each service with the utility of the first, second, third unit of whatever other service; that, costs being given, the State perceives finally exactly how it has to allocate its income over the diverse services in order to obtain the greatest possible amount of effective utility for the country? For those who are quite **[456]** willing to follow me in my idea, and who will permit me to define the products or services of *private interest* as 'those whose needs are felt and measured by the individual', and the products or services of *public interest* as 'those whose needs are felt and measured by the State', I will try hard to demonstrate now that the citizens do not participate in the benefits of public services proportionally or progressively with either their income or their capital.[4,viii]

First, inasmuch as the need for products and services of private interest is felt and measured by people in their capacity as individuals, applied economics demonstrates that, except in some well-founded cases like monopolies and one or two others, the production of these products and services can be left to private enterprise. When there is a shortage of a certain product or service, the law of the market will raise the price above the average cost and production will increase. When there is an excess of a certain product or service, the same

4 There will be mixed services, partly of private interest and partly of public interest. Nonetheless, subject to this reservation and several others, it is certain that the concept of want curves, or utility curves for products and services of public interest, will be indispensable for completing the mathematical theory of economic equilibrium.

law will lower the price below the average cost and production will decrease. Order and proportionality[ix] will tend to be established automatically. Nothing of the sort will take place in the case of goods and services of public interest. The needs for these goods being felt and measured by people only as members of the community or the State, their production cannot be left to private enterprise. The State itself should produce them to be sure to have them, and to have them in suitable quantities. Second, individuals, when they have distributed their income among the products or services of private interest, have thereby accomplished their human destinies more or less effectively by obtaining unequal personal positions. On the other hand, however, what has the State done when it has allocated its income among the products and services of public interest? It has prepared the environment in **[457]** which human destinies can be accomplished, and it achieves this by establishing general social conditions. Now, if the accomplishment of our destinies, whatever they may be, is equally important for all of us, or if, in a rational society, the general social conditions are equal, the State, which must have the monopoly of the products and services of public interest, must furnish them gratuitously to all of us, thereby rendering an equal service to everybody. Consequently, we must say in answer to the question of the principle of taxation as posed above, that the citizens, participating equally in the benefits of public services, must contribute equally to the cost of these services. But this is a bad way of saying it, because the very idea of a contribution by individuals to the State's expenditures is borrowed from the point of view of exclusive individualism. Speaking in the language of synthetic socialism, it should be said that the State, having its needs just as the individual has his, must have its own means just as the individual has his, and that, in the distribution of social wealth[x] there must be a part reserved for the community, as well as a part reserved for private property. I have provided for this in my '*Théorie de la propriété*' [above, Chapter 5] by attributing the land and its rent to the State, and personal faculties and their wages to individuals.

Hence, neither proportional nor progressive taxation is able to render indisputable the principle of justice upon which they could rest. In this respect, there is not much to choose between them, but there is, nevertheless, a difference of position between them. If the proportional system does not prove the principle, it can at least affirm it. The progressive system cannot even seriously maintain its principle for an instant. Indeed, the number of increasing arithmetic or geometric series is infinite: there are so many positive ratios that are positive or greater than unity. Thus, suggesting pure and simply that the citizens benefit from public services to a degree that is progressive with the amount of their possessions would necessarily imply that a certain determinate ratio of this progression must be indicated. After having made a slight and very **[458]** superficial appeal to justice, everybody, led by Adam Smith and Jean-Baptiste Say, immediately invoke what they call 'equity' when they add that 'progressive taxation has the advantage of falling sparing on the necessities of one group while falling relatively heavily on the superfluities of the other'.[xi] Well, it is necessary not to delude oneself here: to say, in similar matters, that one is leaving the domain of strict law to place oneself on that of brotherhood, is to say that one abandons reason for feeling, science for empiricism.[5]

On this point, I will be clear. If it is a question of relieving poor taxpayers to a certain degree by charging the rich ones a little more, then there is nothing to be said; let people wait until they have rendered their fortunes to the State, and make arrangements to that end. If, on the contrary, it is a question of the definitive establishment of progressive taxation instead of returning the land to the State, I protest openly against this trick as not being socialist but radical. Indeed, the distinction between *socialism* and *radicalism* is that the former, having acknowledged social injustice, pretends to have suppressed this injustice in order to let justice reign, whereas the latter lets it subsist and tries to compensate for it by an opposite kind of injustice. One of them is the doctor who wants to make the disease disappear by a severe diet; the other is the doctor who remedies the disorders of the organism by other disorders. One of them cures his patient; the other helps him to live and even to die.

By the very fact alone that it lies outside of the domain of justice and science, taxation is indefinite and arbitrary. It is a more or less steep slope, but always slippery. If the State were in possession of the land and were living on the rent paid by the entrepreneurs or by consumers who rented the land **[459]**, it would have a certain income to spend, and if it then decided to ask for no matter what from an individual, then that would be an action just as bad as that of a young and able individual who begs the State to support him. Divested of its landed capital, however, and subsisting entirely on the payments of individuals, the State is like a son who spends a lot, squeezes from time to time some money from his father, incurs debts, and ruins himself. Similarly, the State spends first, lives on credit, and takes then refuge in taxation. In the system of multiple taxes, a new tax must then be created; but we may be sure that this does not form a major problem, when we see where we have arrived under this regime. In a country of 40 million souls, where the net value of the land-rent amounts to at least two billion, each citizen should on average gratuitously consume public services in the amount of 50 Fr. But the contrary happens; first he must pay 50 Fr. for those services, then 50 francs more for the interest on the State's debts, regarding which one might say without any paradox that they have been incurred without any necessity and do not benefit the taxpayer in any way. In total, 100 Fr. per head, hence 400 Fr. per family, is taken wrongfully from the individual by the State. In the single tax system, either proportional or progressive, there is

5 In a paper entitled 'Progressive Taxation in Theory and Practice', published by The American Economic Association (Vol. IX, nos. 1 and 2 [1894]), Professor Edwin R.A. Seligman of New York presented a complete nomenclature of the principles adopted by various authors as a basis of taxation. Having reduced them to three: the *compensation* principle, the *advantage* principle, and the *ability* principle, he showed how these principles serve sometimes to support proportional taxation and sometimes to support progressive taxation. The vanity of these so-called principles is brought out perfectly in his exposition.

no longer even the need to go to the trouble of inventing a new tax and have it accepted. The State spends, gets into debt, and then declares that an increase of the rate of proportionality or progression is needed. This is called ‘turning the press screw tighter’. Now, such a turn of the screw is particularly easily done in the progressive system. The nation being then divided into two classes, those who have more than enough, or *the rich*, who are in the minority and pay most of the taxes, and those who have only the necessities, or *the poor*, who are in the majority and pay a small part of the taxes, why should not all tax increases be decided by majority vote? But this is not all. Given that the majority who vote on taxation pays little or nothing, why should it not use the result to its own benefit? After having introduced ‘equity’ into the **[460]** receipts of the State, why not introduce the same thing into the expenditures? It will not take long before this will happen, and, if you doubt it, look at what is happening where progressive taxation already exists. You will see the proliferation of resolutions or propositions of equitable spending: excessive and badly organized public works that provide wages for the workers, profits to entrepreneurs or landowners, and votes to political candidates; State contributions to the premiums for insurance against accidents, unemployment, illness, old age; provision by the State of free medicine, medical care, bread, etc., etc., all provisions of private, not public interest. Thus, taxation tends to become an instrument to impoverish the rich and to enrich the poor.

But, abstraction being made of these excesses and aberrations, taxation, in whatever form, is not only outside of justice, it is also contrary to justice, and for this reason it is destructive to all social equilibrium. In a society based on injustice, as ours was somewhat more than a hundred years ago, where, because of the law, the rich are rich and remain so and the poor are poor and remain so, little energy is expended and little progress is made. What would be the point for the rich to be wise and for the poor to go to a lot of trouble? If this society subsists, and if the poor, who are the only persons who work and pay taxes, do not revolt, it is because they are made to hope for compensation in the other world. Let there be, at the opposite pole, a rational society where, thanks to commutative justice and equality of conditions, the State subsists on the rent of land, and where, thanks to distributive justice and inequality of positions, the individual remains in the full and entire possession of the fruits of his work. There, in the complexity of the industrial and commercial stage, people would meet in the same way as if they were living in the simplicity of the primitive stage. Just as they used to come back home, having more or less diligently and skilfully hunted in the communal forest, in the same way wealth would be both the consequence of and the reward for their work and their savings, just as poverty would be the consequence of and the punishment for laziness and **[461]** dissipation. Such a society would be active and rich and would be sustained by its internal forces, without any external support. Individual morality would have its natural discipline and the State would be able to allow individuals to ask freely, either from religion or from philosophy, for the support they would need to bear nature’s hardships or to resist their own weaknesses. Taxation bars our access to this ideal. In his progress from poverty to wealth by working and saving, the individual is followed step by step by the tax office, which exploits and despoils him. First of all, multiple taxation crushes him. Proportional taxation also burdens him with a weight relatively heavier at the beginning of his career than at the end. Progressive taxation starts by treating him gently, but eventually it overwhelms him. To express it better: they give you a little when you are poor and they take much when you have become well-off. But why not be indolent and spendthrift, since that would not injure us at all? Why should we force ourselves to be industrious and economical, since this would not yield us any advantage? Radicalism should be aware that they are perhaps wrong to be at odds with the Church. A little of the supernatural and of State religion would not be too much to make the elite of humanity accept or submit to the job of cart-horse reserved for them by radicalism.

It is in the nature of man, not of the real man, but of the ideal man, to work first and foremost for himself and his family. No distinction has to be made here between what is necessary and what is superfluous: people exert themselves at least as much for the latter as for the former. Quite often one sees persons who do not have the spirit to work even for procuring what is necessary, but one seldom sees persons who, having obtained a certain amount of surplus wealth, do not continue to work to get more of it. The superfluities, they are the charm and the joy of life; they are paradise on earth, like the lack of the necessities is hell. The door from hell to paradise is open: it is work and saving. If you do not infringe on men's production, paradise will be filled and hell will be empty, just as the prisons are empty in the well-governed countries over which the white flag flies. And as, after all, our faculties and **[462]** our virtues, when left to themselves, are not that dissimilar, there will be some great saints, somewhat more average ones, and many little ones. As for the surplus wealth of those who acquired it, let the State not seize it to provide the necessities of those who do not have enough. If it did so, the opposite would take place: paradise will soon be empty and hell will be full. The kindness of the State is unhelpful. If the middle class is weakened intellectually and morally, as is the case, it is because it relied too much on the State for its upkeep, sought too much the State's protection, and sent too often its children to the special schools of the State. Let the people learn from this example and accept only a virile and proud socialism. In so speaking, I am still taking the point of view of strict law, but, of course, I admit that besides strict law there is room, an enormous amount of room even, not only for associations and self-confidence, but also for fraternity. Rich people should certainly come to poor people's aid; but the whole question is to know whether it is the one who gives the help or the one who receives it that will decide to what degree the help will be provided. To call things by their name, it is, in the first case, fraternity that is exercised, and, in the second, injustice that is given free rein.

Contrary to justice and to the principle of inequality of positions, personal taxes, whether proportional or progressive, have, moreover, the disadvantage in comparison with real taxes that they are at odds with social order and with individual liberty. Not only does the State not have the right to live at the expense of the individual, but it also does not have the right to know what are an individual's possessions, just as it does not have the right to know what an individual is thinking about the existence of God or the immortality of the soul, nor what food he eats, nor what clothes he wears, nor what his favourite entertainment is. There exists a domain for collective activities: that of authority; and there exists a domain of individual activities: that of liberty, and this domain is sacred. If the State had the right to know our assets of capital and income, it would have the right and the obligation to make them known publicly; by working secretly, it admits the abuse of power and evades all controls. **[463]** One thing or the other will happen, however; either the State will not question our tax returns, thus encouraging fraud, and scrupulous people will pay for the others; or it claims to examine them, subjecting us to full tyranny.

I hope and pray for the day when I will no longer clash with the fanatics of absolute liberty or absolute authority, and when I will be able to get on well with some persons who are very authoritarian in matters of public interest and very liberal in matters of private interest, persons who are respectful of the State's rights as am I, and who will be, at the same time, watchful of individuals' rights, as am I also. Awaiting this, were I alone or nearly alone, I would maintain at my own risk the true principle of liberalism that the misdeeds of the State are a disorder, to the same degree as an individual's misdeeds, and that, although perpetrated in legal form, with the aid of force and in full certainty of impunity, they are no less reprehensible. It is abusive of the State to make the individual say on what and on how much he lives, what is his way of life, how much he sets apart, what are his commitments and his debts, whether his business is going well or not. As far as concerns operations such as the kind known as *obligatory inventory after a death*, that consists of breaking into a deceased person's house just after his death, opening his drawers, rummaging through his papers, copying his accounts of income and spending to try retrospectively to find fault in his declarations and to tax his estate with a fine ten or fifteen times as much as the amount of the irregularity, I can do better: if I did the same as the State is doing, I would have to search for actions of the deceased person with regard to other persons or the State itself that are considered as crimes or offences, repressed by penal law. The radicals bring us to that point by offering us progressive taxation in exchange for leaving the land in the realm of private property; but the way for them has been made ready by economists. Their advocacy of proportional taxation prepared the intrusion of the State into individuals' matters; the radicals became aware of this on the day when they were asked to contribute to public expenses progressively and not **[464]** in proportion to their income. That very day, the immense dangers of a cadaster of private wealth[xii] became apparent to them. Then they abandoned in great haste the single tax and ran to take refuge in Mr. Thiers's multiple taxes, feigning to criticize the socialists. An honest acknowledgement of thoughtlessness and of error would have been more honourable, but not more explicit; and their one-word-science will be judged by the critics by classifying it as pseudo-liberalism.

The rate of tax progressivity grows incessantly because of, on the one hand, the increasing expenditures resulting from the State's unrestrained intrusion into the realm of private interests, and, on the other hand, the decrease of tax receipts caused by evasive or discouraged individuals, who feel themselves attacked in their ownership and freedom. Hence, the tax base of public income becomes more and more narrow, and may eventually disappear little by little, or may, in a crisis, even suddenly be lacking. This is the financial consequence of progressive taxation. Such an outcome could be predicted without any need to experience it if our science had a method and principles. But the medicine of the social body is at the point where the medicine of the human body was when a doctor decided to bleed all the patients on the right-hand side of his hospital ward and to purge all those on the left-hand side. It is almost under those conditions that we are awarded multiple taxation on this side of the frontier and progressive taxation on the other. Very well, so be it! Let us await the results of these *experimenta in anima vili* [xiii]: they will perhaps be equally conclusive on one side as on the other. In an article dated 3 June 1896,[xiv] intended to celebrate multiple taxation, the *Journal des Débats* recalls complacently how this type of tax permitted the sinking of billions into unproductive work and disastrous wars. The supporters of progressive taxation will probably soon be able to cite facts proving that their system has the advantage of stopping the State, after more modest and briefer follies, through lack of resources.

[465] III Taxation as an abnormal and transitory phenomenon. On the nationalization of the land

A father has lost his fortune. Some of his children are rich, the others are poor. Among them there are those who, because of their father's foolishness and ineptitude, happen to have this fortune in their hands. We calculate, we socialists, that it would be possible to restore the possession of his fortune to the father, without wronging anybody, but we take for granted that in the meantime the children should contribute to the support of their father. Proportionally or progressively? I cannot say. In my view, the rich children should propose progressivity, which takes the inequalities of their fortunes more into account, and the poor should claim proportionality, which better respects the equality of persons. This is just the opposite of what they will do. And so the fiscal problem arises. Let us therefore take taxation and the science of finance (*Finanzwissenschaft*) for what they are: taxation as an abnormal and transitory fact that accidentally took the place of the normal and definitive fact of collective ownership of the land, and the science of finance as a sort of fiscal law destined to find a place together with canonical law in the future museums of social archaeology. Reserving the question of proportionality or progressivity not as a question of justice but as one of 'good equity', we will see how one or the other of them may perhaps be realized. There are three different procedures for this purpose, furnished by the nature of the things and susceptible of being used in combination.

1 Efforts are made to make every individual, willingly or by force, declare the amount of his income of rent, wages, and interest payments. Profits and losses of enterprises, matters of incessant concern, are irrelevant here: some entrepreneur's profit is compensated by another's loss, and this year's losses will be made up by next year's profits. **[466]** Here we have *personal* taxation (in the sense of taxes imposed on persons), on *the* income or *the* capital[xv] of a person, formerly called a *single* tax and now called a *global* tax, and that will tomorrow have a new name because the peculiarity of our epoch is to deal with a shortage of ideas by extravagant wordiness. It is brought up short by the following difficulty. If one takes the individual's declaration as the starting point, it will often be inaccurate, many individuals not knowing the magnitude of their income, or fraudulent, many individuals not scrupling to cheat the tax office. If the tax office embarks on vexatious inquiries and ruthless publicity, it is violating civil liberty. In the countries where this system functions in the obscurity and arbitrariness peculiar to it, certain people are quite willing to tell us that everything works in the best way in the world. We will permit ourselves to say to these persons that they know absolutely nothing about the matter; and we would add that wherever some light has been shed on it, either fraud or tyranny has been found, which does not at all preclude that both can be found united: government tolerating fraud committed by its friends, and exercising tyranny against its adversaries.

2 The landowners, workers, and capitalists are no longer the subject here; rather the study of landed, human, and artificial capital themselves is begun. Certain financial specialists even announce their intention to take an inventory or, as they call it, a cadaster, of all the land, all personal faculties, and all artificial capital that can be found in the country, and to insert into this cadaster, where the assets are catalogued by category, a property volume containing the list of the owners, and to send to each individual an invoice of his contribution.[xvi] Here we are dealing with personal taxation without the taxpayers' declarations, but that is an absolutely fictitious scheme. Without speaking of capital whose income is directly consumed by its owners, like parks and gardens, personal faculties of the leisure class, furniture, clothing, objects of art and luxuries, which are always overlooked, the cadaster of **[467]** social wealth, so costly, annoying, and restrictive of circulation and production, will always be incomplete. This is why other financial specialists base taxes on goods and not on their owners. So, they arrive at the tax on the plural items: income*s* or capital good*s*, that was formerly called the *real direct tax* on *land*, on *personal services*, and on *capital*. This tax was the subject of the Extra-parliamentary Commission for Taxation of Income, set up by the Ministry of Finance by decree of 16 June 1894. This Commission included a respectable number of Members of the Société de la statistique. They started their work with the enthusiasm and confidence that is characteristic of their specialization. They introduced a tax bracket A for *landed property with buildings*, bracket B for *landed property without*

buildings, bracket C for *other capital* (government bonds, obligations of foreign countries and other foreign securities, mortgage loans, unsecured loans, etc.), bracket D for *mixed income*, and bracket E for *income from work*. It would be easy to show them, however, that their scheme contains both gaps and overlaps. Furthermore and above all, they seem not to have taken into account the fact that taxes, as soon as they become real and are no longer personal, will have various incidences: that the tax on land with buildings, for example, may be shifted from the landlord onto the tenant; that the tax on land without buildings is not a tax but a way of establishing co-ownership of the land by the State, that the tax on the produce of land is a way of taking capital from the pockets of the present tenants, etc. If the commission believes that it has furnished a programme for rational taxation, it is completely mistaken; they have only added some flowers borrowed from the English *income tax* to the bouquet of multiple taxation.

3 Instead of aiming at productive services, we should concentrate on products. This is *real indirect* taxation. The products should be identified, without exception, when they are in the hands of the entrepreneurs, just at the moment when they are about to pass into the hands of consumers, and taxed according to their value. At this point, it must be said that not all indirect taxes are paid by consumers in **[468]** proportion to the products' prices, and that there are several types of incidences on the owners of productive services.[6] Moreover, we are confronted with the same impossibility of covering all products without exception. It appears, therefore, that the problem is insoluble, and, indeed, it really is, at least in a rigorous fashion. Here, however, an approximate solution presents itself. There exists a product-service that everybody consumes virtually in proportion to his income, namely housing. Let us put aside all factories, workshops, shops, and offices, and consider the personal lodgings of each individual; let us ask the landlords for a declaration of the amount of rent; let us set an amount to deduct for everybody; let us introduce some other corrections and mitigations; and we have the basis for a proportional or progressive tax alongside which our big fiscal taxes will be able to remain in place. This tax has been proposed; it is one of the victims of the parliamentary Minotaur. I clearly hear the radicals shouting that rent is not necessarily proportional to income. I know the rest, but that solution is Christopher Columbus's egg, which cannot be stood on end without breaking it a little. Is an approximate achievement not sufficient for conceptions that are nothing less than principles?

An indirect tax on rent, or, rather, a direct tax on income evaluated according to rent received, this would be the only tax that could pass as approximately proportional or progressive without enormous material and moral disadvantages. Up

6 On the question of the incidences of real taxes, direct and indirect, see my *Éléments d'économie politique pure*, last lesson.

to what point could such a tax be regularly and easily collected? And to what degree could it replace existing taxes wholly or partially? I leave the discussion of these points to those persons who take a delight in empirical solutions of the empirical problem of taxation. Personally, I want to arrive as quickly as possible at the rational solution of the rational problem of the distribution of **[469]** social wealth between the individual and the State, through individual ownership of personal faculties and collective ownership of the land; the more so because if the latter problem were solved theoretically and practically, the former would completely depend on it.

I have carefully studied the ways and means for taking back the land by the community in my memoir *Théorie mathématique du prix des terres et de leur rachat par l'État* (1880) and in my article titled *Un économiste inconnu. H.-H. Gossen* (1885).[xvii] This study may be summarized completely by the answers to the following two objections:

1st objection. – One of the following has to be chosen: either the State will purely and simply take the land from those who are holding it, and thereby commit an injustice. Or it will compensate the owners, and then the operation will not offer it any advantage.

Answer. – The first alternative should be discarded absolutely. The State must not achieve justice by committing an injustice. The landowners have to be dispossessed for reasons of public benefit, and here is how such a dispossession is beneficial *in a progressive society*. From the point of view of economics, a progressive society is a society in which, on a *limited* territory, a *growing* population succeeds in finding a more and more comfortable way of life thanks to a *growing* amount of capital that is the fruit of their saving. In such a society, all the *raretés* of products and services; that is to say, all intensities of the marginal needs satisfied are decreasing, except those of the produce of land and land services, the increase of which lead to a proportional increase of rent. Hence, leaving the land in the hands of the landowners means perpetuating in society the indefinite enrichment of a parasitic class; putting the land into the State's hands means having the community benefit from the results of social progress.

2nd objection. – If the increase in the value of the produce of the land and of the land itself is a certain and known fact, as it undeniably is, the present landowners **[470]** must have bought their land at a special price; in other words, they have paid for the increase in value. And if the State reimburses them for this, as it must do, it undoubtedly will not suffer any loss, but it will not make any profit either.

Answer. – The increase in the value of the land in a progressive society is not susceptible to control and a precise figure cannot be put on it. It depends much on the State's activities. If humanity is currently passing from the agricultural stage into the industrial and commercial stage, the passage will constitute an exceptional and unanticipated progress; that is to say, it will bring about an increase in the amounts of capital goods and a growth of population from which will result an increase in the value of the land that the owners have not been able to take into account in their speculations. By buying the land now at its current price, and then making all its steps contribute to bringing about the industrial and commercial stage together with its resulting economic progress, the State would be able to make a considerable profit.

The general plan for the operation would be the one I outlined in my *Théorie mathématique du prix des terres*.[xviii] The State would buy the land from the landowners; at the current price; it would pay for it with bonds yielding the current rate of interest; it would rent out the land to entrepreneurs for purposes of agriculture, industry, or commerce, or to consumers to construct or maintain houses, mansions, gardens or parks, under the sole condition that these entrepreneurs and consumers pay the highest rent.[xix] During a certain period, the total amount of rent would not be enough to pay for the total amount of the interest on the bonds. The State's debt would increase by the difference every year. At a certain time, thanks to the increase at a certain rate in the value of the produce of land, the amount of rent would suffice to pay the interest, and the debt would no longer increase. Finally, the amount **[471]** of rent starts to exceed the amount of interest, and debt repayment can begin to be undertaken rapidly. Thus, the State would have bought the land *without paying a penny*. This is only a sketch in rough outlines; there are numerous and complicated details. Here is a very important one. In a progressive society, not only does the rate of increase of the value of land services and of land increase, but also the rate of interest decreases. These two facts are both rational and experimental; and the latter one helps to bring about the purchase of the land just as does the former one. Because of the first fact, the State would see the rent it can spend increase; owing to the second, it would see the interest it pays decrease. Those conditions would suffice to enable it to draw up the terms of the bonds in a way that permits the conversion of the debt. Here is another one: the opening of the great international means of communication has lead to a crisis of levelling of rents, which increased in the new countries and decreased in the old ones. The State should wait until this crisis has ended before acting. Compared with these favourable circumstances, there would undoubtedly be unfavourable ones. The operation of the purchase of the land by the State, that of regulating the variation in the value of money, that of establishing the terms and conditions of monopolies, that of the determination of wages between entrepreneurs and workers are practical operations analogous to the great undertakings of civil engineering; they require several preceding and simultaneous statistical and economic studies that only the development of economic theory can make possible.[xx]

As for how to set the operation of the State's purchase of the land in motion, the theory of land taxation immediately gives the answer.

In §§V and VI of my study on *Le cadastre et l'impôt foncier* [Chapter 12 above], I showed that, in order to satisfy justice and economic advantageousness, and because of its economic nature, the land tax should be established as *proportional State co-ownership of pure land, i.e., the land after deducting non-agricultural capital incorporated in or associated with it*. In order to establish it in this way, each country must have a cadaster showing, by means of maps, the exact location of the parcels of land, and, by means of a cadaster annexed to the maps, the names of the owners of the parcels and the **[472]** various conditions of ownership. Among these conditions, the State's co-ownership, with its proportion, should be of the foremost importance. For that purpose, the pure land value should be evaluated at regular intervals, and the proportions of the shares of the State and the landowner should be exactly maintained. In the countries where the land tax has become an instrument of distribution of the cost of the public services among the taxpayers, one should start, for each parcel, with the actual share paid, in order to arrive, not at a tax proportional to income, but at co-ownership. Any evening out would be useless. Nothing offers a so strong a mixture of stupidity and dishonesty: dishonesty on the side of the governing persons who propose it for the benefit of certain landowners and to the detriment of certain others, but always taking care that the disadvantage of the latter is much greater than the advantage of the former; stupidity on the side of the taxpayers, who accept all this with a view to having symmetrical figures on the paper. It would have been better if care had been taken to have the landowners understood that when paying to the State its share of rent, *they are not paying taxes*, and that they still have to make their contribution to the public expenses, as workers, capitalists, or consumers. Moreover, it should be understood that the State has the right to expropriate the landowners for reasons of public utility, paying them: first, their share of the ownership of the pure land, according to the most recent registry assessment; second, the non-agricultural capital incorporated in or associated with the land, according to an assessment to be made. Inasmuch as there are, among those capital goods, houses and other constructions, the system of registration would apply to landed property with and without buildings, without any distinction.

That having been done, the State should proceed to take over the land, bit by bit, as and when circumstances permit. It should start with the districts, towns, or land where the increase in value is most apparent and where transformation of agriculture could best be achieved. Then, as the increase in value and the transformation of agriculture gradually develop, the operation should be extended over the whole territory. In France, there is an Extra-parliamentary Committee for the Cadaster, that was instituted **[473]** by the Ministry of Finance by decree of 30 May 1891, and that has functioned since that time. A subcommittee is investigating the technical aspects of the cadaster; another is studying the legal aspects of ownership; neither the one nor the other seems to be charged with taking care of the State's rights and interests. Nevertheless, the solution of the Social Question is at stake. The solution is far from harmful to the landowners, and it provides, moreover, the solution of the agricultural crisis. Through lack of capital, our farmers-landowners persist in inefficient cultivation, which does not earn them profits and even causes them losses by reducing the income from land to little or nothing. Present-day policy consists of keeping them in this situation by helping them to bear their losses: first, by imposing customs duties, and, second, by reducing the land tax. The purchase of the land would leave them as farmers of their land, with the price received for their land as capital, and put them in the position of paying their rent without the existence of protective duties, by improving their cultivation of the land. The sale of their land has likewise changed the English *yeoman*, from impoverished owners into prosperous farmers, thereby forming the class of entrepreneurs in England that make their fortune in agriculture as others do in industry or commerce.

Mr. Charles Gide, who devoted an article to the problem we are dealing with ('De quelques nouvelles doctrines sur la propriété foncière') in the *Journal des Economistes* May 1883, and a section (VI. La nationalization du sol) in Chapter I of the second part of the third book of his *Principes d'économie politique* (fifth edition, 1896),[xxi] and who proved to be favourable to the principle of collective property of the land, suggests another system for the purchase:

> The State could buy the land payable in cash and to be delivered after 99 years, and it is certain that, under these conditions, it could obtain the land for only a trifle.... Besides, it can be calculated mathematically by means of annuity tables that 1,000 francs to be received after 100 years, in 1996, is worth now, in 1896, 71 Fr. 98 centimes. Hence, 100 billion, supposing that this is **[474]** the value of France's landed property deliverable after 100 years, is worth now about 800 million.

After having explained his programme, however, the author adds immediately:

> Personally, we do not insist much on its adoption, for the very reason that if it were true that 100 billion after 100 years is not worth very much, it is also true that a restructuring to take place after 100 years is worth even less.[xxii]

Mr. Gide himself levels at his system 'a serious reproach, namely immorality', which seems true to me. In this system, the State benefits from its longevity compared with an individual to 'speculate on the lack of foresight of the forefathers in order to fleece the descendants'. On the other hand, he praises it as being less costly than my system, which seems to me undeserved, because his costs eight billion (and not 800 million),[7] whereas in my system the State repays its loans and pays for the land with the new increase in the value of its produce. These two considerations are not without importance, but there is another that is a major one. A social reform to be realized after 100 years does not have much worth according to Mr. Gide. Let us make a distinction! A social reform to be realized after 100 years that one buys now by adding eight billion to the already very large public debt, and that neither implies nor requires any immediate social reform, does not have much worth indeed, in my opinion. But a social reform that would produce its full effect in 100 years, and that would pay for itself at the sole price of a complete change of social orientation at this very minute, would be, in my opinion, inestimable. To create the new increase of the value of land, no less than a transformation of agriculture would be required, shifting

7 To be exact, 7,198 million at 2.66 per cent. The figure 800 (798, to be exact) supposes a rate of interest of 5 per cent, which is inadmissible.

capital and manpower back from the cities to rural areas, a change of internal and foreign policy, reform of the administration and government, decentralization; and all this will eventuate, **[475]** finally, in an increase of wealth and of population growth. This would be social health instead of sickness. At least, it would be a return to health. For both societies and the people who make them up, happiness is not so much having things as it is to want them and to be on the way to having them. The ideal will never be attained; what is essential is to catch sight of it and to strive for it. I have no doubt that a detailed analysis of the question may lead to important amendments, and perhaps to profound modifications of my scheme; but I find Mr. Gide's plan materially a little expensive, and morally much too cheap.

IV France and the social question

When all is said and done, considering 'any system of nationalization of land as unworkable insofar as it would apply to property already established', Mr. Gide limits the introduction of such a regime to the 'new countries', the 'colonies', when it is a question of 'grants of new land'. This conclusion appears to me somewhat hasty. I am the first to acknowledge that a country in full economic decline should renounce nationalization of the land. But an old country is not necessarily a country in decline; if it is progressing from an economic point of view, that is to say if population follows the growth of capital, the value of the produce of land and the amount of rent increase, and, on the other hand, public services grow and their costs become more and more significant. Why let, on the one hand, the landowner become rich, and, on the other, the proletarians become impoverished because of the single fact that society is developing? There is no law against what is right, and no ordinance in favour of a persistent iniquity.

Moreover, justice is only one of the two aspects of the motive; the other is economic advantageousness. Upon each occasion, I have shown, **[476]** in the present studies, how, in the industrial and commercial regime, collective ownership of the land and the absence of taxes were demanded by advantageousness. But there is more: they are necessary conditions for this regime even to be established. A country that begins to export certain own products and imports in exchange for certain foreign products will in first instance find only a twofold advantage in these transactions compensated by a twofold disadvantage: the advantage for the consumers of the products imported from abroad, the prices of which will decrease, compensated by the disadvantage for the consumers of the exported own products, the prices of which will increase; and the advantage for the owners of the productive services used in the manufacture of the products to be exported, compensated by the disadvantage for the owners of productive services used in the manufacture of imported products. Only as and when the productive services of land, of personal faculties, and of capital leave or avoid the imported goods industries and flow to the exported goods industries, is the final and complete advantage of international trade revealed: a decrease of the price of the imported products without an increase of the price of the exported products.[xxiii] There are above all two things that may disturb this reshuffling: the appropriation of the land by unintelligent persons not concerned about their own interests who continue to use land services in a bad way; and taxes, either direct or indirect, which disrupt price variations, either on the products or on the productive factors, which are the vehicle and the wellspring of national and international economic equilibrium. Thus, the very realization of the industrial and commercial regime requires the solution of the social question. As for throwing an agricultural nation onto the route of trade treaties by leaving the land to be cultivated by farmers-owners without capital and technical knowledge, and by retaining enormous taxes of all kinds, that is a mockery of free trade that, indeed, can have only the following results: inflow of a certain quantity of foreign products, outflow of a certain quantity **[477]** of the nation's money, and reversion to the old situation after a crisis of general decrease of all prices. Such an idea is certainly most favourable for the entrance of some middle-class people into the Economics section of the Institute; but it does not make any sense from any other point of view.

The old countries of Europe are at present confronted with the alternative of revitalizing themselves by changing to the industrial and commercial state or of dying in the agricultural state. Collective ownership of land, in itself, and the absence of taxation, which is its corollary, are not only two outcomes of justice; they are two outcomes of essential interest for a nation that wants to live. Justice is not a luxury, as would be a picture that one cannot hang up on the wall because one did not buy it; it is for society what health is for a man; when it is lacking, he is condemned to idleness and misery. Consequently, if he has lost it and if a regimen, or treatment, or operation would be necessary for his recovery, he should submit to it. One single question presents itself in such a case: that of knowing whether or not the invalid is strong enough to undergo the remedy.

England is an old country and likes to claim so, but it is still a very vigorous country, and maintains itself very well. Motivated by the nature of the things rather than by the power of principles, and guided by personal interests rather than enlightened by social morality, it passed, before any other nation, from the agricultural state into the industrial and commercial state, and it meets and resolves all the problems of this shift, one by one. Other countries have fought for liberty and equality; England is a soldier in the cause of free trade. In the course of its economic evolution, it had to cope with landownership and taxation; after a remarkable effort it has taken from the landlords the privilege they enjoyed of charging high rents because of the import duties on grain, and it abolished those duties. Since then it maintained this line of action. Its colonies are outlets for its products and also for **[478]** its overflow of population, to some extent deprived of the services of the land. It has, more and more, converted its indirect taxes and its import duties into an income-tax and inheritance taxes. And if, some day, it considers the right moment has come to suppress all taxes whatsoever, it will have everything ready for the purchase of land by the State. On the political level, it will have concentrated power in the House of Commons, making the House of Lords subordinate to it just as it has subordinated royalty.

On the economic level, it will have growing wealth and increasing population, together with an increasing value of the produce of land. Its government securities will yield about 2 per cent. It congratulated itself recently for having its last budget show an excess of 6 million pounds (150 million francs).[8] It was delighted to hear its Chancellor of the Exchequer declare at the same time it had repaid nearly 200 million pounds (5 billion francs) of its debt in 39 years, and to have created a reserve fund that it would find available if need be, and that it could use, without demanding one additional penny as extraordinary tax, for the national defence.[9] There are already several socialist groups in England demanding nationalization of the land[xxiv]; and one might cite a certain statesman, who has been in power, who is said to be a supporter of it. This being so, who would dare say that the Irish agrarian problems and those of England are not destined to be solved at the same time and in the same way?[10]

[479] It must be admitted that we are tempted to see France not only as an old but also as an obsolete country, when, in comparison to England, we consider our ill-considered impulses to adopt free trade, our alarmed reversions to protectionism to assure rent for our landowners and profit for our industrialists, our persistent tendency to worry about external security while dreaming of military glory, our foolish colonial expeditions, our permanent incapacity to achieve reforms without revolutions, our stagnant population, our budgets with persistent excesses of expenditures over revenue, our continually growing national debt, just as we are tempted to say to those who might discuss solution of the social question and nationalization of the land in France, in words borrowed from a renowned dilettante of our days: ‘Therefore, let France die in tranquillity.’ I am not one of those who are resigned to letting France end its days peacefully, given over to political intrigues, shady dealings on the stock exchange, and pornographic literature. I say to myself that on the eve of 1789 France already gave the impression of obsolescence, and that this appearance was false. After attentive observation, I refuse to condemn France; I do so less because of the vital energy to which its work, saving, and credit bear witness than for a reason that remains to be explained.

France can no more be judged from the point of view of social progress than can a man be evaluated as a runner if he has been tied up and can only roll over on the ground while his competitors run around the track. More than any other

8 See *Punch*, 18 April 1896.

9 See the *Illustrated London News* of 25 April 1896.

10 Everybody knows that, according to Blackstone, in England, a feudal monarchy, the Crown is invested with the right of eminent domain over the land, and also that the functions of landowner, on the one hand, and, on the other, those of entrepreneur in agriculture or housing are frequently separated there. Land that is leased is not only divided up among the farmers, but also houses are constructed on it for habitation by the leaseholders themselves or to be rented out to others. Under these conditions, substitution of the landowner by the State would, as it were, not need to be decreed in principle. And, besides, it may obviously be brought about without having an impact on the nature of enterprises.

country, France needs for its policy to be placed within the framework of the actualization of a clear and brilliant ideal formulated by science. Only some years ago, the seed of social and political economics was sown in the Law Faculties of French universities. Let it there find fertile soil! The class, in our country, that confiscated the Revolution to its benefit by ruining and debasing the State at the economic level, that has founded its wealth on the acquisition **[480]** of the nation's assets at ridiculously low prices, that has increased it with coal mines, railways, and other monopolies conceded without any serious care for the public interest, with industries protected at the expense of consumers, this class formerly never permitted normal and regular education in economic and social science. First, they completely prohibited this education; then for a long time they tolerated it only on a scale and conditions that were laughable. Later they found a better solution: they succeeded in seizing all positions in that field and filled them with their own people, recruited and controlled by their own political leaders, thus applying to science itself the clever and triumphant formula that they already were applying to the majority of agricultural, industrial, commercial, and financial matters in which they could interfere: *exploitation by monopoly under the mask of liberty*. That was a clever stroke. Try nowadays, in any respect whatsoever, to repel the bourgeoisie's encroachments, or only to limit their usurpations in matters of the distribution or production of wealth, and see how you will be received.

In the judicial subcommission of the Extra-Parliamentary Commission for the Cadaster, of which I spoke above and that is presided over, of course, by the leader of the Conservative Party, who is at the same time the pope of orthodox economics,[xxv] it has been proposed to grant to the landowners the possibility of issuing *mortgage land certificates*, transferable by endorsement and obtainable from the registrar of mortgages; the landowner can use the certificates when he wants to borrow money, and the lender, holding a certificate, will have the right to expropriate the land in case of non-payment of capital or interest. An honourable professor of economics at a faculty of law[xxvi] who, for his part, gave as his opinion that 'there is nothing wrong with the special right of eminent domain of the State over the land of the nation', was alarmed by the facilities granted to the landowners with respect to mortgage loans. He is, he said, 'a friend of individual liberty, and opposed to any governmental guardianship', **[481]** but he believes that 'it is perhaps not necessary that the State itself provides an encouragement to lack of foresight, hastiness, and recklessness'. He wondered if the simple leniency with respect to the mortgage itself is not 'in a sense an incitement for the landowners to fill, even before any serious need were felt, their portfolio with mortgage certificates that swarms of dealers would not delay to bring into circulation as soon as possible'. He concludes that 'the national soil is the foundation, the basis of the nation', and that 'those who love their country cannot wish to see it exposed to all sorts of risks, to see it handed over to the mercy of reckless spenders, squanderers, and stock exchange manipulators'. Upon hearing such heresies, present-day economists are terribly scandalized. The president thundered:

> That is collectivism; it is the nationalization of the land.[11]

The *liberal* school, the High School of *liberty* and *liberalism*, may be recognized by this respectful tolerance of opinions opposed to their own. And yet, if this school only were a real school! If it had, about each fundamental issue of the science, a theory, no matter how poor it might be but nevertheless held by all its leaders! But no! It has several theories, which are all bad and, moreover, contradictory. These doctrinaires have no doctrine. I would like to provide one last time the proof of that fact in connection with the issue of landownership.

Mr. Paul Leroy-Beaulieu wrote a book entitled *Le collectivisme*,[xxvii] in the first part of which he tried to refute the theory of the nationalization of the land, called by him *agrarian collectivism*; the foreword contains passages like the following, especially addressed to the supporters of this theory:

> Since a quarter of a century ago, social fantasy has taken another form. It renounced sentiment and threw itself into dialectics. It cunningly manipulates erudition **[482]** and logic. It puts so-called theorems together, and it tries to dazzle the minds by an artificial web that to undiscerning eyes, has some resemblance to science.... Who will liberate us from these conciliators, rootless and empty minds believing that twilight reconciles day and night? This habit of wanting to unite and to melt away opposite things is the most typical sign of intellectual debility.

Who are those linking theorems together, and those conciliators? Mr. Leroy-Beaulieu does not name them, and he abstains carefully from giving the titles of their works. Why? We would have liked to see through his eyes how many rootless and empty minds there are, or whether, perhaps, it is Mr. Leroy-Beaulieu himself who has an illusion about the soundness and brilliance of his own scientific genius. Writing every month a dozen articles in journals and newspapers, or clarifying some points of political and social economy that are still obscure are two very different things. The persons about whom Mr. Leroy-Beaulieu is speaking have apparently preferred the second type of work to the first; this proves that they are not asking of science what the surgeon Antoine Dubois asked of Napoleon: ‘wealth and honour’. Undoubtedly, by means of their so-called theorems, they hoped to refute Marx somewhat less painfully and more successfully than Mr. Leroy-Beaulieu was able to do; such expectations may be mad, but they are not criminal. As far as concerns reconciliation, it should not be sought out of a bias in favour of it, but it should not be neglected either when it presents itself, in a sense, spontaneously. Synthesis has played an enormous role in philosophy, from the Alexandrine trinity[xxviii] to the Hegelian dialectical processes.[xxix] In science, the example of Claude Bernard has recently been cited; he classified the

11 Extra-parliamentary Commission for the Cadastre, Minutes, Fascicule 5, pp. 545 and 546. [In the 51st session, 1 March 1894, of the judicial subcommission, p. 546.]

people into three schools: those who go from the ideas to the facts, the Platonists; those who go from the facts to the ideas, the Aristotelians; and those, 'whose number', he says, 'he aims to increase', who try to link facts and ideas. Literature and arts themselves **[483]** offer renowned attempts at reconciliation. The *Divina comedia* wants to bring together the Empire and the Papacy; in the Room of the Signature [in the Vatican Museum], [Raphael's] frescoes of the 'Dispute over the Holy Sacrament' and 'The School of Athens' face each other, wanting to reconcile theology and philosophy. Hegel, Claude Bernard, Dante, and Raphael, however, were really not so weak minded that they would not have had the intellectual force to give us a third version of Bastiat's doctrine on value and property, after Mr. Roger Fontenay, Mr. Baudrillart, Mr. Dameth, Mr. Frédéric Passy, and others have already given us a second one. Here we have Mr. Leroy-Beaulieu's social and economic science! Mr. Leroy-Beaulieu maintains that work and capital, the latter being only transformed work, are the only things that have value and constitute the whole of social wealth, that the value of the land represents the value of 'all the capital put into the land' since Julius Caesar, and that our landowners are the buyers of this capital.[12] Well, I will not say to him that it would be very difficult to find such a terrible and fantastic statement outside of France, written by an authoritative economist, but I do say that there was recently one of his fellow members of the Economics Section of the Academy of Moral and Political Sciences who pretended to believe it, but who certainly did not.

In 1867, at a time when Mr. Leroy-Beaulieu had yet to publish his first work, Mr. Léon Say, whose greatness did not at that time oblige him to be vituperative about socialism and the socialists, undertook to announce in the *Journal des Débats* my lectures on 'The General Theory of Society'; this he did in an article (the only one that he and the *Journal* have ever devoted to me) from which I take the following passage:

> The origin, the necessity, and the justice of the right of property applied to land have, for many years, attracted the minds and the judgement of politicians, philosophers, and **[484]** economists. Twenty years ago, Bastiat made one of the most brilliant attempts to arrive at a solution to the problem raised by this formidable question. Denying, so to speak, the force truly belonging to nature, he absorbed it into the personal faculties of man. Landownership, and with it all products of nature have for Bastiat no other value than that of the work that man has incessantly incorporated into it. Thus, eliminating God's gift, the only thing that remained for him to do was to justify man's right to his own work, and that justification is easy. Unfortunately, it turned out that the weapon forged by Bastiat for the battle of 1848 could not withstand either the sentiment or the analysis of the philosopher-economists. Scarcity, it must be acknowledged, is a cause of value that acts continuously

12 *Le collectivisme*, pp. 173–174.

> before our eyes, independently of human work; it has therefore been necessary to return to that fundamental maxim of classical economics that landownership is a necessary monopoly. The necessity justifies the monopoly, but it is an empirical justification little suited for the satisfaction of absolutist minds, for it seems to eliminate the idea of justice.[13]

Scarcity is a cause of value that acts continuously before our eyes, independently of human work. But Bastiat's whole theory of value, repeated by Mr. Leroy-Beaulieu, is here contested! *It has therefore been necessary to return to that fundamental maxim of classical economics that landownership is a necessary monopoly*. But here the whole of Bastiat's theory of property, re-erected by Mr. Leroy-Beaulieu, has been knocked down by Mr. Say! And these two gentlemen recently handed off to each other the presidency of the Academy of Moral and Political Sciences without taking that opportunity to engage each other in this nice dispute! On the other hand, the latter exclaimed in the annual public meeting of this institution on 30 November 1895: 'Socialism is, purely and simply, the enemy.'[xxx]

[485] Thus, for them socialism is not a scientific adversary, it is the *enemy*. They do not oppose it by arguments; they *forge weapons* to fight it. In other words, they do not seek truth, arduously and conscientiously; they defend with all means at their disposal the existing social organization on behalf of those who are comfortable in it. Here we have, in its essence and defined by itself, the official regime that, in France, hinders science, the progress of which is the most important vehicle for the well-being, the morality, and the future of the country. If you dare to withdraw from the regime, all academies, societies, journals, and newspapers will successively become closed to you. If, on the contrary, at an age when the desire for a reputation and the needs of success are keenest, you show compliance in the competitive examinations open to you, your career will be sure. But it seems that young people show themselves to be less and less willing to pursue such a career.... Really! Well, if that is the case, all our compliments to the young people! Those of 1830 have saved literature and art from triteness and dreariness by rising up against the academies in a struggle that was the intellectual festival of the century; it would be good to see the young people of the present standing up likewise to wrest economics and social science away from its abject and miserable condition of servility to bourgeois conservatism and financial feudalism.

Notes

i This paper was finished on the 8th of September, 1896 (*Correspondence*, letter 1256). In the *Revue Socialiste*, a directors' note, written by George Renard, preceded it:

> In line with its policy of allowing the various socialist schools to express their doctrines freely, the *Revue Socialiste* purposely puts into this volume

13 *Journal des Débats*, 13 November 1867.

> two studies of today's fiscal problem that result in two very different conclusions on the worthiness of the various taxes among which nowadays bourgeois society is hesitating to choose. In this connection, we remember, for those who have forgotten it, that for socialism the progressive tax on income, on the income of capital, on monopolies, on inheritances, etc., can only be transitional expedients, and that its goal is a total transformation of the present tax system and not simply a modification of it.

Georges Renard wrote to Léon Walras (*Correspondence*, letter 1261) that he intended to insert the above mentioned note, and that the other article mentioned in it is 'Le monopole et l'impôt progressif', by Paul Louis, published in the October volume of the *Revue Socialiste*.

ii It seems likely that the word 'socialisme' first appeared in the French literature at the beginning of the nineteenth century, but it is true that Pierre Leroux (1797–1871) was instrumental in making it generally used. For more information, see Vincent Peillon, *Pierre Leroux et le socialisme républicain: Une tradition philosophique*, Paris: Éditions le Bord de L'eau, 2003.

iii Chapter 3 above.

iv This is a somewhat far-fetched allusion to a conference by Léon Say in 1886, and an article by G. de Molinari, 'Les solutions démocratiques de la question des impôts. Conférences faites à l'école des sciences politiques par M. Léon Say, membre de l'Institut, Sénateur', *Journal des Débats*, 23 July, p. 3.

v The Catasto was a rigorous, but fairly equitable, assessment ('estimo') of business investment, holdings of the public debt, and real property, to be used for taxation purposes in medieval North Italian republics. The tax survey here discussed is probably the one decreed on 24 May 1427 to pay for Florence's wars with Milan (www.stg.brown.edu/projects/catasto/). The French historian Edgar Quinet (1803–1875), mentioned some lines below in the text, also wrote on this subject.

vi See note iv above.

vii Chapter 5 above.

viii Here Walras was one of the first to prsent, the idea of a social welfare function.

ix Proportionality between *rareté* (marginal utility) and the price of a good is probably what Walras meant.

x This is not the same as the distribution of income. Walras meant to say that if *wealth* (i.e., in this case, the means of production) is distributed according to justice then the incomes are also.

xi This phrase cannot be found literally in J.-B. Say's or Adam Smith's treatise. It must be considered as a correct paraphrase by Walras of what he read in Say's *Traité*, Book III, Chapter VIII, and in Smith's *Wealth of Nations*, Book V, Chapter II.

xii The English 'cadaster' is a register specifically of land, so an explanation is in order. Walras here used the French expression 'cadastre de la fortune', but he should not have done so, because in French 'cadastre' is also exclusively a register of land, whereas, in this particular place, he meant a register or registry of wealth.

xiii *Experimenta in anima vili*: Experimentation on inexpensive animals for scientific purposes.

D xiv Paul Leroy-Beaulieu, 'Le système financier de la France', *Journal des Débats*, Wednesday, 3 June 1896. It seems that Walras did not want to have this name in his text.

xv Walras italicized the French article 'le' (the) to stress that he was using the singular nouns 'income' and 'capital'.

xvi Walras here, and again two sentences below, used the French word 'cadastre', but he, or the 'financial specialists', should not have done so, for reasons explained in our note xii above. In these sentences, as he indicates, he was referring to a register or registry of all three types of capital.

xvii See part III above.

xviii Chapter 8 above.

xix The State is assumed by Walras to invite the interested parties to participate in a sort of auction from which the highest rent for each type of land will result. Walras possibly meant that persons or enterprises interested in renting land in some city or region meet in an 'English auction': the auctioneer tries to solicit higher and higher bids from the participants, until nobody wants to make another bid. The highest bidder is then bound by his bid. That differs from a Dutch auction, where the auctioneer starts with a normally unacceptably high price and then proposes gradually lower and lower prices, and where the first participant who calls 'mine' at a certain proposed price is bound by it. Both systems are aimed at the achievement of a final price that is as high as possible. See also *SAE*, chapter 8, note xi.

xx In *SAE*, Walras deals with major issues involved in regulating the variation in the value of money. Its value, he says, is always susceptible to changes because of strictly economic circumstances, and these changes must not be blurred by avoidable changes due to the nature of money itself. Another of Walras's main concerns was establishing the terms and conditions of monopolies. He also discusses the labour market, credit, banking and speculation, for all of which he presents theoretical (and not only empirical) solutions in *SAE*. To all these subjects of applied economics and their solutions, Walras adds the great achievement of his normative economics: the solution of the Social Question by means of the nationalization of land.

D xxi In this section of his book, Gide mentioned Walras's ideas. In later editions, he was more concise about the subject, referring to Walras only for his *Théorie mathématique de la richesse sociale*, and comparing him with Jean-Guillaume Colins.

D xxii Charles Gide, 'De quelques nouvelles doctrines sur la propriété foncière (*Progress and Poverty* by Henry George)', *Journal des Économistes*, XXII, 5, 1883, pp. 169–200.

xxiii See *SAE*, chapter 11.

D xxiv The arguments of the American Henry George (1839–1897) in *Progress and Poverty* (1879) on the confiscation of rent by means of taxation met with favourable response in England. Herbert Spencer had been a supporter of the nationalization of land (before changing his mind in 1891), and in Walras's time Alfred Russel Wallace and a school of Christian socialists maintained that all private ownership of property is illegitimate.

xxv He meant Léon Say.

D xxvi Émile Worms, author of *De la propriété consolidée ou tableau historique et critique de tous les systèmes les plus propres à la sauvegarde de la propriété foncière et de ses démembrements*, Paris: E. Dentu, 1888. From 1876 onwards, Worms was professor of economics in the Faculty of Law of the University of Rennes.

xxvii *Le collectivisme, examen critique du nouveau socialisme*, Paris: Guillaumin, 1884.

xxviii Walras meant by this term the three philosophers Iamblichus, Plotinus, and Porphyry. The term 'Alexandrian trinity' is not unambiguous.

xxix See also the end of Chapter 2 above, where he calls Hegel, together with Kant, Fichte, and Schelling, a present-day Alexandrian. However, comparing dialectics with synthesis was Walras's idea.

D xxx 'Discours de M. Léon Say, président', *Sceances et travaux del'Académie des sciences morales et politiques*, Vol. 145, 1896, 1, p. 42: 'Moreover, socialism is not our religion and socialism is not our confessor. It is simply our enemy.'

Index of persons cited by Léon Walras

ADAMSON Robert (1852–1902)

Scottish philosopher of critical realism; historian of philosophy. Successor of W.S. Jevons, in 1876, as professor of philosophy and of economics at Owens College, Manchester. In 1893, he obtained the chair of logic at the University of Aberdeen, and in 1895 that of Glasgow.

(pp. 253–6, 259, 264, 266n xiv)

AMPÈRE André-Marie (1775–1836)

French philosopher, mathematician, and physicist. Pioneer of electrodynamics, he invented the electric telegraph and participated with Arago in the invention of the electromagnet.

(p. 170)

AMSTEIN Hermann (1840–1922)

Swiss mathematician. Professor of mathematics at the School of Engineering of Lausanne from 1875, later at the Faculty of Science in the same city. He participated in editing Euler's works, and wrote numerous articles.

(p. liii)

ANAXAGORAS (500?–428 BC)

Ionian philosopher of materialism and mechanism, but who assumed the existence of an 'intellect' that has put everything in order. Pericles was his student. See *Les Présocratiques*, Paris: Gallimard, 1988.

(p. 62)

ARGANT Aimé (1750–1803)

Swiss physicist and chemist; inventor of the lamp perfected by Quinquet.

(p. 167)

ARISTOTLE (384–322 BC)

Greek philosopher.

(pp. 13, 62, 94, 115, 149, 321)

BESSARION Jean (1400?–1472)

Grecian Churchman, theologian, Byzantine humanist, man of letters. Defender of Plato's ideas (author of *In calomniatorem Platonis*) against those of the Aristotelians (Georges de Trébizonde in particular). Supporter of the union of the two Christian Churches.

BLACKSTONE William (1723–1780)

English lawyer. Professor at Oxford. He did research on the spirit of the laws, and their role in the evolution of morality. Member of Parliament, a solicitor (1763), and a judge. Author of *Commentaries of the Laws of England* (1765).

BLANC Louis (1811–1882)

French socialist, author of *De l'Organisation du travail* (1840). After the collapse of the July Monarchy, he became a member of the provisional government in 1848, and presided over the Commission of Luxembourg. He proposed the formation of social workshops and workers' production associations, whose start-up costs should be subsidized by the State. The creation of the National Workshops is a corruption of his ideas. Considered to be responsible for the 'days of June 1848', he had to take refuge in England from 1849 until 1870. He published *Histoire de la révolution française* (1847–1862).

BONAPARTE Napoleon, see NAPOLEON

BORY-HOLLARD Émile (1825–1894)

Swiss lawyer, banker, and politician. Member of the Grand Council of the canton of Vaud. He was later president of two Swiss railway companies.

CABANIS Pierre-Jean-Georges (1757–1808)

French physician and professor of medicine; philosopher and 'ideologist'. He developed materialist theories, arguing that psychical facts should be reduced to physiology. He was initially a supporter of Bonaparte, but later became his adversary.

CABET Étienne (1788–1856)

French socialist, founder of *Le Populaire*. He participated in the insurrections against the Monarchy of 1830. His ideas forced him to take refuge in England where, under the influence of Robert Owen, he developed a sort of utopian communism, explained in his *Un Voyage en Icarie* (1840). He tried to put this in concrete form by founding a community of 500 'Icariens' in Texas (with the aid of Owen).

Author of *Matérialisme contemporain* (1869); *La France républicaine* (1873); *Histoire de l'impôt en France* (1867–1876); *De l'État actuel du protestantisme en France* (1887).

(pp. 282, 285)

COLINS Jean-Guillaume (1783–1859)

Naturalized French socialist of Belgian origin. He enrolled in the French army, and became later a physician in Havana. In Paris, he contributed to democratic journals. He advocated the extinction of pauperism by the collectivization of the land. Author of *Le Pacte social* (1833); *Qu'est-ce que la science sociale?* (1851–1854); *Société nouvelle: sa nécessité* (1857); *De la justice et de la science, hors l'Église et hors la Révolution* (1861).

(p. 179)

COLUMBUS Christopher (1451–1506)

Sailor, explorer.

(p. 336)

CONDILLAC Étienne Bonnot de (1714–1780)

French philosopher and economist. Influenced by John Locke, he developed a theory according to which sensations form the origin of all ideas and mental operations, and language plays a fundamental role supporting the development of abstract thought. Author of *Essai sur l'origine des connaissances humaines* (1746); *Traité des sensations* (1754). In economics, his analysis (expressed in *Le Commerce et le gouvernement considérés relativement l'un à l'autre* (1776) is based on a theory of subjective value.

(pp. 26, 50)

CONDORCET Marie-Jean-Antoine-Nicolas de Caritat, marquis de (1743–1794)

French mathematician, theorist of 'social mathematics', philosopher, and politician. He studied the question of decision-making by majority of votes, which led him to what is called 'Condorcet's paradox'. Disciple of Voltaire and Turgot (he wrote a *Vie de Voltaire* and a *Vie de Turgot*), he fought for political and economic liberty and the suppression of slavery of the negroes. He was elected a member of the Assemblée Législative and of the Convention, where he proposed a reform of public education. In his *Esquisse d'un tableau historique des progrès de l'esprit humain* (1793–1794), he stated his belief in the indefinite progress of reason, hence of the sciences, technology, society, and, finally, of humanity.

(p. 62)

CONIGLIANI Carlo Angelo (1868–1901)

Italian economist, specialist in financial science. Author of *Teoria generale degli effetti economici dalle imposte. Sagio di economia pura* (1890), based on the Austrian neo-classical theory; *leggi scientifiche della finanza* (1894); and *La* *riforma delle legi sui tributi locali* (1898). Refuting hedonism, he criticized the Italian school of financial sciences and its theory of the State. He played an important role in the development of the cooperative and mutualist movement, and in the Zionist movement.

(p. 336)

COOPER James Fenimore (1789–1851)

American author of successful novels, notably *The Last of the Mohicans* (1826). He was called 'the writer's writer'.

(pp. 125, 131n vi)

COPERNICUS Nicolaus (1473–1543)

Polish astronomer who elaborated a heliocentric theory of planetary movement, which he published only the day before his death because he feared the hostile reaction by the Church.

(pp. 62, 253)

COURIER Paul-Louis (1772–1825)

French lampooner of the political and moral order of the Restoration. He lived in retirement in Veretz in Touraine, where he was murdered.

(p. 316)

COURNOT Antoine-Augustin (1801–1877)

Graduate of the École Normale Supérieure, he was a philosopher, an economist, and a mathematician, specializing in the theory of probability. He was one of the precursors of mathematical economics. Rector of the Academy of Dijon until 1862. Among his numerous works were *Recherches sur les principes mathématiques de la théorie des richesses* (1838); *Essai sur les fondements de nos connaissances* (1851); *Traité de l'enchaînement des idées fondamentales dans les sciences et dans l'histoire* (1861); *Matérialisme, vitalisme, rationalisme* (1875); *Revue sommaire des doctrines économiques* (1877). See *Œuvres complètes*, Paris: J. Vrin, 1973–1984.

(pp. liv, 255)

COUSIN Victor (1792–1867)

French philosopher, disciple of Royer-Collard and Maine de Biran, specialist on Kant, introducer of Hegel into France. He was an advocate of eclecticism. Professor at the École Normal, he became, under the July Monarchy, State councillor, director of the École Normal and member of the Académie Française (1830). He was Minister of Public Instruction in 1840. After 1851, he resigned from his chair at the Sorbonne. Author of numerous works on the history of philosophy.

(pp. 18n v, 74n1, 112n ii, 129)

HALM Karl (1809–1882)

Director of the Hof- und Staatsbibliothek of Munich. He was the brother-in-law of Charles Secrétan.

(p. 255)

HAYDN Franz Joseph (1732–1809)

Austrian composer.

(p. 169)

HEGEL Georg Wilhelm Friedrich (1770–1831)

German philosopher, professor at Jena, Nuremberg, Heidelberg, and Berlin. He criticized and developed the work of Kant, Fichte, and Schelling. At first enthusiastic about the ideas of the French Revolution, he became later an anti-individualist and supporter of the existing order.

(pp. 62, 345, 346, 349n xxix)

HELVÉTIUS Claude-Adrian (1715–1771)

French philosopher, materialist, and atheist. He was a collaborator of the *Encyclopédie*. According to him, instruction and training are crucial in the education of man.

(p. 52)

HENRY VIII (1491–1547)

King of England, 1509–1547.

(pp. 182, 241)

HOBBES Thomas (1588–1679)

English philosopher, materialist, and utilitarian. He was one of the first to apply the methods of Francis Bacon's *Novum Organum* in investigating causality in social phenomena. He also applied mechanism in matters of morality. According to him, the state of war of every person against other persons can be ended by a social contract, where the individuals submit to the absolute authority of a sovereign. Author of *De Cave* (1642), *De Corpora politico* (1650), and *Leviathan* (1651).

(pp. 26, 52)

HORNUNG Joseph-Marc (1822–1884)

Professor of comparative literature and later of law at the Academy of Lausanne. In 1866, he became professor of public law and penal law in Geneva. He was also deputy in the Grand Council and president of the Court de Cassation.

(p. 273)

KAUTSKY Karl (1854–1938)

German socialist leader. He popularized Marxian thought. At the Congress of Erfurt, however, he sided with evolutionary socialism against Marxism revolutionary socialism. After 1910, he adhered to opportunism, thus abandoning the theory of the inevitable end of capitalism.

(p. 151n3)

KAUTZ Julius (1829–1909)

Hungarian economist, professor of economics, specialist in financial economics. In 1892, he became director of the Austro-Hungarian Central Bank. Author of *Theorie und Geschichte der National-Oekonomie* (1858–1860), and *Entwicklungsgeschichte der Volkswirtschaftlichen Ideen in Ungarn* (1876).

(pp. 253, 266n xiii)

KEPLER Johannes (1571–1630)

German astronomer, supporter of heliocentrism. He established three laws on the rotation of the planets around the sun, forming the basis of Newton's theory.

(pp. 62, 99)

KORTUM Karl Joseph (1836–1904)

Professor of mathematics in Bonn, nephew of Gossen. He is known only thanks to his writing the short biography of his uncle, at the request of Léon Walras. He tried to compile and complete the fragments of the Gossen theory of music.

(pp. 262, 264, 268n xxvi)

LAVERGNE Louis-Gabriel-Léonce GUILLAUD de (1809–1880)

French economist. Member of Parliament in 1846. From 1850 to 1852, he was professor of rural economics at the Institut national agronomique of Versailles, author of *Essai sur l'économie rurale de l'Angleterre, de l'Écosse et de l'Irlande* (1854), and *L'Agriculture et la population* (1856).

(p. 241)

LABOULAYE Edouard-René (1811–1883)

French lawyer. In 1849, he became professor of comparative legislation at the Collège de France; and, in 1873, administrator of that institution. Author of *Histoire du droit de propriété foncière en Occident* (1839); *Histoire des États-Unis d'Amérique* (1854); *Paris en Amérique* (1863), under the name René Lefebvre.

(pp. 16n i, 260)

LANGE Friedrich Albert (1828–1875)

German neo-Kantian philosopher and social democrat. He stressed the importance of education of the workers as a solution of the social question.

(pp. 253n3, 266n xiv)

managed the journal *L'Économiste Français*. Of his works we mention *Le Travail des femmes au XIX^e^ siècle* (1873); *De la Colonisation chez les peuples modernes* (1874); *L'État moderne et ses fonctions* (1890). He published his lectures at the Collège de France under the title *Essai sur la répartition des richesses et sur la tendance à une moindre inégalité des conditions* (1880), and *Le Collectivisme – Examen critique du nouveau socialisme* (1884).

(pp. 162, 164n ii, 264–5, 345–7, 348n xiv)

LEUCIPPUS (460?–370? BC)

Greek pre-Socratic philosopher. He was the first to suggest a form of atomism, namely that the world is constituted of homogeneous, unalterable atoms, and of emptiness.

(p. 62)

LOCKE John (1632–1704)

English empirical philosopher. Theorist of natural law. He criticized sensualism and Descartes's innatism and rationalism, He tried to find the origin of knowledge and its limits, and proposed a theory of the social contract based on natural law, which extends and contradicts Hobbes's. Author of *Essay concerning Human Understanding* (1690); *Letter on Toleration* (1689); *Two Treatises of Government* (1690). He was politically liberal and tolerant in matters of religion, but also a champion of the absolute right of private property. He advocated that the poor be set to work. His contributions to economics include work on the theory of value and monetary theory.

(pp. 77, 113n xii)

LOUIS XI (1423–1483)

King of France (1461–1483).

(p. 323)

LOUIS XVIII (1758–1824)

King of France (1814–1824)

(p. 119)

LOUIS-PHILIPPE (1773–1850)

King of the French (1830–1848).

(p. 119)

MABLY Gabriel Bonnot de (1709–1785)

French philosopher and historian. Admirer of Sparta, he inveighed against corruption and decadence. Adversary of the Physiocrats; hostile to private property and to enlightened despotism. Considered as a precursor of community socialism, he was above all a supporter of egalitarist reforms, in particular, of agrarian laws. Brother of Condillac.

(p. 149)

MALTHUS Thomas Robert (1766–1834)

English classical economist, author of *An Essay on the Principle of Population* (first edition 1798, second edition 1803), where he expressed his famous law of population growth, and of *Principles of Political Economy* (1820). Adversary of David Ricardo, and of J.B. Say with regard to the latter's doctrine that supply finds its own demand.

(p. 120)

MARIO Guiseppe, marquis of Candia (1810–1883)

Famous Italian tenor.

(pp. 156–7)

MARX Karl (1818–1883)

German philosopher, economist, and socialist.

(pp. 16n i, 149–54, 157–8, 346)

MEDICI

Famous family of Florence that played an important role from the eleventh until the eighteenth century.

(p. 283)

MEISSONIER Jean-Louis-Ernest (1815–1891)

French painter. Famous for his military scenes.

(p. 137)

MELEGARI Luigi Amedeo (1807–1881)

Italian lawyer and politician. Professor of international law at Lausanne (1838). In 1848, he became professor of constitutional law in Turin. Central-left member of Parliament. Ambassador to Switzerland, and Minister of Foreign Affairs in 1876–1877. He wrote on the philosophy and the history of law, international law, and economics.

(p. 126)

Michelangelo BUONARROTI, commonly known as *Michelangelo (1475–1564)*

Italian sculptor, painter, architect, and poet.

(p. 169)

MILL James (1773–1836)

English philosopher, historian, and economist. He was a student of Dugald-Stewart's, and a utilitarian, like his mentor Jeremy Bentham. He was a disciple of Hume regarding the theory of knowledge, and a classical economist like his friend David Ricardo. Besides his *Analysis of the Phenomena of the Human Mind* (1829), and his monumental *The History of British India* (1817), he published

PASSY Hippolyte-Philibert (1793–1880)

French liberal economist and politician, several times minister, peer of France. Editor of the *National* from its foundation onwards. He protested against the coup d'état of 2 December 1851 by Louis-Napoleon Bonaparte. Editor of the *Journal des Économistes*. Author of *Des Systèmes de culture et de leur influence sur l'économie sociale* (1846); *Des Causes de l'inégalité des richesses* (1849); *Des Formes de gouvernement et des lois qui les régissent* (1876, second edition). Uncle of Frédéric Passy.

(pp. 312–13)

PASTEUR Louis (1822–1895)

French biologist; founder of micro-biology. He refuted the theory of spontaneous generation. He developed various vaccines, including the one against rabies. He was an instigator of modern hygiene.

(p. 326)

PASTOR Luis-Maria (1811–1863)

Spanish statesman and economist. He was Minister of Finance. Specialist in fiscal economics. Published on the stockmarket, credit and the philosophy thereof, and taxation.

(pp. 335, 342, 343)

PAUL Saint (5?–67?)

(p. *133*)

PEPOLI Joachim Napoleon (1805–1881)

Italian economist and politician. He participated in the anti-Austrian revolution of 1848, and became known for his *Les Finances pontificales* (1856), in which he uncovered suspect methods of funding. Central-left liberal, he was Member of Parliament, Minister of Finance of Emilio Romagna and of the Italian government in 1862.

(p. 335)

PERICLES (495–429 BC)

Prominent and influential Athenian statesman. During the long peace before the Peloponnesian War, he was invested with considerable authority. This period is considered to be the political, artistic, and above all intellectual apogee of Athens, which ended in the disasterous Peloponnesian War and pestilence.

(p. 347)

PERUGINO Pietro di Cristoforo, also called *VANNUCCI (1446–1523?)*

Italian painter.

(p. 99)

1848. In 1900, he came back to France and lectured at the Conservatoire des Arts et Métiers. In 1907, he obtained the chair of history of labour at the Collège de France.

(pp. liii, 114n1, 151n3, 347n i)

RICARDO David (1772–1823)

English classical economist. Author of numerous works: *An Essay on the Influence of a Low Price of Corn on the Profits of Stock* (1815), and *On the Principles of Political Economy and Taxation* (1817). See *The Works and Correspondence of David Ricardo*, edited by Piero Sraffa, Cambridge University Press.

(pp. 26, 120, 259, 287n ix)

ROBERNIER Félix de (?–?)

Magistrate. President of the imperial court of Montpellier. Specialist in matters of the cadaster and of landownership. Author of *De la Preuve du droit de propriété; Constitution de la propriété* (1850); and *Esquisse d'un cadastre probant* (1855).

(p. 304)

RODBERTUS-JAGETZOW Johann Karl (1805–1875)

German economist, landowner, and politician. He was politically a conservative and a monarchist. His theory that the income from work tends to diminish and the income of landed property to increase led him to believe in the advent of a socialist regime. He was opposed to the immediate abolition of the right to own landed property, and supported a general tax on wages and salaries. He authored *Die Forderungen der arbeitenden Klassen* (1837); *Zur Erkenntniss unserer Staatswirtschaftlichen Zustände* (1842); and *Lettres sociales à Kirchmann* (1850–1851).

(p. 179n2)

ROSCHER Wilhelm (1817–1894)

Professor of economics at the University of Göttingen, later in Leipzig. He was at first one of the 'Old', and later one of the 'Young' German Historical School. Author of: *Grundriss zu den Vorlesungen über die Staatswirtschaft nach geschichtlicher Methode* (1843).

(pp. 253, 266n xi)

ROUSSEAU Jean-Jacques (1712–1778)

French writer and philosopher. Author of *Discours sur l'origine de l'inégalité* (1755); *Du contrat social* (1762); *L'Émile* (1762); *Les Confessions* (1782–1789).

(pp. 62, 272, 289n x, 299)

RUCHONNET Louis (1834–1893)

Swiss statesman, leader of the radical Democratic party (1866). Head of the Department of the Public Instruction of the canton of Vaud in 1869, and president

SENECA Lucius Annaeus (4 BC–65)

Latin philosopher, stoic, politician, author of tragedies and of the scientific work *Quaestiones naturales*. Tutor of Nero, who implicated him in a conspiracy and obliged him to commit suicide.

(p. 13)

SERNO-SOLOVEVICH Nicholai Aleksandrovich (1834–1866)

Russian revolutonary, leftist liberal populist. Deceived in his expectations concerning State reform, he decided, in 1989, to live abroad. His contribution to the Congress on taxation at Lausanne in 1860 is summarized by Joseph Garnier (*Journal des Économistes*, October 1860, p. 81) as follows: he supported 'the thesis of Mr. de Girardin on a real tax and on capital; but his ardour led him to digressions on the excessive role of the State and on the equality of people, which were neither supported nor disputed'.

(p. 280)

SINCLAIR, Sir John (1754–1835)

English economist, historian, a creator of the field of statistics, founder of the Bureau of Agriculture, and member of the Privy Council.

(pp. 182, 241, 246n xiv)

SKARBECK Frédéric Florian, count (1792–1866)

Polish patriot, writer and economist. He studied economics in Paris. Professor of economics and magistrate in Warsaw. Reformer of the prison system and hygienist, he dealt with the improvement of the living circumstances in prisons, asylums, correctional institutions, and hospitals, and with the moral reform of criminals. He wrote also on financial economics and on insurance.

(p. 272)

SMITH Adam (1723–1790)

Scottish philosopher and economist; founder of the Classical School. Author of *The Theory of Moral Sentiments* (1759), and of *An Inquiry into the Nature and Causes of the Wealth of Nations* (1776). See The Glasgow Edition of the *Works and Correspondence of Adam Smith*, Oxford: Clarendon Press, 6 volumes (1976–1983).

(pp. 26, 32, 120, 150, 287n ix, 298, 319n ii, 329, 348n xi)

SOCRATES (470–399 BC)

Known only through the writings of his students Xenophon and Plato. He studied with Anaxagoras and the Sophists, whom he criticized afterwards. He philosophized, surrounded by young people, in the market places, in the gymnasiums, and at banquets. His ideas aroused hatred and passion. Accused of corrupting adolescents, and of impiety, he was condemned to drink hemlock. The dialogues of Plato have made Socrates the father of philosophy.

(pp. 13, 62)

VACHEROT Étienne (1809–1897)

French philosopher, influenced by Hegel's philosophy of history. He believed that history is the result of two dialectically opposed principles, that of conservation and that of progress. This Hegelianism and his pantheism (opposition between an ideal God who does not exist and an immanent God) were violently attacked. In 1852, he was relieved from his duties for having refused to take the oath of loyalty.

(pp. 8, 18n iv, 97n1, 321)

VANDERVELDE Émile (1866–1938)

Belgian socialist, member of the labour party of Belgium and of the Second International (1889–1916). He was Member of Parliament (1894–1938) and Minister (1925–1927). Author of numerous works on the social question, in particular *La Question agraire en Belgique* (1897); *Le Collectivisme et l'évolution industrielle* (1900); *La Propriété foncière en Belgique* (1900); *Essais socialistes* (1906); *La Grève générale en Belgique* (1908).

(p. 151)

VICTOR-AMÉDÉE II (1666–1732)

Duke of Savoy, king of Sicily, father of CHARLES-EMMANUEL III.

(p. 299)

VIEWEG Johann Friedrich (1761–1835)

Founder of a publishing house in Braunschweig. Famous as publisher of *Hermann und Dorothea* by Goethe. The enterprise became Vieweg und Sohn in 1825; they published H.H. Gossen's *Entwickelung* in 1854. Their successor was Prager und Sohn who published the reprints of 1899 and 1927.

(pp. 181, 255–6)

VOLTA Alessandro, count (1745–1827)

Italian physicist. He discovered the electrophore and invented the electric battery.

(p. 170)

VOLTAIRE, name taken by *François Marie AROUET (1694–1778)*

French author of many works, including *Candide*. He was the philosopher and advocate of liberty and tolerance.

(p. 62)

WALKER Francis Amasa (1840–1897)

American economist and general. Professor of economics at the Sheffield Scientific School of Yale University. He specialized in financial economics.

(p. 269n2)

WALLACE Alfred Russel (1823–1913)

English naturalist and traveller. Supporter of and contributor to the theory of the

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