

Fragment

'The present position of economics' by Alfred Marshall

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Editorial introduction

Alfred Marshall was elected to the Chair of Political Economy at the University of Cambridge in December 1884.¹ He gave his inaugural lecture on 'The present position of economics' on 24 February 1885 (Groenewegen, 1995: ch. 10). An abridged version of this lecture is presented below.

The contents of this lecture concern the scope and methodology of economic science, including the roles of theory and evidence, and Marshall's attitude to the then internationally prominent German historical school. Although this lecture is over 120 years old, its contents are highly relevant to the twenty-first century. Furthermore, the lecture destroys the myth that Marshall was an advocate of a form of theoretical economics that overlooked cultural and historical specificities and focused on a given, ahistorical individual. As in his *Principles* (1890), Marshall saw individual preferences as moulded by circumstances. This lecture also overturns the proposition that Marshall 'rejected the main contentions of the German historical school' (Skidelsky, 1983: 43). On the contrary, Marshall was sensitive to historical specificities in both this lecture and his subsequent work, and gave some support to the German historical school in this regard.

The context of the debate should be taken into account. The marginal utility approach to price theory had developed significantly in the 1870s, in the works of Léon Walras, William Stanley Jevons, Carl Menger, and others. But Marshall in his lecture does not draw a sharp line between marginalists and their opponents, giving support to the view of some modern scholars that the so-called 'marginalist revolution' was much more gradual than the term suggests (Ekelund and Hébert, 2002).

Two years before Marshall's lecture, Menger (1883) had fired the opening shots in the famous *Methodenstreit*: he attacked the methodological position of the German historical school and argued for an economics based on universal principles. Although fluent in German and familiar with the German literature in economics, Marshall makes no reference to Menger in his lecture.

¹ This introduction makes use of some material from Hodgson (2001).

Although Marshall also argues for a core set of economic principles, he clearly acknowledges in this lecture and in his subsequent work the need for economic theory to also reflect specific circumstances and conditions.

During the nineteenth century, Germany was the global powerhouse of research in economics, and its economics profession was dominated by the historical school. Like many aspiring young economists in the nineteenth century, Marshall had studied in Germany under their tutelage. He was in Dresden in 1868 and in Berlin in 1870–71. His critical admiration for the achievements of this school remained with him for the rest of his life, and is clearly evident in the 1885 lecture. Even in the later editions of his *Principles*, Marshall (1949: 634) retained a highly laudatory view of the German historical school: ‘It would be difficult to overrate the value of the work which they and their fellow-workers in other countries have done in tracing and explaining the history of economic habits and institutions. It is one of the great achievements of our age.’

Both Menger and Marshall understood the limits of the inductive method: they agreed that economics cannot proceed from facts alone. While concurring that economics had to make use of some universal principles, they both focused on the individual as the primary unit of analysis. However, Marshall went on to elaborate his individualist starting point by admitting the possibility that circumstances could fundamentally affect preferences. Consistent with similar statements in his 1885 lecture, in his *Principles*, Marshall (1949: 76, 631) wrote of ‘new activities giving rise to new wants’, noting that human character ‘is a product of circumstances’ and acknowledging that ‘changes in human nature’ can be significant and rapid.

More strongly than Menger, Marshall acknowledged that different socio-economic phenomena might require theories that are in some respects different from each other. In his lecture, taking a view consonant with the historical school, Marshall (p. 154) countered the notation that the subject matter of economics ‘is constant and unchanged in all countries and in all ages’ and proposed that ‘the laws which apply to one stage will seldom apply without modification to others’. Marshall (p. 155) criticized the British economists of the early nineteenth century because ‘they did not see how liable to change are the habits and institutions of industry’. This is an unambiguous recognition of the problem of historical specificity – a defining problem for the historical school (Hodgson, 2001). Likewise, in his *Principles*, Marshall (1949: 30–31) acknowledged that: ‘Though economic analysis and general reasoning are of wide application . . . every change in social conditions is likely to require a new development of economic doctrines.’

For Marshall, historical facts were essential, but they cannot on their own provide us with the answers (Marshall, 1949: 32). Thus he paid ample tribute to the work of the historical school, but simultaneously undermined the naïve empiricist views in their midst. He saw his methodological stance as being closer

to Gustav Schmoller and other more sophisticated members of the historical school. In a similar manner, Marshall tried to steer an intermediate position between deductivism and empiricism. In his *Principles*, Marshall (1949: 24) quoted and endorsed Schmoller's statement that: 'Induction and deduction are both needed for scientific thought as the left foot and the right foot are both needed for walking.'

Marshall's views on the role of formal theory are further illuminated in his letters. On 12 October 1899 Marshall wrote to William A. S. Hewins, a man of historical school sympathies who was the first Director of the London School of Economics. Marshall upheld that economics should 'be an organic whole' and declared that he had as 'little respect for pure theory' as 'for that crude collection and interpretation of facts without the aid of high analysis which sometimes claims to be part of economic history' (Whitaker, 1996: vol. II, p. 256). Clearly, Marshall tried to steer a middle course between overly formal economic theory and banal empiricism. Marshall again wrote to Hewins on 29 May 1900:

Much of 'pure theory' seems to me to be elegant toying: I habitually describe my own pure theory of international trade as a 'toy'. I understand economic science to be the application of powerful analytical methods to unravelling the actions of economic and social causes, to assigning each its part, to tracing mutual interactions and modifications; and above all to laying bare the hidden *causas causantes*. (Whitaker, 1996: vol. II, p. 280)

Along very similar lines, Marshall wrote to Francis Edgeworth on 28 August 1902:

In my view 'Theory' is essential. . . . But I conceive no more calamitous notion than that abstract, or general, or 'theoretical' economics was economics 'proper.' It seems to me an essential but a very small part of economics proper: and by itself sometimes even – well, not a very good occupation of time. (Pigou, 1925: 437; Whitaker, 1996: vol. II, p. 393)

Sadly, a century later, the economics profession as a whole has become much preoccupied with the 'elegant toying' that Marshall had looked down upon so critically. The study of real causes within socio-economic systems, that Marshall saw as the essence of economic science, has become much less fashionable today than the exhibition of mathematical technique for its own sake.

Among Marshall's contenders in 1884 for the Cambridge chair was William Cunningham, who was one of Marshall's former pupils. Cunningham aligned himself with the extreme empiricist wing of the historical school. He opposed Marshall's view that theory could not be built on facts alone. Cunningham (1892) defended the primacy of the facts and proposed that economics should be primarily an empirical science, concerned with description and classification. His criticisms of Marshall were so overstated and unconvincing that he became

‘an outsider even among historical economists’ such as Herbert Foxwell and William Ashley (Koot, 1987: 146).

The Cunningham–Marshall controversy again came to the boil in the early 1900s. It involved on the policy matter of free trade and the content of the economics curriculum in Cambridge. When the Economics Tripos was established in Cambridge in 1903, two full years of undergraduate study were devoted to economic theory, with only one year remaining for applied economics, economic history, and politics. Cunningham protested against the preponderance of theory, and eventually resigned his college fellowship.

Like many in the older (but not the younger) German historical school, Cunningham saw the salvation of theory in terms of empirical enquiry alone. He failed to understand Menger’s forceful argument that even empiricism requires prior universal assumptions, such as the uniformity of nature. All empirical work requires prior universal concepts, such as units of measure. Taxonomies themselves require classificatory schema. All explanations involve presumptions of causality. Theory is unavoidable, and has epistemic priority over facts. Cunningham did not understand this, but Marshall did.

When Marshall criticized some historical school writings, it was to naïve empiricism that he primarily took exception. He did not dismiss the historical school as a whole. On the contrary, his tributes to the German historical school are repeated in his publications, up to and including the later editions of his *Principles*.

In the 1880s and 1890s the general mood within British economics was one of pluralism, politeness and conciliation, rather than the acrimony of the Germanic *Methodenstreit*. The fact that a methodological dispute persisted in Cambridge was more to do with the relative intransigence of naïve empiricists like Cunningham, who never accepted a major role for economic theory. But such intransigent empiricists were never representative of either the German or the British historical schools² in their totality.

Far from Marshall being an antagonist of historicism, it would be better to see Marshall as a representative and extension of the type of historically sensitive and theoretically informed thinking that had emerged in Germany by the end of the nineteenth century. To put it provocatively, Marshall himself was a product and part of the historical school tradition.

The text below is a about 70 per cent of the complete text, as published in Pigou (1925). Material in square brackets was added by the editors, including marks indicating the transition from one page to another in the original.

² Although the term ‘English historical school’ is unfortunately in widespread usage, it suggests either ignorance of political geography or of the fact that a number of leading members were not English: Cunningham was a Scot, and John Ingram and Thomas Cliffe Leslie were both Irish.

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The present position of economics (1885)

ALFRED MARSHALL

...It is commonly said that those who set the tone of economic thought in England in the earlier part of the [nineteenth] century were theorists who neglected the study of facts, and that this was specially an English fault. Such a charge seems to me baseless. Most of them were practical men with a wide and direct personal knowledge of business affairs. They wrote economic histories that are in their way at least equal to anything that has been done since. They brought about the collection of statistics by public and private agencies and that admirable series of parliamentary inquiries, which have been a model for all other countries, and have inspired the modern German historic school with many of their best thoughts. . . .

The change that has been made in the point of view of Economics by the present generation is then not due to the discovery of the importance of supplementing and guiding deduction by induction, for that was well known

before. It is due to the discovery that man himself is in a great measure a creature of circumstances and changes with them; and the importance of this discovery has been accentuated by the fact [153/154] that the growth of knowledge and earnestness have recently made and are making deep and rapid changes in human nature.

At the beginning of the nineteenth century the mathematico-physical group of sciences was in the ascendant. These sciences, widely as they differ from one another, have this point in common, that their subject-matter is constant and unchanged in all countries and in all ages. The progress of science was familiar to men's minds, but the development of the subject-matter of science was strange to them. As the century wore on the biological group of sciences were slowly making way, and people were getting clearer ideas as to the nature of organic growth. They were learning that, if the subject-matter of a science passes through different stages of development, the laws which apply to one stage will seldom apply without modification to others; the laws of the science must have a development corresponding to that of the things of which they treat. The influence of this new notion gradually spread to the sciences which relate to man. In different ways Goethe, Hegel, Comte and other writers called attention to the development of the inner character and outward institutions of man, and worked their way towards the notion of tracing and comparing the modes of growth of the different sides of human nature. . . .

The chief fault, then, in English economists at the beginning of the century was not that they ignored history and statistics; but that Ricardo and his followers neglected a large group of facts, and a method of studying facts which we now see to be of primary importance.

They regarded man as, so to speak, a constant quantity, and [154/155] gave themselves little trouble to study his variations. The people whom they knew were chiefly city men; and they took it for granted tacitly that other Englishmen were very much like those they knew in the city. They were aware that the inhabitants of other countries had peculiarities of their own; but they regarded such differences, when they thought of them at all, as superficial and sure to be removed as soon as other nations had got to know that better way which Englishmen were ready to teach them. The same bent of mind, that led our lawyers to impose English civil law on the Hindoos, led our economists to work out their theories on the tacit supposition that the world was made up of city men.

This did little harm so long as they treated of money and foreign trade, but great harm when they treated of the relations between the different industrial classes. It led them to regard labour simply as a commodity without throwing themselves into the point of view of the workman; without allowing for his human passions, his instincts and habits, his sympathies and antipathies, his class jealousies and class adhesiveness, his want of knowledge and of the opportunities for free and vigorous action. They therefore attributed to the forces of supply

and demand a much more mechanical and regular action than they actually have; and laid down laws with regard to profits and wages that did not really hold even for England in their own time.

But their most vital fault was that they did not see how liable to change are the habits and institutions of industry. In particular they did not see that the poverty of the poor is the chief cause of that weakness and inefficiency which are the cause of their poverty: they had not the faith, that modern economists have, in the possibility of a vast improvement in the condition of the working classes.

The perfectibility of man had indeed been asserted by Owen and other early socialists: but their views were based on little historic and scientific study; and were expressed with an extravagance that repelled the business-like economists of the age. The socialists did not always attempt to understand the doctrines which they attacked; and there was no difficulty in showing that they had often failed rightly to apprehend the [155/156] nature and efficiency of the existing economic organization of society. It is therefore not a matter for wonder that the economists, flushed with their victories over a set of much more solid thinkers, did not trouble themselves to examine any of the doctrines of the socialists, and least of all their speculations as to human nature.

But the socialists were men who felt intensely, and who knew something about the hidden springs of human action of which the economists took no account. Buried among their wild rhapsodies there were shrewd observations and pregnant suggestions from which philosophers and economists had much to learn. . . .

Among the bad results of the narrowness of the work of English economists early in the nineteenth century perhaps the most unfortunate was the opportunity which it gave to socialists to quote and misapply economic dogmas. These dogmas were taken away from their context and set up as universal and necessary truths; although a little care would often have discovered that they were originally put forward, not at all as independent truths, but as the outcome of particular illustrations of a scientific method of inquiry. Ricardo and his chief followers may be blamed for what they omitted to do; but they did not commit, to the extent that is generally supposed, the fault of claiming universality and necessity for their doctrines. They did not, however, make their drift obvious. They did not make clear to others, it was not even quite clear to themselves, that what they were building up was not universal truth, but machinery of universal application in the discovery of a certain class of truths.

Adam Smith is most widely known for his argument that Government does harm by interfering in trade. He admitted that self-interest often led the individual trader to act injuriously [156/157] to the community: but he thought that Government, even with the best intentions, nearly always served the public worse than the enterprise of the individual trader did, however selfish he might happen to be. This doctrine it is which some German writers have chiefly in view when

they speak of Smithianismus. But it was not his chief work. His chief work was to indicate the manner in which value measures human motive.

Possibly the full drift of what he was doing was not seen by him: certainly it was not perceived by many of his followers who approached economics from the point of view of business rather than of philosophy. But the best economic work which came after the *Wealth of Nations* is distinguished from that which went before, by a clearer insight into the balancing and weighing, by means of money, of the desire for the possession of a thing on the one hand, and on the other of all the various efforts and self-denials which directly and indirectly contribute towards making it. Important as had been the steps that others had taken in this direction, the advance made by him was so great as to make an epoch. He showed the need of analysing the causes that determine the difficulty of attainment of various economic results; of inquiring which of them are so far uniform in their mode of action that they can be reduced to law and thus made the basis of scientific measurement.

These causes often lie deep below the surface and are likely to be overlooked by the ordinary observer. But he saw that they are in the long run of predominant importance; and, since they are in some measure capable of scientific treatment, he rightly judged it best to give them his chief attention. The fitful and irregular incidents of the market cannot for the greater part be reduced to order, and brought directly within the grasp of scientific machinery. But, when those causes which act with tolerable uniformity are understood, and their effects allowed for, then the residuary effects of other causes stand out prominently. The investigation of the results that can be brought under law¹ thus helps towards the understanding of those which [157/158] cannot; and thus science is able indirectly to lend her aid in unravelling the tangled skein of the events of actual life. Adam Smith's point of view has been gradually developed by Ricardo, Cournot, Hermann, Jevons and others.

The outward form of economic theory has been shaped by its connection with material wealth. But it is becoming clear that the true philosophic *raison d'être* of the theory is that it supplies a machinery to aid us in reasoning about those motives of human action which are measurable. In the world in which we live, money, as representing general purchasing power, is so much the best measure of motives that no other can compete with it. But this is, so to speak, an accident, and perhaps an accident that is not found in other worlds than ours. . . .

It is possible that in other worlds than ours there may be no private property in material things, no wealth as it is generally understood by us; but that public honours are meted out by graduated tables as rewards for every action that is

¹ They are now called Normal. Adam Smith called them Natural. But he had not completely freed himself from eighteenth-century metaphysical notions as to Nature and, though on this point greatly in advance of his French contemporaries, he did not always distinguish perfectly between the causal laws of Nature in the indicative mood and her ethical laws in the imperative.

done for [158/159] another's good. If these honours can be transferred from one to another without the intervention of any external authority, they may serve to measure the strength of motives almost as conveniently and exactly as money does with us. In such a world there may be a treatise on economic theory very similar to the present, even though there be very little mention in it of material things, and no mention at all of money.

It seems well to insist on this; for a misleading association has grown up in people's minds between that measurement of motives, which is the chief task of economic science, and an exclusive regard for material wealth, to the neglect of other and higher objects of desire. The only condition required for a measure for economic purposes is that it should be something definite and transferable. Its taking a material form is practically convenient in this world, but is not essential.

But, while attributing this high and transcendent universality to the central scheme of economic reasoning, we may not assign any universality to economic dogmas. For that part of economic doctrine, which alone can claim universality, has no dogmas. It is not a body of concrete truth, but an engine for the discovery of concrete truth, similar to, say, the theory of mechanics.

The theory of mechanics contains no statement of fact as to the greatest strain which bridges will bear. Every bridge has its peculiarities of construction and material: and mechanics supplies a universal engine, which will help in determining what strain any bridge will bear. But it has no universal dogmas by which this strain can be determined without observation of the particular facts of the case.

Suppose that all the bridges over the canals of Venice were, as indeed most of them are, very nearly of the same material and general construction: suppose that there were a number of general dogmas roughly true with regard to all of them; and suppose that some engineers had applied these dogmas to bridges built under different circumstances and in other places. When the breaking down of the new bridges had shown the folly of claiming universality for the practical dogmas of mechanics, impetuous people would rush to the conclusion that there was no universal organon of mechanical reasoning. This is exactly the mistake which seems to me to have been made by the [159/160] extreme wing of the 'real' or historical school of German economists.

Ultimately part of this organon will no doubt be presented as a perfectly pure or abstract theory.² But at present, while we are feeling our way, it seems best

² The ambition to work out a purely abstract theory in some form or other has probably come to many students of the subject: Mill had it, when he wrote (1829) his essay on *The Method of Political Economy*. But he had moved very far away from it by the time he came to write his *Principles of Political Economy with some of their applications to Social Philosophy*. There remained to the last some inconsistency in his use of the term Political Economy. But his view of the way in which economic matter should be studied was never narrowed to mere abstractions and ultimately became very broad; broader indeed than his own practice though that was not narrow. Much that has been written by the newer schools in England and Germany in favour of treating economic affairs on as wide a basis as possible was anticipated by him

to sacrifice generality of form to some extent, and to conform to the modes of expression adopted by the older economists.

For, indeed, when they spoke of the 'economic man' as governed by selfish or rather self-regarding motives, they did not express their meaning exactly. For example, Mill says that in economic phenomena 'the psychological law chiefly concerned is the familiar one that a greater gain is preferred to a smaller';³ and argues that science gets a better hold in economics than in other social phenomena because it deals with motives that can be compared quantitatively and measured one against another. It is this notion of measurability that he really takes as the basis of his work, though he does not sufficiently emphasize it.

Whenever we get a glimpse of the economic man he is not selfish. On the contrary he is generally hard at work saving capital chiefly for the benefit of others. The fact is that the desire to make provision for one's family acts in a very regular way and is eminently capable of being reduced to law: it is prominent in all economic reasoning, because, though unselfish, it is measurable. Again, if, with Cliffe Leslie,⁴ we analyse all the infinite variety of motives that are commonly grouped together [160/161] under the term 'love of money,' we see that they are of all kinds. They include many of the highest, the most refined and the most unselfish elements of our nature. The common link that binds them together is that they can be more or less measured; and in this world they are measured by money.

But, though in wording our economic organon this idea of measurability should be always present, it should not, I think, be prominent. For practical purposes, and in order to keep the better our touch of real life, it will be best to go on treating it as chiefly concerned with those motives to which a money price can be directly or indirectly assigned. But motives that are selfish or self-regarding have no claim to more consideration than others except in so far as they may be more easily measurable and may more easily have a money-price assigned to them.

The organon then must have reference to an analysis of the positive motives of desire for different goods, and of the negative motives of unwillingness to undergo the fatigues and sacrifices involved in producing them.

The analysis is difficult chiefly because both classes of motives act in a great measure indirectly. There are many steps between our demand for the coals that are brought to us by railway and the demand by other people for the

(see in particular *Logic*, Book VI, and his review of Comte). But he also pointed out difficulties which are often overlooked even now by those writers on method who have not themselves grappled with difficult problems. Mr Walker, in his admirable *Political Economy*, § 19, while quoting the full title of Mill's *Principles of Political Economy*, gives a short extract from his essay on method, which may, I think, have a misleading effect. Mr Walker implies that it is narrower and less philosophic than Cairnes' doctrine; whereas in my opinion it includes Cairnes' doctrine and shows a wider range of philosophic insight.

³ *Logic*, Book VI, chap. ix, § 3.

⁴ *Essays in Political and Moral Philosophy*, pp. 1–8.

locomotive engines and the engine-drivers that bring them. There are many steps between the sacrifice of a parent, who sends his son to an expensive school, and the ultimate production of a carpet from the designs of that son when he is grown up. So difficult is this analysis, so subtle are the processes of reasoning involved in it, so many are the different factors mutually modifying one another of which account must be taken, so numerous are the wheels within wheels in the reasoning involved, that up to the present day the task is but half-mastered.

In popular discussions on economics one event is represented as determining a second, which determines a third, which determines a fourth, and so on. Reasoning of this kind can be followed without effort by anyone; but it does not correspond to the facts of nature and has been the source of much confusion. In human conduct one condition does not control another, but altogether they mutually determine one another. To grasp at one view this manifold mutual action is a very difficult task [161/162].

This organon deals with the play of measurable motives for and against one another, balancing one another and being substituted for one another, though the persons concerned may be in classes or even in countries that have little direct intercourse. And it sets out that most complex play of human motives that changes the purchasing power of money, and thus alters the measure of all motives.

Lastly, taking account of the fact that the same sum of money measures a greater pleasure for the poor than for the rich, it helps in determining the relations between the money gain that a nation gets from any given social or industrial change and the total increase of happiness arising from it. This task most properly belongs to the economic organon, though it has been much neglected by economists till recently. If more attention had been paid to it, we should have avoided many of those unintelligent applications of the doctrine of *laissez-faire*, which assume that whatever increases wealth must necessarily increase well-being. By a natural reaction many of the social reformers of to-day, in their desire to improve the distribution, are reckless as to the effects of their schemes on the production of wealth. They argue that, if the distribution of wealth were somewhat improved, its inequalities being somewhat diminished, the present or even a rather smaller national income would suffice for all the reasonable needs of man. But statistics prove that this is not the case.

There is scarcely any limit to the developments of economic theory which are possible: but of those which are possible only a small part are useful in having a direct relation to practical issues. Ricardo, who added more to the theory than anyone else, was not fortunate in his choice of cases to be worked out in detail. It is true that many problems of his, though they seem to us to have little practical bearing, yet corresponded very closely to the actual facts of his time. It requires, for instance, some effort to remember what a shifting there has been since his time of the causes which govern the prices of agricultural produce in England.

But, after making every allowance of this kind, we must admit that he did not make a very good selection.

Since his time many improvements have been made in the choice and arrangement of cases to be worked out: so that the [162/163] organon is becoming better fitted to actual conditions. But the work requires a constructive thinker of calibre similar to Ricardo's. Jevons might have done a great part of it, if his life had not been cut short. As it is, a great deal remains yet to be done. There are very few fields which offer so important and rich a harvest to scientific enterprise.

Such then is the work to be done by the economic organon. But two closely allied objections have been raised to it. The first finds fault with any attempt to separate the study of economic from that of other social phenomena. The second urges that we ought to reason direct from facts to facts, without the intervention of any formal theory; that for the solution of modern economic problems we should refer ourselves straight to the teachings of history.

Both of these objections seem to me to turn on a misconception of the nature and province of economic theory. They assume that the reasoning will somehow be simplified by discarding the theory. But it has been well argued by Mill and others that the work which the organon is applied to do cannot be evaded; it may be done almost unconsciously, but it must be done; and, if the aid of the organon is refused, it is done badly. This argument has, I think, never been fairly grappled with by the objectors, but I will restate it in my own way.

The first objection has been chiefly urged by Comte and his followers. One of the chief debts which we owe to Comte's genius, lies in the clearness and vigour with which he showed how complex social phenomena are, how intricately interwoven with one another, and withal how changeable. Hence he argued against any separate study of one part of them, and was specially vehement in his condemnation of the contemporary English economists.

This was partly to be accounted for by the fact that the Continental followers of the English school exaggerated their dogmatism, as was natural; and Comte's argument is undoubtedly valid as against economic dogmas. But the complexity and intricacy of social phenomena afford no reason for dispensing with the aid of the economic organon in its proper place: on the contrary they increase the necessity for it.

It is vain to speak of the higher authority of a unified social [163/164] science. No doubt if that existed Economics would gladly find shelter under its wing. But it does not exist; it shows no signs of coming into existence. There is no use in waiting idly for it; we must do what we can with our present resources.

The only resources we have for dealing with social problems as a whole lie in the judgment of common sense. For the present, and for a long time to come, that must be the final arbiter. Economic theory does no claim to displace it from its supreme authority, nor to interfere with the manner nor even the order of its work, but only to assist it in one part of its work. For common sense does not

deal with a complex problem as a whole. Its first step is to break the problem up into its several parts; it then discusses one set of considerations after another, and finally it sums up and gives its conclusions. The fact which Comte seems to have ignored is that the human mind has no other method of inquiry than this; that a complex problem is broken up into its component parts, less methodically indeed but no less completely by common sense than by formal analysis. When it is thus broken up each separate part offers a foot-hold to treatment by a special scientific organon, if there be one ready.

In nearly every important social problem, one of these component parts has to do with those actions and sacrifices which commonly have a money price. This set of considerations is almost always one of the hardest, one of those in which untutored common sense is most likely to go wrong. But it is fortunately one of those which offer the firmest foot-hold to scientific treatment. The economic organon brings to bear the accumulated strength of much of the best genius of many generations of men. It shows how to analyse the motives at work, how to group them, how to trace their mutual relations. And thus by introducing systematic and organized methods of reasoning, it enables us to deal with this one side of the problem with greater force and certainty than almost any other side; although it would have probably been the most unmanageable side of all without such aid. Having done its work it retires and leaves to common sense the responsibility of the ultimate decision; not standing in the way of, or pushing out any other kind of knowledge, not hampering common sense in the use to [164/165] which it is able to put any other available knowledge, nor in any way hindering; helping where it could help, and for the rest keeping silence.

Sometimes indeed the economist may give a practical decision as it were with the authority of his science, but such a decision is almost always merely negative or critical. It is to the effect that a proposed plan will not produce its desired result; just as an engineer might say with authority that a certain kind of canal lock is unsuitable for its purpose. But an economist as such cannot say which is the best course to pursue, any more than an engineer as such can decide which is the best route for the Panama canal.

It is true that an economist, like any other citizen, may give his own judgment as to the best solution of various practical problems, just as an engineer may give his opinion as to the right method of financing the Panama canal. But in such cases the counsel bears only the authority of the individual who gives it: he does not speak with the voice of his science. And the economist has to be specially careful to make this clear; because there is much misunderstanding as to the scope of his science, and undue claims to authority on practical matters have often been put forward on its behalf.

The next objection comes from the extreme wing of the modern 'real' or historic school of economists.

It would be difficult to overrate the importance of the work that has been done by the great leaders of this school in tracing the history of economic habits

and institutions. It is one of the chief achievements of our age, and is an addition of the highest value to the wealth of the world. It has done more than almost anything else to broaden our ideas, to increase our knowledge of ourselves, and to help us to understand the central plan, as it were, of the Divine government of the world: such studies have led directly to some broad generalisations that have greatly illumined our path with a broad diffused light, which has made our notions as to the general bearing of economic problems clearer and truer.

But they do not throw a direct light on particular economic problems of our age. They do not in any way help us to dispense with the use of the economic organon: but rather make use of [165/166] its aid at every step. And those whose great achievements have made the school illustrious have never attempted to dispense with the aid of economic theory, though in the writings of some of them an occasional piece of inconsequent reasoning may betray a rather careless study of it.

But unfortunately they have sometimes spoken a little disparagingly of it; and their words have been caught hold of and exaggerated and perverted by hangers-on of the science, in the same way as were the careless sayings of the leaders of the Ricardian school in the last generation. As thirty years ago a number of men who had never done any solid work for Economics, and knew nothing of its real difficulties, were confidently proclaiming the solution of the most intricate problems by a few cut-and-dried formulae, so now men of the same class are advocating another short cut in the opposite direction. They are telling us to discard all theories, and to seek the solution of our economic difficulties in the direct teaching of facts. This, then, is the second objection.

The answer is that facts by themselves are silent. Observation discovers nothing directly of the actions of causes, but only of sequences in time. It may find that an event followed on, or that it coincided with, a certain group of other events. But this gives no guidance except for other cases in which exactly the same set of facts occurs over again, grouped in just the same way. And such repetitions never occur in the life of man; nor indeed anywhere save in physical laboratories: history does not repeat itself. In economic or other social problems no event has ever been an exact precedent for another. The conditions of human life are so various: every event is the complex result of so many causes, so closely interwoven that the past can never throw a simple and direct light on the future.

When therefore it is said that a certain event in history teaches this or that, an element of deductive reasoning is introduced, which is the more likely to be fallacious the more persistently it is ignored. For the argument selects a few out of the group of conditions which were present when the event happened, and tacitly, if not unconsciously, assumes that the rest are irrelevant. The assumption may be justifiable: but it often turns out otherwise. Wider experience, more careful [166/167] inquiry, often show that the causes to which the event is attributed could not have produced it without the aid of other causes; perhaps even that

they hindered the event, which was brought about in spite of them by other causes that have escaped notice.

It is chiefly for this reason that the same events in economic history are used by different writers to support opposite theories. Both sides may be perfectly honest, both may wish to tell the truth and the whole truth. But, by grouping the same facts in different ways, by making different parts of the truth prominent, they suggest opposite conclusions. For instance, in controversies between American Protectionists and Free Traders, the same statistics have been used to prove that raising the tariff increases and that it diminishes general prosperity. On inquiry we find that a chief cause of their divergence is that they ascribe different lengths to the period which elapses between a change in the tariff and its maximum result.⁵ One disputant ascribes to a recent lowering of the tariff a result which another says was part of the effect of a raising of the tariff that occurred some years before. It is difficult for those without special knowledge to be sure what lessons they ought to deduce from these facts, even though both sides are represented by able pleaders; partly because it is possible that both sides have been too intent on the controversy to take account of causes lying outside its scope. And this seems to have been the fact. It is probable that many of the results attributed by both of them to changes in the tariff were chiefly due to causes that had no connection with it.

Again in disputes as to the rates of wages paid in English trades, we find that much turns on allowances for slack time and over time, for the higher earnings and the over pressure of piece-work and so on. We are at the mercy of the narrator unless we can, so to speak, cross-examine the facts; unless we are able to suggest for ourselves causes that he may have overlooked, and to inquire into their action.

Experience in controversies such as these brings out the impossibility of learning anything from facts till they are [167/168] examined and interpreted by reason; and teaches that the most reckless and treacherous of all theorists is he who professes to let facts and figures speak for themselves, who keeps in the back ground the part he has played, perhaps unconsciously, in selecting and grouping them, and in suggesting the argument *post hoc ergo propter hoc*.

In order to be able with any safety to interpret economic facts, whether of the past or present time, we must know what kind of effects to expect from each cause and how these effects are likely to combine with one another. This is the knowledge which is got by the study of economic science; while, on the other hand, the growth of the science is itself chiefly dependent on the careful study of facts by the aid of this knowledge.

For this purpose it is necessary to isolate the action of one cause after another; a difficult task in all cases, and seldom to be done except by one of three familiar

⁵ See in particular Grosvenor's *Does Protection Protect?* and the corresponding parts of Carey's *Social Science*.

scientific methods. The first is to find the same cause working in many different surroundings, and in all producing the same effect. Another is, having already discovered the effects of all causes, save one, at work in any case, to subtract these from the total effect, and by the method of residues to determine the effect of that one. The third is the simplest, but cannot often be applied. It is to find two cases which resemble one another in every respect except that one cause is present in one of them but not in the other. Then by holding the cases up to the light, as it were, against one another, the effect of that cause is made to stand out.⁶

None of these methods can be safely used without wide knowledge. The thin thread of facts told to us by chroniclers, or travellers, is quite insufficient for the purpose. We must have access to a vast mass of facts which we can, so to speak, cross-examine, balancing them against one another and interpreting them by one another.

It must be admitted that to do this with regard to distant times is difficult if not impossible. For the social and economic history of early times stands on a different footing from their political history. That has some advantages over the political [168/169] annals of our own age; while in its turn posterity will understand, say, the policy of Prince Bismarck better than we do, because they will know documents that are now secret. But, in spite of all the print we shall leave them, posterity will not be able to settle a disputed question as to the economic facts of our time as well as we can. And our information as to the economic facts of times long past is so slight and so contradictory, that, if we subject it to the same searching criticism which we apply to disputed statements as to contemporary social facts, much of it crumbles away.

And there is a further difficulty: our present economic conditions are quite unlike any that have existed before. In many kinds of trading the whole world is one market, the chief dealers in every country knowing each day what the dealers in all other countries are doing on that day, and shaping their course accordingly. In some industries bargains between employers and employed are made in one room for many countries together. And – the most important change of all – many of the leaders of the working classes have the knowledge, resource, self-control and dignity which are necessary for carrying through a broad and far-seeing policy. The best parallel that we can find to this state of things in earlier times, though it is very imperfect, is in those trading cities of mediaeval Europe where all were free, and where it was possible to do by word of mouth what is now done by printing press and telegraph.

The study of economic history has done good service in destroying some of the narrower tenets of the older schools; in proving that habits and institutions

⁶ Compare the short but masterly essay, 'Die Kathedersocialisteri und die statistischen Congressse. Gedanken zur Begründung einer nationake konomisehen Statistik und einer statistischen Nationakekonomie,' by Prof. Laspeyres.

which had been assumed to be inherent in human nature are comparatively of modern growth: and it has thrown a strong light on the modern problems of oriental countries. But on the other hand economic science has done much and I believe will do a great deal more in applying contemporary observations of the East to explain the economic past. In particular I think it will break up and explain what are called economic customs, very much as the telescope breaks up a nebula.

To say that any arrangement is due to custom, is really little more than to say that we do not know its cause. I believe that very many economic customs could be traced, if we only had [169/170] knowledge enough, to the slow equilibration of measurable motives: that even in such a country as India no custom retains its hold long after the relative positions of the motives of demand and supply have so changed that the values, which would bring them into stable equilibrium, are far removed from those which the custom sanctions.

Where economic conditions change but little in one generation, the relative values of different things may keep very near what modern economists would call their normal position, and yet appear scarcely to move at all: just as, if one looks only for a short time at the hour hand of a watch, it seems not to move. But, if the preponderance of economic motive is strong in one direction, the custom, even while retaining its form, will change its substance, and really give way.... [170/171]...

Greedy then as the economist must be for facts, he must not be content with mere facts. Boundless as must be his gratitude to the great thinkers of the historic school, he must be suspicious of any direct light that the past is said to throw on problems of the present. He must stand fast by the more laborious plan of interrogating facts in order to learn the manner of action of causes singly and in combination, applying this knowledge to build up the organon of economic theory, and then making use of the aid of the organon in dealing with the economic side of social problems. He will thus work in the light of facts, but the light will not be thrown directly, it will be reflected and concentrated by science....