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JOURNAL
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DECEMBER, 1894.

The RELATIONS between MORALS, ECONOMICS, and STATISTICS.

INAUGURAL ADDRESS of the RIGHT HON. LORD FARRER, PRESIDENT
of the ROYAL STATISTICAL SOCIETY. Session 1894-95. DELIVERED
20th November, 1894.

YOU are members of a Society whose business it is to collect facts rather than to discuss theories, and it is possibly on this account that you have conferred the honour of being your President on one, who, brought up at the feet of Cobden, Peel, and Bagehot, rather than of Mill and Ricardo, has learnt his most useful lessons from practical economists and statisticians; but who has often found in the narrow premises, the *à priori* reasonings and the absolute conclusions of what used to be termed the orthodox school of political economy, not so much a help as a stumbling block; one, who now finds even less comfort in the ambitious schemes which seek to establish a so-called Science of Humanity—schemes which scarcely recognise the value of any economic truth unless it can be fitted into its proper niche in that cloud-built temple; one, who fails to grasp the shadowy outline of the young giant now struggling into existence under the name of Sociology; one, finally, who finds least help or comfort of all in that branch of the new school which, having first appropriated to itself the title of Socialism, is now known under the less attractive name of Collectivism, and which, whilst rivalling the most dogmatic of the old economists in its *à priori* methods and in its absolute conclusions, founds those conclusions on premises less true and on reasonings less accurate than theirs were.

To your present President it seems that in those branches of knowledge with which your Society is concerned, those branches, namely, which are concerned with human actions and dealings, we are, as in the case of other branches of knowledge, creatures trying with feeble vision to see ever a little and a little more into the surrounding atmosphere of darkness—children picking up pebbles on the shore, and happy, if by means such as your Society affords, we can only pick up some of the right pebbles.

But whilst thus abjuring *à priori* methods and artificial systems, it is desirable to keep before our minds what are the special tasks we are undertaking, and what relation they bear to other departments of human thought and activity. These tasks consist in finding materials and methods for the moralist, the reformer, and the statesman. Human action is a concrete thing, and when, for the purpose of understanding it the better, we analyse the various motives from which men act and the consequences of their actions, the several parts or branches to which our analysis leads are not *in rerum naturâ* separate and independent entities, but essential parts of one organic whole. The mental attitudes to which we give such names as religion, emotion, affection, prudence, self interest, regard for others, are in each human act which they affect as inextricably intertwined as the strands of a rope. No act of legislation or statesmanship, no matter of ordinary business, no act or habit of family life, is the result of any one of these factors singly; and any practical view of any department of life, from a sermon to a joint company report, which is founded on one of them to the entire exclusion of the rest, would be found to be intolerably incomplete and one-sided.

At the same time, for the purpose of getting clearer views we find it necessary to untwist the rope, to take human action and its motives to pieces, and to regard each strand or piece as if it existed by itself. In fact we perform a sort of mental or spiritual dissection, and investigate the various motives and effects of human action, as a physiologist dissects and investigates the muscles and nerves of the body. It is only natural that in a process of this kind each investigator, intent on his own particular part of the subject, should occasionally lose sense of perspective and proportion, and that an admiring school of pupils should elevate into an absolute whole what is only true of a part, and that only when it is kept in due relation to other parts.

This has, I think, been the case with Political Economy. It has been taken to be much more than it is; more than it can claim to be. Whether this be so or not, there can be no doubt of the fact that there has been a great revolt against it. The science which in our youth we were taught to accept almost as a revelation, seems to be in danger of being swallowed up by the somewhat amorphous entity which claims the title of Sociology or Social Science. It would be superfluous in addressing my present audience to attempt to trace the history of this change of opinion, and I will only illustrate it by comparing with the present state of thought on the subject the observation of one of the best read economists and one of the clearest headed men I ever knew, who said to me not many years ago, "We have settled almost

"all economical problems, but the land question still remains "unsettled, and is a reproach to our science." His saying seems to me now like an echo out of a by-gone world. Compare with this the extremely interesting address given by Mr. Goschen to the British Economic Association in June of last year.¹ To men whose remembrance extends back fifty years that address was very affecting. It recognised in the fullest way the breach between the old dogmatic political economy and modern thought and feeling; it treated the breach as one between economics and ethics, and it endeavoured to bridge the gap. To my mind it was too apologetic. It almost admitted that political economy might be in conflict with moral sentiment, and defended economical science on the ground that it really was, in the hands of those who understood it, a longer sighted form of ethics, looking to ultimate results which can only be judged of by reasoning, rather than to immediate results which appeal directly to feeling. It instanced, if I remember right, the way in which economical thought corrects the charitable impulse to give to a beggar, and justified political economy by its ultimate satisfaction of the moral sense. It treated ethics and economics as if they were on the same plane, and as if the problem were to draw accurately the boundary line between them. Now I venture to think that if we are to analyse and distinguish at all, this is not the true principle of distinction. It seems to me that whatever may be said of sociology or social science, and however strong may be the links by which that science, if there be such a science, connects ethics and economics, yet that in the present state of our knowledge ethics and economics are on a different plane, and that they cannot conflict because they never meet.

Ethics, as it seems to me, is the science and art of duty, that branch of human thought and feeling which, as a science, investigates the source and meaning of our conceptions of duty, and as an art teaches what we ought to do, or at any rate what we ought to aim at. Economic science, on the other hand, has nothing to do with duty. It is not an art; it is not a code or system of laws. It is the branch of human knowledge which treats of the manner in which material wealth, or the titles which give a claim to material wealth, are produced and consumed or distributed; it endeavours to ascertain the laws and conditions under which this production and consumption or distribution takes place; and it points out that a certain course of action will have such and such effects on production, consumption, and distribution. It does not profess to give an aim or object; it simply states certain general conclusions concerning the effects on wealth which will be produced

¹ See "Economic Journal" of September, 1893.

by any given set of circumstances or any given course of action. Ethics, in short, teach us what we ought to do in all spheres of conduct; economics teach us what can and what cannot be done in that large sphere of human conduct which relates to wealth.

Take the simplest cases. It is within the province of economics to tell us that men and families and nations who are weak and lazy are likely to starve. It is for ethics to tell us that such starvation will serve them right. It is for political economy to tell us that good work is not to be expected without good wages. It is for ethics to tell us that it is the duty of the employer to give adequate remuneration to those in his employ. I have referred above to the case of charitable gifts, as an instance in which there may be said to be an apparent conflict between ethics and economy. In this case the economist points out that the result of indiscriminate almsgiving is to sap self-reliance, to reward the idle, and in the end to increase poverty. It is for moral science to say whether these results outweigh the indulgence of a kindly feeling and the relief of an immediate want.

To come to the problems which are at present stirring society. Ethical science teaches the old moral of Dives and Lazarus—that the goods of this world are unequally divided, and that it should be our aim to procure for the poor a larger share of them. Economics teach, or ought to teach us, whether the present arrangements are calculated to effect this object; whether any given change in them will promote it more effectually; or whether any such change may, by checking enterprise, make the aggregate production smaller than it is, and thus diminish the consumption both of rich and poor. Morality will be in favour of a living wage, if by that we mean sufficient to enable the workman to live in decency and comfort; but if economical science proves that such a wage cannot be earned without destroying the trade which pays it, morality will find it out of her power to give such a wage, unless she can perform the miracle of the loaves and fishes. The moralist very properly condemns sweating; but if the economist proves to him that no one is earning excessive profits, and that with higher wages the business will cease, the moralist will be driven to choose between the terrible but unavoidable alternatives of sweating and of starvation. Ethics is of the heavens, heavenly; and political economy has been termed the Dismal Science. But there is another side to the picture. The divine discontent of ethics with human misery may, if unchastened by accurate thought and unrestrained by fear of consequences, degenerate into despair, producing, not only general bankruptcy, but cataclysms such as the Peasants' Revolt or the French Revolution. And on the other hand it may, perhaps, be possible for political economy to show

that, underlying the surface of human inequality and of too frequent want, there are laws silently operating which are constantly increasing the aggregate product of human industry, and giving a larger and ever larger proportion of those increased products to the humblest workers.

Ethics appeal to the highest part of man's nature, to his conscience, his emotions, his affections; and if they seek the aid of the intellect they do so for the purpose of harmonising the action of these motive powers and giving them their fullest effect. The business of Economic Science is purely intellectual; it draws general conclusions from given premises, and teaches what will be the probable result on wealth of any given set of external conditions or of any particular course of human action. In one sense Economic Science is the handmaid of Morals and of Politics, for it helps them to the means by which their ends may be attained. In another sense it limits their scope of action, by showing that the ends which they seek to attain cannot be attained at all, or cannot be attained except under certain conditions. It gives, if and so far as it can be trusted, to the statesman, the philanthropist, or the reformer the same sort of help which the knowledge of navigation does to the mariner.

But, alas! the help and guidance given by Economic Science to the politician have hitherto proved far less trustworthy than those given by physical science to the navigator. Its chart and its compass have often been found at fault, and its so-called laws have too often proved to be not only obscure but absolutely erroneous. It has too often claimed for its conclusions the authority of an universal law, where subsequent experience has proved the supposed law to be not only partial and inadequate, but false; and not only false, but mischievous. Few people will be found now to maintain in their integrity the theories of rent, of value, of wages, of population, and of prices which at one time prevailed. Even the principle of Freedom of Contract has been carried too far, and applied, as an absolute dogma, to cases where no freedom exists; the consequence of which is that at the present moment there is a sentimental and unhealthy reaction against this wholesome and invigorating doctrine. These changes in opinion and the reasons for them have been so often and so well stated that I should not now recur to them if they did not illustrate a point on which I wish to insist to-night, viz., the connection between economical philosophy and the business of this Society. From this point of view it is instructive to consider how it has happened that the theories I have referred to have ceased to command our assent.

The theory of rent has no doubt an element of truth in it.

Land is limited in quantity, and the land which is most in demand commands the largest—sometimes an extremely large—rent, as we still see in our towns. But a formula which seeks to express rent generally in the terms of the comparative fertility of different soils, without regard to habit, situation, transport, use for other purposes, and a variety of other circumstances, leads to conclusions which are so much at variance with actual facts as to make the formula useless for practical purposes. Consequently it has been laid aside, and the facts and circumstances which have led to this result are such facts as it is the business of statistical science to provide.

The theory of value which makes all value depend on labour or cost of production has also no doubt an element of truth. There are certain things the value of which does tend towards and oscillate round the cost of production and the labour employed on them. But there are many other things the value of which has nothing to do with labour or cost of production, and these cases lead to the conclusion that the relation which we call value depends simply on supply and demand, or, in other words, that the value of a thing is what we can get for it. The old theory has consequently been discredited—not without doing much mischief; and the means by which it has been discredited are again facts such as it is the business of statistical science to furnish.

The theory of wages again—the iron law of the socialists—the theory according to which the wages of labour must be forced down to the lowest margin of subsistence, whilst the surplus profit must go to the rent owner and the capitalist, a theory which has done as much mischief as any false doctrine by which men have ever been perplexed and tormented—has been disproved, not so much by *à priori* considerations concerning the nature of labour and its difference from other commodities, as by the actual statistics of wages, which, imperfect as they still are, show that with improvements in production and transport the demand for skilled labour increases, that the general standard of living rises, and that both in real and nominal wages labour, unskilled as well as skilled, gets a proportionately increased share of an increased product.

Take again Malthus's celebrated theory of population. That theory was founded on statistical evidence which, we are informed, was as good and as accurate a representation of the then known existing facts as it was at the time possible to procure. The theory has still an element of truth in it, as we may see in the condition of some of our crowded cities, in Ireland, and, as some competent judges tell us, of India; and, if other things had remained as they were when Malthus wrote, it is probable that

his views would still have had a general or universal application. Even now we cannot say that it may not prove true in the future. But so far as the greater part of the civilised world is concerned, not only has population not increased faster than food, but the reverse is the case, and the complaint now is that the supply of food, at any rate of wheat, is in excess of the demand. The mistake here lies, not in founding a theory on a supposed tendency of human nature, but in an insufficient induction—in supposing that a generalisation founded on the facts of one period would be good for all periods. The lesson to be learnt from it, so far as statistics are concerned, is that it is not safe to base a permanent conclusion on the facts of any one place or time collected once for all; but that observation of facts, to be permanently useful, must be continuous, and that the conclusions to be drawn from such observations must be open to question and revision as the facts alter. There is no finality in statistics any more than in any other branch of knowledge.

The quantitative theory of money and prices furnishes another illustration. There is a notion still, I am sorry to say, prevalent in many quarters, that since coined money is the nominal medium of exchange, and is actually in some cases given in exchange, therefore prices of all articles depend on the quantity of coined money available for the purpose. This theory may have had some foundation in fact at a time, if ever there was such a time, when coined money was actually used and given in exchange on every sale and purchase. It has long ceased to be generally true, and has become absolutely false and mischievous at the present time, when the great bulk of sales and purchases are carried on without any coin at all, and when the trade of a country may be doubled without the need for an additional sovereign. The real weapon with which to defeat this fallacy is to be found in the facts of modern business and in the statistics of trade, of banking, of credit operations, of gold reserves, and of the rate of discount.²

The examination of these cases leads to the conclusion that the greatest mistakes which economists have made might have been avoided, if they had relied less on *à priori* reasoning, and had paid greater attention to the facts of human society which it is the business of Statistical Science to furnish. It leads to the further conclusion that as human society is a living and changing

² To those who wish to understand this subject I would strongly recommend the works of H. D. Macleod on Credit and Banking, which do not seem to me to have received the attention they deserve from English Economists. I mention them the rather in this place, because, though to my mind far too dogmatic and absolute in form, they contain in substance a much more complete and accurate analysis of the actual operations of men of business than I find in ordinary works of Political Economy.

organism, and not a dead stereotyped crystal, these facts must be continually observed, collected and compared, and that the conclusions of an earlier experience must be modified to suit the ever-changing circumstances of the world.

In physics experiment is the test of truth. No hypothesis, however brilliant and probable, is allowed to rank as more than an hypothesis until it has been verified by experiment—indeed we may say that without patient and repeated experiment no advance in physical science is possible. In the case of economical science we cannot perform experiments as we can in the laboratory; but we can observe the experiments which society is making, and we can generalise from the results. These results are for the most part recorded in statistics; and we may therefore look upon accurate and properly selected statistics as the experimental test of economical hypothesis. Unless a generalisation has been founded on an adequate record of facts, and unless it will bear the test of comparison with facts, as recorded in statistics, it has no right to claim the title of a scientific truth.

But there is another side to the question. If economic hypothesis is incomplete without statistics, statistics are meaningless without an hypothesis. There is no use in collecting facts at random. Unless we can draw some general inference from them, masses of figures are useless, and in order to collect them properly we ought to know what sort of inferences we expect to draw. If we are to interrogate the facts of human society successfully, we must know how to put the question. How often—when anxious to test some assumption or generalisation by recorded facts—have we not all of us been disgusted by finding a mass of figures so collected as to be incapable of comparison with one another; so ill-digested as to bring out no result; or so ill-selected as to miss the very point we wished to ascertain! If therefore economic science must be incomplete without statistics, statistics are unmeaning and useless unless selected and digested by economical science. In fact, statistics do not really constitute a separate science; Statistics of National Wealth and Political Economy are not two different sciences, but different parts of one science, and neither of them can exist to any useful purpose without the other.

I have spoken above of Economical Science because many, probably most, of our statistics relate to subjects which specially concern that science. But what is true of the relations between Statistics and Economical Science is also true of the relations between Statistics and other sciences, such as the science of health, of jurisprudence, &c. My point is that statistics ought not to be regarded as a separate branch of knowledge, but as part of the science of the subject to which they relate.

I admit, of course, that there may be methods and forms of stating and digesting facts and figures which are common to the statistics of different subjects ; and we may if we please give to a knowledge of these methods and forms the name of Statistical Science. But I venture to think that human nature would soon revolt against a meal composed of such dry bones ; and that they would form a poor foundation for any journal or for any society. As a matter of fact the ordinary publications of this Society and of statisticians in general are not those which discuss the mechanism of their figures, but those which array the figures so as to bring out results.

The functions of such a Society as this are therefore to find materials for political economy and other kindred sciences. Their scope is in one sense enlarged, and in another restricted by the fact that those classes of statistics which experience has shown to be most important and most permanent, are, and must be collected by government departments. Such statistics are too vast to be collected by any private agency, and the government departments in the course of their ordinary business have means of collecting them which no private person or society possesses. But the statistical work done by the government, extended as it has been of late years, and further extended as it must be in the future, leaves and always will leave much to be done both by individuals and by societies such as this. There is for instance the function of criticising government work, and of making suggestions for its improvement. The danger in government work is that it may become sleepy, and that it may degenerate into routine. To stir up the government departments ; to find fault with defective methods ; to suggest additions and alterations which changed circumstances may require, is a duty which I believe this Society has discharged in the past, and which, as an old official, I trust they will discharge still more vigorously in the future. As an instance of such criticism I may mention the recent paper by your Assistant Secretary on the mode of taking the census.

But besides this function, there are others which can rarely if ever be discharged by government departments, and which must be left to individual research, fostered perhaps or directed by such an organisation as this Society. There are investigations which, from their novelty, or from their comparative uncertainty, must in the first instance at any rate be undertaken by private observers, who have convinced themselves of their importance, and who, either from a scientific love of truth, or from a desire to advance the interests of society, are willing to bestow time and labour in bringing them into public notice.

The first illustration which will occur to us all is the monu-

mental inquiry conducted by your late President concerning the condition of the poor of London, an inquiry which has the remarkable peculiarity that it appears to have been undertaken from a pure scientific and philanthropic interest in the subject. Other cases will occur to us all, amongst which I may mention Tooke's great history of prices, the price lists and index numbers of the "Economist" and of Mr. Sauerbeck, and, finally, but not least, Soetbeer's well known "Materials."³ I select these for mention not because there may not be other works of the kind of equal value, but because they happen to have come under my own recent observation. I mention them also for another reason, viz., because they illustrate a point on which I have insisted already, and to which I shall recur again, viz., that in order to make any useful statistical inquiry you must put a definite question. You must have some special point you are anxious to elucidate; or you must have some hypothesis or some conflicting hypotheses which you are anxious to test, to verify, or to disprove, not, of course, with a predetermination to get a particular answer, but with a clear prevision of the possible alternative answers. Tooke wished to ascertain to what extent currency had affected prices, and Sauerbeck and Soetbeer probably had the practical gold and silver question in view when they undertook their laborious investigations. Without a distinct intellectual objective no valuable truth can be attained.

Again, there is another class of discussion which is eminently inappropriate to a public department and appropriate to such a Society as this, discussions, viz., of the meaning and bearing of the facts supplied by statistics on the condition of the people, and on the practical action which it may be desirable to take or abstain from taking in consequence. Discussions of this kind approach closely to the ordinary topics of politics, and are apt to assume a party character. They are therefore in general very properly eschewed by the permanent civil service of the Crown. But they are of first rate importance, and deserve all the aid such an institution as this can give. Let me mention as illustrations two papers, both of them originally read before this Society. The one is Mr. Newmarch's address to the Statistical Society contained in the *Journal* of June, 1878. In that address Mr. Newmarch examined exhaustively the trade statistics of the United Kingdom for a period of thirty years; he showed how, under a system of free imports, the productive power of the country had increased in spite of hostile tariffs and increasing foreign competition; he

³ *Materials for the Illustration and Criticism of the Economic Relations of the Precious Metals, and of the Currency Question.* By Ad. Soetbeer. Translated in Appendix XVI to the Report of the Gold and Silver Commission.

answered the different objections to that system, and established, to the satisfaction of all reasonable men, that the policy which had been adopted by this country under the guidance of Sir R. Peel and his followers had been a practical success, and had answered the expectations of the philosophers and statesmen who advocated it.

My second illustration is the paper by Mr. Giffen on the "Use of Import and Export Statistics," read before the Statistical Society on 21st March, 1882, and contained in the *Journal* for June, 1882. It is re-published in the second volume of Mr. Giffen's "Essays on Finance," p. 132. At the time it was written alarm had been expressed, even by some intelligent free traders, about the excess of our imports over our exports, and it was apprehended that by the recall of our foreign investments we might be reducing and eating up our capital. Mr. Giffen, by a careful examination of statistics from different sources, and therefore confirming one another, disposed for ever of this chimera, and at the same time gave most valuable lessons as to the mode of using trade statistics.

A third investigation of the same kind may be found in some papers by the late Dr. Erwin Nasse, of Bonn, on the fall in the price of commodities during the fifteen years preceding 1888, and on the Report of the Gold and Silver Commission.⁴ In these papers he proved by a careful examination of the existing statistics and of the facts of contemporary history, that there were ample causes for the fall in prices of which we have heard so much, without any reference to currency or to the supposed scarcity of gold, a conclusion which at the present moment is one of great practical importance.

It is obvious that inquiries such as these cannot be conducted by a government office. It is, I think, no less obvious that they owe a great part of their value to the fact that both Mr. Newmarch and Mr. Giffen had very decided views on the subject of free trade, and that Dr. Nasse held equally strong views in favour of a gold standard, and that all of them, whilst using statistical figures with perfect fairness, had very distinct notions of the case they desired to prove. In other words, the scientific inquirer held in each case an hypothesis, or rather an opinion, which he was anxious to verify, and which he did verify by an appeal to the experimental evidence supplied by statistics.

The above are examples of useful investigation selected from the province of economics. How many more cases are there not even in the same province which would amply repay similar

⁴ They have, I fear, not been translated; but the originals will be found in Fischer's *Jahrbücher für National Oekonomie und Statistik*, Jena, 1888-89.

inquiry? I will mention three, because they have recently come under my own notice.

The first is the question of the gold and silver standards and of a metallic currency. How much have we not yet to learn! Notwithstanding all the labours of Soetbeer we are still in the dark about many important facts, and we are at loggerheads about conclusions. We do not know how much gold or silver there is in the world; what are the demands on it; what quantity of it is in use in currencies; how much is hoarded, and where, and for what purposes; or how much is used in the arts or for ornament. As to prices, we know the prices of a few wholesale commodities in the open markets of the world, and we have some imperfect statistics as to the price of labour. But there are whole regions of price of which we know nothing; and as to the relation of gold and silver to prices, or of money to prices, we not only know nothing accurately, but we are at variance as to the principles on which those relations should be investigated.

Take again the question, which is becoming more and more important every day, whether industrial enterprises can be better, more cheaply, and more efficiently conducted by private enterprise or by governments. We want to know what, if any, are the industrial enterprises which can be best undertaken by governments, local or municipal, acting solely in the public interest, and paying their extra expenditure out of taxes? and what are the industrial enterprises which can be best undertaken by private undertakers working in the expectation of profit? These are questions which open an immense field for statistical investigation. How much should we be advanced in practical statesmanship if we had accurate comparisons of the cost and efficiency of gas and water supply in the various towns of this and other countries which have adopted different methods; comparisons of the cost and efficiency of railways in this country and in America with those of railways in Germany, in Australia, and in other countries where they are more or less in the hands of governments; comparisons of the wages and work in government departments with those in private yards and factories, and other comparisons of the same kind? The magnitude and difficulty of such inquiries is only equalled by their importance, but they will have to be made if we are to have any foundation more certain than the *à priori* arguments with which individualists and collectivists now carry on the discussion.

Take again the numerous questions concerning the relief of the Poor which are now agitating society. How much have we not to learn in the shape of actual facts: of facts relating to Out-door relief, and its effects on Pauperism and on Wages; facts

relating to the Relief of the Aged as distinguished from the Able bodied; facts relating to Insurance against Accident and Illness in different countries; and other matters of the kind?

These are only some of the numerous questions awaiting solution in the region of pure economics; and if we were to add the other branches of knowledge which are needed for the aid of practical politics—health, education, crime, &c.—the list of subjects needing statistical investigation would be endless. Much as is being done by the State, the ultimate scope of statistics is as wide as human action, and will only find its limit in that infinitely distant vanishing point at which that ambitious upstart, Social Science, has attained completion. Indeed, my difference with Sociologists is one of name and of method rather than of ultimate scope. I dread a phrase which implies an edifice where we are only digging foundations, a phrase which is only too likely to encourage the deductive and absolute conclusions from which economic science has suffered so much already. Perhaps this is a senile apprehension; but the longer my experience the more deeply do I feel the truth of the saying of the great German: “In youth we dream of building palaces for men. In age we think ‘ourselves happy if we have removed from the ground a little of ‘the rubbish which others have laid upon it.’” Let us do our best to remove the rubbish carefully, and to see that what we do build has a foundation in experience.

It may be said that I am demanding more from Political Economy and from Statistics than human capacity is able to furnish; and this charge would be just if I were addressing a popular audience. No one is more alive than I am to the difficulty of making Statistics accurate, or to the innumerable dangers which beset the use of such facts and figures as we possess. But these are precisely the difficulties and dangers which it is the business of your Society to encounter and obviate. Nor is it to be supposed for a moment that human action, political or otherwise, is to be suspended until we have a complete and perfect science of political economy. We might as well refuse to call in a doctor, because the science of physiology is very far indeed from being complete. In this, as in all other spheres of human action, we must live and act by such lights as we have, imperfect as they may be. But in this room I am addressing a Society of experts, whose business it is not to act, but to advance knowledge; and in addressing them I cannot be wrong in pointing out the danger of assuming hypothesis to be knowledge, and the necessity of long and patient investigation if we wish to attain positive and valuable truth.

Allow me to recapitulate the results of what I have said,

results for which the only claim I make is that they are in accordance with the principles by which other branches of human knowledge and learning have found true advancement.

From Ethics or Morals we learn what ends to aim at, and in what spirit to strive for them. But Ethics need the guide of accurate knowledge in order to judge what means will be effectual in attaining these ends. Economic Science is one branch of such knowledge, and like other sciences proceeds by hypothesis and experiment—hypothesis derived from analogy, from past experience, or from the known qualities of human nature; experiment, consisting of observation of facts, the most important form of which are statistics. If this be a sound analysis, economic science can never conflict with morals, since they are on a different plane; and statistics ought not to be divorced from economical hypothesis, since they form part of one science.

I will end by touching on a point on which I speak with much hesitation. A new society has been recently started, called the British Economic Association, and a new journal, called the "Economic Journal." Is there room for this new Association and for the "Economic Journal," apart from this Society and its Journal? Might they not, according to the suggestions I have made in this paper, advantageously form one body? Ought not those who propose the questions be the same persons who collect and digest the experiments? Ought statistics to be separated from economic science? Is it not possible that if the two Societies or the two journals were brought together, that the plan of their operations might be more philosophical and their united labours more successful in attracting public favour than they are now? In raising such a point I feel that I may be treading on dangerous ground. The suggestion is entirely my own, and arises simply out of the considerations I have laid before you. I feel that my knowledge of your business is insufficient to justify me in forming a definite opinion; and if in throwing out the hint I am exceeding the proper limits of a Presidential Address, I can only appeal to your lenient judgments. Indeed, if I may be allowed an egotistic word before sitting down, it is to say that if it had not been for the pressure of kind friends I should never have undertaken to inflict this paper upon you, and that in writing it I have, I fear, only added a few leaves to the pile of economic speculation for which I have in truth little taste and still less capacity.