

## OF QUANTITY AND QUALITY

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*(Read before the Society 15th May 1986)*

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I should like first of all to express and put on record my gratitude to the Council and members of the Society for the honour which they conferred on me by electing me to the Presidency and for the help and support which they have given me during my tenure of the office

In that connection my particular thanks are due to my predecessor, Professor Robert O'Connor, and I am glad to couple with them my personal tribute to the value of the contributions which he has made to the proceedings of this Society over the past thirty-eight years. They are significant contributions to an area which has always been, and seems likely always to remain, central to the work of the Society - statistical studies related to the economic problems of Irish agriculture - and the wisdom of the Society in deciding to have such a contributor as its President is evident

It is very much less evident why the Society should wish to have as its President someone like myself, whose research has been mainly concerned with the history of ideas and the often elusive relationships between theory and policy in Economics. As another of my distinguished predecessors, the late Professor George O'Brien, said in his Presidential Address, "if the sole purpose of the work of the Society were statistical investigation, I would be completely unqualified to preside over its meetings. It is possible, however, to slip in under the second part of our title" (O'Brien, 1942, p 1). Having slipped in by that route I hope I may be able, as another historically-minded economist, to say something which may prove to be of interest not only in relation to the past history of the

Society, but also to its future development. Let me try to explain just how

In the social sciences generally, and in Economics in particular, one of the perennial themes of debate has been the merits and demerits of mathematical and statistical methods on the one hand and literary, philosophical and historical methods on the other. At the cost of some sacrifice of accuracy to brevity, I shall henceforth refer to the advocates and practitioners of the former approach as the quantifiers, and of the latter approach as the qualifiers.

I am sure you are all well aware that our Society has numbered distinguished representatives of both these types of its members during its long history, but you may be less familiar with the part which they, and the Society, played in some of the major methodological debates of the past. So for me to recall something of those debates may, I hope, not merely enable us to understand a little more about how we have arrived at our present position but also perhaps help to inform and stimulate discussion about the directions we might take in the future.

In most aspects of social science nowadays, quantifiers can be fairly clearly divided into two classes - theorists and applied scientists. It should come as no surprise to anyone in this audience to hear that in its foundation and early days our Society numbered few if any quantitatively-minded theorists among its contributors, for both statistical theory and mathematical economics were then in their infancy. The Shorter Oxford English Dictionary reminds us that the term statistics, "construed as singular", meant in early usage "that branch of political science dealing with the collection, classification and discussion of facts bearing on the condition of a state or community" (3rd ed., Vol II, p. 2114). Although even as late as 1842 J. R. McCullagh cautioned his readers against the idea "that everything in statistics may be estimated in figures" (quoted in Cullen, 1975, p. 11), this approach did for the most part imply some degree of quantification, but of an essentially empirical kind. It was fact-gathering with the facts expressed in figures, or what Bowley was later to call "the arithmetical side of statistics" (1906,

reprint 1962, p 201)

Clearly for any applied scientist such fact-gathering is basic to his research and much, perhaps everything, depends on the skill and accuracy with which it is done - mostly, nowadays, by official agencies of one sort or another. Historians of statistics have taught us to look upon the second quarter of the nineteenth century - the period in which our own Society was founded - as a special "era of enthusiasm" for collecting social statistics, in which government statistical bureaux as well as private statistical societies were established in many countries and the range of official statistics grew greatly (cf Cullen, 1975, passim, Westergaard, 1932, chap XIII)

Among those who directed the work of such early official statistical institutions were some inspired quantifiers whose names have an honoured place in the history of applied statistics - men such as William Farr in Britain and Adolphe Quetelet in Belgium. If Ireland at that time had perhaps no one of quite that stature, it did nevertheless witness a great increase in both the quantity and the quality of its official statistics, and this was in large measure the result of the work of one man, Thomas A Larcom (1801-1879)

Larcom was one of that remarkable body of Royal Engineers officers who were responsible for compiling the first Ordnance Survey of Ireland. As his commanding officer explained

the organisation framed for carrying on the Survey affording means for collecting and methodizing facts, which were never likely to recur, Lieutenant Larcom conceived the idea that with such opportunities, a small additional cost would enable him, without retarding the execution of the maps, to draw together a work embracing every species of local information relating to Ireland. He submitted this idea to me, and I obtained the sanction of the Irish Government for carrying it into effect. (Colby, 1837, p 6)

The first results showed a social survey outstanding in

its scope and detailed accuracy, but unfortunately the "small additional cost" involved proved too much for the Irish Government of the day, and only one volume was ever published. Larcom, however, went on to become among many other things, a Commissioner of the Census for 1841. The 1841 Census of Ireland, the last to be taken before the Famine, has come to be known to historians as "the great Census". It was Larcom who made it that, introducing, for example, the classification of occupations, subsequently followed in England and elsewhere. The collection of Irish agricultural statistics which began in 1847, and for which a permanent branch of the Registrar General's department was formed, was also the result of a plan developed by Larcom. An applied quantifier par excellence, Larcom was one of the founder members, in 1847, of the Dublin Statistical Society. Out of which our present Society grew. He thus inaugurated a connection with the official statisticians of the country which the Society has been fortunate to maintain throughout almost one hundred and forty years and which has always been one of its great strengths.

The Society was founded with the object of promoting "the study of Statistical and Economical Science". Larcom was undoubtedly the outstanding local representative of the practising statistician at the time, but the Society included among its early members quite a number of economists who had made or were making an international reputation in the field of "Economical Science". Among them was John Elliot Cairnes, the friend and disciple of John Stuart Mill and author of the definitive statement and defence of the deductive method of analysis employed by all the classical economists (Cairnes, 1857).

In later years that method came to seem increasingly sterile to many, and in the 1870s the question of how it was to be reformed or replaced came to be widely and strongly debated. One line of argument which gained considerable support at that period was that the deductive analytical approach of classical political economy should be wholly replaced by historical and comparative studies of the type which had come to be dominant in Germany. To English readers the best-known and most respected advocates of this view came to be T. E. Cliffe Leslie (1826-1882) and John Kells Ingram (1823-1907), both Irishmen and both members of

this Society

Although Cliffe Leslie read four papers to the Society between 1851 and 1855, mainly on labour questions, his reputation as an advocate of the historical method was based on articles written some twenty years later, when he was mainly resident in London. But what came to be considered one of the best statements of the case for that method was made by John Kells Ingram in his Presidential Address to the Society, meeting jointly with the Economic Science and Statistics Section of the British Association for the Advancement of Science, in 1878. Ingram was a committed disciple of the French philosopher and visionary, Auguste Comte, and as such he held that political economy must become part of a wider integrated study of society - for which Comte had invented the name of Sociology - whose methodology must be inductive and historical. "There is", Ingram contended, "no more important philosophical theorem than this that the nature of a social fact of any degree of complexity cannot be understood apart from its history". For him sociology was "the most difficult of all the sciences, because it is that in which the phenomena dealt with are the most complex. It presides in fact over the whole intellectual system - an office which some, mistaking the foundation for the crown of the edifice, have claimed for Mathematics" (Ingram, 1878, p 5)

It is perhaps worth emphasising that this view was not the result of any lack of ability on Ingram's part to cope with mathematical methods. He was as much at home with mathematics as he was with classics (and he held the Regius Professorship of Greek at Trinity College), but Ingram's appreciation of the complex interaction of social phenomena had led him to feel that they could not be adequately portrayed by quantitative methods alone.

Not surprisingly, but rather unfortunately for the President of a Statistical Society, Ingram also held that "it is impossible to vindicate for Statistics the character of a science, they constitute only one of the aids or adminicula of science". In support of this position he argued that "the ascertainment and systematic arrangement of numerical facts is useful in many branches of research, but, till law emerges, there is no science, and the law, when it

does emerge, takes place in the science whose function it is to deal with the particular class of phenomena to which the facts belong " (ibid, p 27)

Thus one of the most widely-acclaimed addresses ever given before this Statistical Society was one which proclaimed the superiority of the qualitative over the quantitative approach in social science. Yet there remains still another ironical twist to this particular piece of history, for among the papers presented to the joint meeting of our Society and the British Association over which Ingram presided in August 1878 was one by a recently-elected Honorary Member of the Society - Professor W Stanley Jevons

It was Jevons who in his Theory of Political Economy in 1871 has, as Keynes was later to put it, "flicked his ideas in the face of the world" - and told the world that "Economics, if it is to be a science at all, must be a mathematical science. Our science must be mathematical, simply because it deals with quantities " (Jevons, 1871, 1970 ed, p 78) It was Jevons also who in the Preface to the second edition of his Theory in 1879 was to write respectfully about Ingram's "masterly address" as well as about Cliffe Leslie's criticisms of the deductive method - but then to add "as regards the fate of the deductive method, I disagree altogether with my friend Mr Leslie, he is in favour of simple deletion, I am for thorough reform and reconstruction " (Jevons, 1978, 1970 ed, p 49)

In 1878 Jevons was already heavily engaged in that work of reconstruction, which involved building both a foundation of mathematical theory and a superstructure of applied studies, using - and sometimes inventing - the tools of statistical method where appropriate. Now, as Stephen Stigler has recently shown, Jevons was not only an economic theorist of the first rank, but also a statistician of no mean order. "He had a keen empirical curiosity and the perseverance needed for the evaluation of large masses of data. And perhaps more importantly, he had a bold and original cast of mind that could allow him to throw off constraints of past methodology and strike out in new directions " (Stigler, 1982, pp 355-356)

The paper which Jevons sent to the joint meeting of the Statistical and Social Inquiry Society and the British Association in Dublin in August 1878 affords a striking example of his readiness to try out a bold hypothesis in the interpretation of large masses of data. It was entitled "The Periodicity of Commercial Crises and its Physical Explanation" and in it Jevons for the first time suggested that the decennial period of the trade cycle could be linked with the established decennial periodicity of sun-spot activity, not directly, but indirectly through the effect of sun-spots on the climate of India. W W Hunter, Director-General of the Statistical Department of the Government of India had argued that Indian famines recurred at intervals of about ten years, and J C Ollerenshaw in a communication to the Manchester Statistical Society in 1870 contended "that the secret of good trade in Lancashire is the low price of rice and other grain in India". Now according to Jevons "it might seem that Tenterden Church steeple and the Goodwin Sands are not more remotely connected than the cotton-mills of Lancashire, the paddy-fields of India, and the spots on the sun, yet the connection is obvious when we carefully trace it out. The depressed trade of Lancashire at the present time is generally attributed to the slackness of the export trade to India, which is due to the scarcity of food in many parts of that country, this scarcity absorbing the whole earnings of the poorer classes" (Jevons, 1878, p 341)

It has long since come to be generally accepted that this was one occasion on which Jevons's enthusiasm for a novel idea overcame his usually sound instincts in the handling of statistical material. Nevertheless it has recently won a verdict from a modern monetary theorist which seems worth quoting

this much ridiculed doctrine rested not just on some perhaps farfetched evidence of correlation, but on acute observation of the role of investment and credit market fluctuations in imparting an apparently decennial rhythm to the pace of business activity and to the accompanying time path of prices in Britain, and on a well articulated account of the link between British markets and an external source of disturbance in the shape of the

Indian harvest which also seemed to fluctuate with a decennial rhythm. On the strength of this work, Jevons deserves more credit than he is usually given as a pioneer of the empirical study of the business cycle (Laidler, 1982, p 345)

In fact the papers by Ingram and Jevons, both presented to the Society within the same week, were both of outstanding quality, but the contrast between them could scarcely have been more marked. No clearer, sharper demonstration could well have been given of the difference between the qualitative and the quantitative approaches to the study of social science.

In later years the Society continued to draw contributions from both quantifiers and qualifiers. Among them were quantifiers like John Hooper, the first Director of Statistics of what was then the Irish Free State, who combined ability in mathematical statistics with skill and common sense in the collection and compilation of official statistics, and qualifiers like D A Chart, who was among the pioneers in introducing the discipline of economic history in Ireland.

When I first joined the Society forty-two years ago the qualifiers were ably represented by the then President, George O'Brien, and the quantifiers equally ably by his successor, Roy Geary. I count myself fortunate to have known both of them personally and I hope I have profited by the example of learning and scholarship which, in their different ways, each set. Yet historical perspective requires a long view and it may be only as the years go on that the Society will fully appreciate the value of the contribution which these men made to it, as part of their wider contribution to Irish life in the twentieth century.

For my purpose here it must suffice to remind you very briefly of the distinctive approach of each to their own subject. It will hardly be disputed, I think, that Roy Geary was one of the best mathematical statisticians which Ireland ever produced, and perhaps even the best. Yet "while he took great delight in mathematics as an art form, he had no use for mathematics in statistics or economics unless clearly relevant to a statistical or economic

problem" (Spencer, 1983, p 163) His work was a "rare blend of high theory, common sense and feel for real problems" (Spencer, 1976, p 240)

George O'Brien, like many Irish economists before him, had come to the subject through law and history. The way in which this coloured his approach was well indicated by the title of his 1942 Presidential Address to this Society - "Economic Relativity" - and by the summary with which he himself ended it -

Generalisations in the social sciences are necessarily of limited validity. Observation is subjective and frequently biased and the application of statistical methods presents peculiar difficulties. Many of the assumptions become invalid with the passage of time, and changing hypotheses call for revised conclusions (1942, p 32)

Now, from what I remember of them, I am pretty confident that George O'Brien did not under-rate the importance of quantitative data for economic analysis, and that Roy Geary did not under-rate the significance of history for the proper interpretation of economic statistics. But with such differing emphasis in their approach to their subjects they often enlivened discussions at this Society by joining battle on questions of methodology. So it was fairly typical when Roy Geary, proposing the vote of thanks to George O'Brien for his Presidential Address, declared "I shall now simply state that I disagree with almost every word of the paper from the words 'The place' on page 5 to the word 'revision' on page 11" (1942, p 33). It need hardly be explained that the words "The place" were followed by the words "of statistics in economic inquiries" and this was the topic on which George O'Brien dwelt until the point indicated on page 11.

In dealing with it he did indeed stress the "serious limitations on the utility of statistical methods in the study of economics" pointing out that "These limitations arise from the essential difference between the physical and the social sciences, which renders inappropriate to the point of danger the application to the latter of methods

suitable to the former Professor O'Brien nevertheless emphasised that "the existence of such limitations is not a reason for rejecting statistical methods in their entirety" and urged that "the closest contact should be maintained between the statistician and the economist" Still the implication was that the purpose of statistics would always be to serve the economist for "they can never replace or dethrone the method of deductive analysis on which economic theory has been constructed" (1942, pp 8 and 9)

Since those days economists have come to place much greater emphasis on the use of quantitative methods within Economics itself, and to accept more fully the point which Roy Geary made, that Economics can only become a science "when the phenomena pertaining to it are measured" But in recent years we have again witnessed a reaction from this view with some leading economists - Leontief, Worswick and Phelps-Brown among others - expressing their dissatisfaction with the limited benefits in terms of relevance and predictive power which "the quantitative revolution" has brought to their subject, and praising the virtues of a study of history for economists

It must surely be clear that while quantification has proceeded further in Economics perhaps than in any other social science, precisely because it is a social science with human behaviour as its subject matter there must always be aspects of the problems with which it deals which can only be handled qualitatively It is then perfectly true, but extremely trite, to say that the proper method for Economics, along with every other social science must be a mixture of the quantitative and the qualitative The fact is that most practitioners of the social sciences are by inclination either quantifiers or qualifiers and as the complexity of their subject matter grows it becomes more and more difficult for them to be both It is all too easy, for example, to advise students of Economics that they ought to know a great deal of quantitative methods and a great deal of history as well, but where are they to find the time to acquire the knowledge? It is much harder to be a polymath now that it was in Ingram's day and naturally there are few to be found

There is no ready solution to hand for this problem, but in the present context it may be worth pointing out that what cannot be achieved by individuals can sometimes be achieved by groups. It is a commonplace now to say that specialisation in the social sciences has gone too far, and to stress the need for more inter-disciplinary work and co-operation. In that respect the very nature of our Society, which, as I have tried to illustrate, has always been broad enough to encompass both quantifiers and qualifiers, may prove to be an asset which we have not fully exploited.

It is sometimes hinted that we are a rather old-fashioned body - a curious survival of that Victorian middle-class enthusiasm for social reform which historians have amply documented. Our Society today has the same declared object as it had a century ago - the "promotion of the study of Statistics, Jurisprudence, and Social and Economic Science" but we no longer divide our business into sections as was then the case - rather the reverse of what has happened in some similar societies.

Let me suggest that it is time we looked at this state of affairs positively rather than negatively. In the present state of the social sciences it seems very likely that the trend which has long been noticeable, towards greater specialisation and sub-division - of societies among other things - will not persist. If that proves to be the case, then a Society like ours with wide objects is very well placed to take advantage of the change. It should be able to provide a forum in which a variety of social scientists practising both quantitative and qualitative approaches can meet and by trying to communicate, transcend the boundaries of their narrow specialities. As such it could prove to be a take-off point for inter-disciplinary work.

In trying to provide such a forum, we may need to be both flexible and innovative in the form of meetings we promote. The format we have long used has been that of a paper followed by discussion, and more recently that of a symposium devoted to a topic of current interest. The symposium approach has served us well, and no doubt will continue to do so, while in recent years we have

demonstrated our willingness to provide an outlet for papers on topics ranging from statistical theory to economic and social policy I hope we shall continue to do that also, but there are other possibilities which seem worth consideration

For example, we have not made much use recently of Law 20, which provides that "The Council may elect special committees of the Society for promoting the investigation of any particular subject The result of such investigation may be laid before the Society in such form as the Council may direct" There are interesting possibilities for the promotion of group work here Such committees might prove able to draw on the academic, administrative and business expertise of members who perhaps cannot find the time to be the sole authors of full papers Should there be a need to try other methods, Law 16 provides that "The Society shall also engage in such other activities as in the opinion of the Members tend to promote its object", which surely provides flexibility enough

With a scope of activities and a wide range of interests and talents among its members, the Society has promoted its objects since 1847 Since it still possesses those advantages I see no reason why the 150th anniversary of its foundation should not find it promoting statistical and social inquiry, in new ways perhaps but still in both quality and quantity

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*K A Kennedy* I am very pleased that Professor Black has continued the tradition, re-established three years ago by Professor O'Connor, whereby the President of the Society delivers a presidential address during his tenure of office. I feel honoured to be invited to propose the vote of thanks to Professor Black's paper.

Professor Black describes himself as one "whose research has been mainly concerned with the history of ideas and the often elusive relationship between theory and policy in economics". That is indeed so. His first paper to this society in 1950 was entitled "Theory and Policy in Anglo-Irish Trade Relations 1775-1800". Since then Professor Black has gone on to a very distinguished academic career and his researches in the history of economic thought have won wide international acclaim. I should like to thank him for his many contributions to this Society as a Council member, as the historian of the Society for the centenary volume in 1947, and in particular in his capacity as President over the last three years.

In his paper tonight, Professor Black adopts a two-fold classification of social scientists, *quantifiers* and *qualifiers*. The quantifiers are those who use mathematical and statistical methods, and they can be further subdivided into the theorists on the one hand and the applied scientists on the other. The qualifiers are those who use literary, philosophical and historical methods.

Professor Black will be only too well aware that it is rather heroic to divide any discipline as diverse as social science into two all-inclusive categories. The particular division also leaves me a little uneasy in some respects. I am not sure that mathematics is quantitative in the sense in which that term is generally used in the social sciences. It is certainly a formal and precise way of expressing ideas, but generally such ideas could also be expressed in literary form, though perhaps not as concisely.

I would prefer the alternative two-fold breakdown of the social sciences mentioned in Professor Black's paper, namely *deductive* and *inductive*. The deductive approach is concerned with reasoning out the ramifications of some theoretical framework through to its consequences. The

presentation can be literary, graphical or mathematical. The inductive method is concerned with collecting facts, testing theories with facts, or using facts to generate new intuitions. The inductive approach is not necessarily inherently numerical (witness the case of history), but in the social sciences it has now generally become so. Statistics is very much associated with this part.

Now while it may be possible to divide social science in this way, I am not sure that social scientists can be similarly divided, since most use both approaches at one time or another. The late Dr R C Geary when asked once whether it was better to have no figure at all than a bad figure, replied unhesitatingly that a bad figure was better. His reason was that "you have not begun to think usefully about an issue until you put an order of magnitude on it", and for Geary, an order of magnitude was almost synonymous with a figure. This would seem to place him unambiguously in the inductive camp. Yet Geary made significant contributions to the deductive branches of statistics and economics. For example, his piece on the Stone-Geary utility function worked out the important properties of this function. Similar examples could be quoted from the work of other prominent social scientists.

In dividing social scientists, as distinct from social science, perhaps a more useful distinction is that between those who emphasise *rigour* and those concerned with *relevance*. Within both the inductive and deductive branches of social science, one will find social scientists who lean predominantly in one direction or the other. Now rigour will always have status in any science, and the very great minds can often combine rigour and relevance at a high level. But for the bulk of the profession, there is a continuing tension between the two. Indeed over the last two decades or so, worries have been expressed by some prominent economists - even those whose own work has been highly rigorous - that the economics profession in general has extolled rigour at the expense of relevance. This complaint is at the heart of the presidential addresses in the early 1970s by Leontief, Worswick and Phelps-Brown, which are mentioned by Professor Black in his paper. R A Gordon in his presidential address to the American Economics Association in 1975 devoted his paper specifically to the

tension between rigour and relevance, and R C Geary, in his 1981 Boyle Lecture, voiced his criticism in his own inimitable way as follows

Brilliant intelligence is displayed in the learned journals - I speak without irony. Would that it could be deflected *en masse* towards real problems in which political performance is so deplorable but for which blame does not lie mainly with politicians but with social science. Most papers push the findings of others just a little further. To have a paper accepted it must have pages of references and the treatment, if possible, must be mathematical, even pseudo-mathematical. Pseudo means algebraic symbolism but without that manipulation which is the essence of maths. I would advise the young social scientist in his papers to avoid definite statement like the plague, it makes rejection practically certain. *J'accuse* most papers in the best-known social science journals are derivative, trivial and incomprehensible.

This criticism, whether valid or not, will be brushed aside by some scholars as merely the outpouring of older men in their declining years. But for the agency in which I am engaged, The Economic and Social Research Institute, we have to take the issue more seriously. Our brief is not simply to provide knowledge for the sake of knowledge, but rather to provide that knowledge which is likely to be useful for economic and social management, whether in the public or private sectors or at the macro or micro levels. We must therefore be relevant at all costs. But I also believe that, while greater rigour will not always produce more definite answers to the problems we address, yet it can help to produce more relevant answers. Let me give a few illustrations.

Take an apparently simple factual question, the answer to which may have many practical and administrative uses. "How does Ireland's living standard compare with other countries?" A rigorous answer to this question will be multi-dimensional. It will have regard to the different concepts that can be adopted and the limitations, both

theoretical and practical, of the data used to compare living standards. At the end of the day, a single clearcut answer will not emerge. No matter how rigorous the analysis, there will be an inescapable degree of ambiguity about the result. Now I think that quantifiers, to use Professor Black's term, must be honest in pointing out the range of uncertainty attached to their quantities. This is often very annoying for the administrator who is likely to retort "Why can't you give a straight answer to a simple question?" The straight answer in this case, however, may neither be the most rigorous nor the most relevant. It is highly relevant to the administrator to know that there is a range of uncertainty in regard to any particular answer, and to have some idea of the extent of that range. Earlier I gave a quotation from R C Geary which suggested that he would prefer any figure, even a bad figure, to no figure at all. In practice, however, Dr Geary was rather selective about which figures he would be prepared to accept. For instance, he rejected quarterly national accounts on the grounds that the range of error in the estimates was too large in relation to the size of the real changes.

Moving on from facts to relationships, the administrator is also very much interested in quantifying particular relationships: how will the fiscal deficit affect the balance of payments? or how will a tax increase affect work effort, etc? Now the answer to such questions generally cannot be given purely at a theoretical level. At best theory can only predict the direction of change, and sometimes not even that. Yet without a theoretical framework we are also unlikely to be able to give much of an answer. Indeed John Bradley's work suggests that such relationships have far-reaching ramifications, which require a sizeable model to track. Even then, such a model is only a simplification of reality, and different models will give different results. But greater rigour, while it cannot resolve all the problems, will in the long run lead to better, and therefore more relevant, answers.

I particularly like the advice with which R W Gordon ended his 1975 presidential address to the American Economic Association

But let us all continue to worship at the altar of science I ask only that our credo be "relevance with as much rigor as possible," and not "rigor regardless of relevance " And let us not be afraid to ask - and to try to answer - the really big questions (*American Economic Review*, March 1976)

This advice is good for policy and good for science Furthermore, in pursuing this approach, I believe that social scientists should be willing to seek the answers to the "big questions" wherever they can be found - even if this means crossing traditional disciplinary boundaries

At the end of his lecture, Professor Black turned his attention to the current and future state of the Society He notes that the Society has provided a meeting ground between different branches of the social science I would add that it has also provided a meeting ground between researchers and those using the research - in both the public and private sectors This is a most valuable function and it is important that it be continued

Professor Black also mentioned the wide powers which the Society has under Law 16 of its constitution It is worth recalling that the Society did make one notable use of these powers in connection with the establishment of The Economic and Social Research Institute The formal application to the Ford Foundation for a grant to establish the Institute was made by the Society on 20 August 1959 and signed by the then President Mr Honohan I am delighted to see that Mr Honohan, as well as Dr Whitaker, the prime mover in founding the Institute, are present with us tonight The letter to the Ford Foundation cited Professor Black's history as evidence of the antiquity of the Society and its standing in making the application The Society's involvement influenced the nature of the Institute in other ways For example, the Society has always been on an all-Ireland basis, and when the Council of the Institute was formed, its membership was drawn from both the North and the South of Ireland

Finally, I have one suggestion to make about the possibility of exploring alternative means of communication, in addition to our standard meetings The Society was

involved in pioneering efforts in this regard at an early date. In April 1938 a symposium of the Society was broadcast on Radio Eireann dealing with the population problem, and this was repeated in May 1940 with a symposium on unemployment. I would suggest to the incoming president that he might consider making more use of media such as radio and television to forward the purposes of the Society.

It is with very great pleasure that I propose the Vote of Thanks to Professor Black for a most interesting and thought-provoking lecture.

*D McAleese* I am delighted to second this vote of thanks. While Professor Black refers to the honour which the Society has conferred by electing him as President, members of the Society are keenly aware of the honour to us of having a scholar of Professor Black's distinction as President. He is an economist of outstanding achievement and his reputation extends well beyond the confines of this island. He was elected Fellow of the British Academy in 1974, an honour he shared with the late Professor F S L Lyons, but with few other Irishmen and, in 1962, his service to the academic community was recognised by his alma mater by the award of honorary fellowship of TCD. As initiator, guiding light and chairman (until 1981) of the Committee for Social Science Research in Ireland (CSSRI), he was instrumental in providing some £350,000 of research funds for projects in the social sciences during the last fifteen years. Consonant with the spirit of this evening's paper, both quantifiers and qualifiers benefited in equal measure from the Committee's support. Looking over the list of publications which this support stimulated, one cannot but conclude that the benefit/cost ratio of the Ford Foundation-CSSRI funds has been extraordinarily high. All of us with a concern for social science research in Ireland are deeply indebted to Professor Black for his selfless and energetic work on our behalf.

It is interesting to see how with the passage of time the quantifier/qualifier controversy has receded. The debate has shifted from the type of techniques used to the type of questions which research techniques are used to elucidate. There is, for example, continuing tension about

the degree of priority which should be given to policy-relevant as opposed to policy-irrelevant economics. But policy-relevant economics as it is practised today requires a good knowledge of basic mathematical/statistical techniques. It is of course always possible to express the conclusions of this work and to outline the main basis of analysis with good old-fashioned prose and simple diagrams. The recently published *The Economist Economics* by Rupert Pennant-Rae and Clive Crook published by Penguin would be an excellent example of this genre. Consisting of a collection of school briefs, it is in a way part of a tradition going back to the textbook on monetary economics for schoolchildren, *Easy Lessons on Money Matters, for the Use of Young People* (London 1837), by one of the founders of this society, Archbishop Whately. Likewise, the ESRI's *Employment and Unemployment Policy for Ireland* (Kennedy and Conniffe, eds) is an example of applied economics accessible to all. However, there is also much work on policy-relevant matters in the Irish economy - on indirect taxes, on fiscal policy, on model-building, on consumption functions and suchlike - which would *not* be accessible to an exclusively literary reader.

Most undergraduate courses in Ireland respond to this problem by insisting on basic mathematics, statistics and econometrics courses for social science students. Our aim is to provide students with the vocabulary needed to understand fully most policy-relevant research. Courses on economic history, the history of economic thought and methodology are considered desirable, are sometimes on offer but are rarely ever compulsory. Underlying our approach is, I suspect, the idea that whereas economic history can be picked up by casual study during or after the undergraduate years, mathematics, statistics and econometrics are much more difficult to acquire through informal study.

Effectively this means that the more abstruse policy-relevant side of economics is left to graduate schools. Of course, it is not always as simple as this since we cannot be certain as to what, and over which period, any particular branch of economics is policy-relevant. Besides the mathematical-statistical specialist will always enjoy a critical advantage over the "literary" economist. He will understand literary economics

better than the literary economist will understand the mathematical economist

Regarding the future of the Society referred to in the concluding section of the President's speech, I am glad to see Professor Black take an optimistic stand. On the one hand, since there are more social science graduates than ever and more active interest among the public in such matters, the prospect for the development of our Society might be expected to be very favourable. Against this, however, is the fact that the Society now faces more intense competition than ever before from competing venues. While in former times the Society offered the public a unique opportunity of hearing scholars of the calibre of George O'Brien and Roy Geary, nowadays their successors could be found addressing the Dublin Economics Workshop, the ESRI Thursday seminar, the Industrial Studies Association, the IAUTE conference, can be heard on radio and seen on television, can be read in our *Journal* but also in *ESR*, *IBAR*, *Administration*, *Social Studies* and other publications outside of Ireland. Our problem is that there are too many outlets chasing too few papers. Nevertheless the Society does offer something unique - the opportunity to engage in an extensive discussion of a particular topic. It is in this area - and in the provision of a forum for discussion from public service and academic viewpoints that the Society has a major contribution to make.

*R O'Connor* It gives me great pleasure to be associated with the vote of thanks to our President for his very scholarly and interesting address on a topic which has not been debated in the Society for years now. I also wish to thank him for the kind remarks he has made about myself. I can only reply to these by saying in Dr Roy Geary's words "I know you are flattering me, but I love it!"

For me this is a very nostalgic occasion. It brings my mind back vividly to the memorable night in October 1942 when George O'Brien delivered his Presidential address to this Society, which is referred to in Professor Black's paper. I enjoyed George's paper immensely. It was beautifully written, as indeed were all his works, and to me at the time it seemed extremely sensible. There are things you cannot measure, and indeed I wondered why it was even

necessary to say this

I got a rude awakening, however, when Geary rose and shaking his puissant locks proceeded to take the paper asunder. It was hard to believe how grown men could argue so vehemently about what today we would call trivia. But at the time those eminent people were dead serious and it was only later I discovered that the debate about statistics and economics had been going on for a long time and was to continue for many further years.

The 13 October 1942 did not end the debate between the Quantifiers and the Qualifiers, however. It continued, off and on, for another decade, but I think it finally came to a head on the 25 January 1952 at the Society's symposium on "National Income and Social Accounts". In his contribution to that symposium Dr Donal McCarthy (in a paper read by Mr Tom Linehan because Dr McCarthy had a cold) said

If these rules have shortcomings from the point of view of economists, it is up to them to say so. They need not add that it is impossible to produce the relevant figures, for to the statistician, the "impossible" is only a little more difficult than the possible.

Replying to this statement, Professor George Duncan (who had produced a set of National Accounts in 1935 and seemed to have regretted this indiscretion for the rest of his life) said

These are not merely doubts about the accuracy of certain calculations, but about the intellectual validity of the procedure. But such doubts are inherent in the exercise, and in the material, and to reverse the charges, it is up to the statisticians to show that the exercise is worth the effort.

Duncan went on to point up all the flaws in the National Accounts system. He said they promised an instrument of assistance in determining economic policy but he was sceptical about such ambitious ideas.

The final broadside was, however, left to Dr Geary. He told Professor Duncan he was wrong on three points of fact and then said

I cannot help wondering if Professor Duncan has greater faith in the methods of economics for the solution of the practical problems which beset us than he has in statistics. When economists have to deal with these problems we do not hear much about marginal utility, imperfect competition, utility curves and the rest. They look for the statistics like the rest of us. Irish economists are always welcome in the Central Statistics Office. We will find them a place on the statistical bandwagon but if they continue to *sulk* in their tents we must travel alone.

As far as I am aware this was the end of serious debate on this question of economics v statistics. Since that time cost-benefit analysis and economic evaluation of the environment as well as of recreational sites, etc., have now become acceptable and indeed demanded by administrators. More recently we even have demands for the inclusion of environmental values in the national income tables but I doubt if either Dr Geary or Dr McCarthy would be prepared to go this far. They fought for the quantification of concepts which could be represented by fairly hard numbers but they were very suspicious of what they called airy fairy figures and were loathe to have anything to do with soft data. Despite his statement that the impossible was only a little more difficult than the possible, McCarthy was a very conservative statistician. Geary, I would say, was more liberal.

However, with the incursion of Government into every area of the economy, the demands for quantification grow. If a pressure group looks for a subsidy for a recreational resort or an ancient monument the Department of Finance will ask for a justification and the end result, rightly or wrongly, will be some kind of a cost benefit analysis made by an economist. How accurate the assessments of the benefits are is another question and sometimes I wonder if we have not gone too far in this direction. Perhaps the George O'Briens and the George Duncans were as right in

their own way as the Gearys and McCarthys were in theirs. Many of the valuations now produced are dangerously misleading and while Geary would argue that it is better to have even a wrong figure than no figure I often wonder where the balance lies. Figures become accepted and derive lives of their own. It's not *right* to have *wrong* figures survive and be quoted.

*Reply by R D C Black* I am grateful to the members for this vote of thanks, and particularly to Professors Kennedy, McAleese and O'Connor for their comments. If they have erred at all it is in being too kind to the paper and its author.

I can understand Professor Kennedy's uneasiness with my division of social scientists into qualifiers and quantifiers, it is indeed a heroic simplification and in using it I did point out that I was making some sacrifice of accuracy to brevity. However, the distinction which he prefers - between inductive and deductive approaches to social science - is to my mind more complementary with than alternative to that between the quantitative and qualitative approaches. One could use inductive and deductive methods which are at the same time purely quantitative or purely qualitative. Ideally, I think we would all agree, social scientists should combine induction and deduction, using quantitative and qualitative techniques as appropriate.

In practice the ideal is seldom realised, to take the case of Economics, the only social science about which I am qualified to speak, it is generally accepted now that in the past thirty years or so there has been a swing towards the use of abstract quantitative or pseudo-quantitative models which has too often resulted in the sort of rigour without relevance which Roy Geary rightly pilloried in his 1981 comment quoted by Professor Kennedy. Some exposure to history can be a useful corrective to this sort of thing, and I therefore must admit to having felt a qualm when I heard Professor McAleese refer to "the idea that economic history can be picked up by casual study". While I conceded in my paper that it is unrealistic to expect students to know a great deal of quantitative methods and a great deal of history as well, I hope that courses in the historical disciplines will continue to be available at least as

options to social science students, for I am afraid that what is left to casual study may be learnt badly or not at all

Now that would be a pity, for a knowledge of, perhaps even more a feel for, history can be a safeguard not only against empty theorising, but also against the survival and use of those wrong figures which, as Professor O'Connor says, do tend to derive lives of their own. Professor O'Connor also did well in reminding us of the fact that the working relationship between economists and statisticians is closer and more fruitful now than it was some forty or so years ago. That is all to the good, and in Ireland I think this Society can claim to have played a useful part in bringing about that state of affairs. My hope is that it will remain a forum in which quantifiers and qualifiers can, through constructive debate, enhance each other's contributions to social science.