I wish to start with two general observations. First, what I have to say is largely based on my knowledge of developments within the United States and Britain. But I have sufficient confidence in the international character of science to believe that what can be observed in these countries is paralleled by similar developments elsewhere. My second observation is that a paper which deals with what is happening within a series of disciplines and which ranges so wide within economics itself, must inevitably mean, at any rate in my case, that it deals with many subjects about which the writer’s knowledge is extremely vague. What I have to say will often have the character of assertion rather than that of a conclusion based on a careful study of the literature in the many fields covered by my subject. I believe that such a careful study would confirm what I assert. But it is equally true that it may refute my views. Papers presented at international conferences are not usually high-risk ventures, but this one is. However, I do not think that what is called for at this stage is a paper guarded by qualifications and difficult to attack because it says so little except what is generally accepted.

What is the subject with which I am dealing? What I am concerned with is what determines the boundaries between disciplines, in particular with what determines the boundaries between economics and the other social sciences, sociology, political science, psychology, and the like (without excluding the possibility that there may be overlaps). What the boundaries are at any particular time can, of course, be discovered by examining the range of activities engaged in by members of any given professional association, by the subjects treated in the journals devoted to particular disciplines, by the courses given in university departments, by the topics covered in textbooks, and by the books collected in libraries concerned with the various areas of knowledge. A forecast of the boundaries of a discipline is thus a forecast of what topics will be covered by professional associations, journals, libraries, and the like. I have long considered the definition of economics which Boulding attributed to Viner, and has since often been repeated, “Economics is what economists do,” as essentially sound, but only if it were accompanied, which it never is, by a description of the activities in which economists actually engage.

If the question is asked, how do these boundaries between disciplines come to be what they are, the broad answer I give is that they are de-
terminated by competition. The process is essentially the same as that which determines the activities undertaken by firms or, to take another example, the extent of empires. Gibbon describes how Augustus came to accept the boundaries of the Roman Empire. Gibbon says that it was easy for Augustus to discover that “Rome, in her present exalted situation, had much less to hope than to fear from the chance of arms; and that, in the prosecution of remote wars, the undertaking became every day more difficult, the event more doubtful, and the possession more precarious, and less beneficial.”

The same kind of calculation ultimately led, and this is Gibbon’s grand theme, to an abandonment of much of what had been contained within the Roman Empire and finally to its division within quite another set of boundaries. It is much the same with disciplines. The practitioners in a given discipline extend or narrow the range of the questions they attempt to answer according to whether they find it profitable to do so, and this is in part determined by the success or failure of the practitioners in other disciplines in answering the same questions. Since different people are satisfied with different answers, victory is not necessarily clear-cut, and different answers and different ways of tackling the same question may exist side by side, each satisfying its own market. So one group of practitioners may not drive from the field another group but may merely, to use an economist’s terminology, increase their market share. Of course, when the number of those who are satisfied with the answers given by any group of practitioners becomes so small and/or the questions for which this is true are few or trivial, the field may be abandoned altogether except by those whose competence is so low elsewhere that they cannot compete in a wider, more active, and more profitable market.

If we look at the work that economists are doing at the present time, there can be little doubt that economics is expanding its boundaries or, at any rate, that economists are moving more and more into other disciplines. They have been conspicuously active in political science, where they have developed an economic theory of politics and have done a great deal of empirical work analyzing voting behaviour. Economists have also moved into sociology, and we now have an economic theory of marriage. Nor should we be surprised that there is also an economic theory of
suicide.\textsuperscript{5} Other subjects on which economists have worked are linguistics,\textsuperscript{6} education,\textsuperscript{7} and national defence.\textsuperscript{8} I am sure that it is only my lack of familiarity with what is going on in the other social sciences which restricts my list. One striking example, with which I am familiar, is the use of economics in the study of law.\textsuperscript{9} The general movement is clear. Economists are extending the range of their studies to include all the social sciences, which I take to be what we mean when we speak of economics' contiguous disciplines.

What is the reason why this is happening? One completely satisfying explanation (in more than one sense) would be that economists have by now solved all the major problems posed by the economic system, and therefore, rather than become unemployed or be forced to deal with the trivial problems which remain to be solved, have decided to employ their obviously considerable talents in achieving a similar success in the other social sciences. However, it is not possible to examine any area of economics with which I have familiarity without finding major puzzles for which we have no agreed solutions or, indeed, questions to which we have no answer at all. The reason for this movement of economists into neighbouring fields is certainly not that we have solved the problems of the economic system—it would perhaps be more plausible to argue that economists are looking for fields in which they can have some success.

Another explanation for this interest in neighbouring fields might be that modern economists have had a more broadly based edu-
cation than those who preceded them and that in consequence their interests are wider, with the result that they are naturally dissatisfied with being restricted to so narrow a range of problems as that presented by the economic system. Such an explanation seems to me largely without merit. If we think of Adam Smith or John Stuart Mill or Alfred Marshall, the range of questions with which they deal is greater than is commonly found in a modern work on economics. This impression is reinforced if we have regard to the articles which appear in most of the economics journals, which, to an increasingly great extent, tend to deal with highly formal technical questions of economic analysis, usually treated mathematically. The general impression one derives, particularly from the journals, is of a subject narrowing rather than extending the range of its interest. This seems inconsistent with the concurrent movement of economists into the other social sciences, but I believe there is a connection between these two apparently contradictory developments.

If we are to attempt to forecast what the scope of economists' work is likely to be in future—which is surely what is needed if we are to be helpful to the librarians and others for whose benefit this conference was planned—we have to understand the reason why economists have been moving into the other social sciences and what the situation is likely to be in the future. To do this, we have to consider what it is that binds together a group of scholars so that they form a separate profession and enables us to say that someone is an economist, someone else a sociologist, another a political scientist, and so on. It seems to me that what binds such a group together is one or more of the following: common techniques of analysis, a common theory or approach to the subject, or a common subject matter. I need not conceal from you at this stage my belief that in the long run it is the subject matter, the kind of question which the practitioners are trying to answer, which tends to be the dominant factor producing the cohesive force which makes a group of scholars a recognizable profession with its own university departments, journals, and libraries. I say this in part because the techniques of analysis and the theory or approach used are themselves to a considerable extent determined by what it is that the group of scholars is studying, although scholars in a particular discipline may use different techniques or approaches in answering the same questions. However, in the short run, the ability of a particular group in handling certain techniques of analysis, or an approach, may give them such advantages that they are able to move successfully into another field or even to dominate it. In making these distinctions, I do not wish to deny that techniques, approaches, and subject matter will all exert some influence at any given time. Nor would I argue that it is inevitable that techniques and approach should exert their influence only in the short run. They could be dominant in the long run as well. But I believe there are reasons for thinking that this will not usually be the case. If my description of the binding forces of a scholarly discipline is correct and if my assessment of their long-and short-run influences is also valid, then we will have to decide whether the current movement by economists into the other social sciences is the triumph of a technique or approach, or whether such an extension of their work illuminates and is interrelated with the solution of the central questions which economists attempt to answer, that is, is necessitated by the nature of the subject matter which they study. To the extent this movement is based on technique or approach, we can expect a gradual displacement of economists from their newly won ground. To the extent that it is necessitated by their subject matter, we may expect the range of studies undertaken by economists to be permanently enlarged.

My first example of a technique, linear programming, is one which I am particularly unqualified to discuss, but, fortunately, extensive discussion is not called for. It is, if I understand correctly, a mathematical method for discovering the proportions in which inputs should be combined in order to achieve a certain result at minimum cost. Such a technique has, potentially, applications in many fields. It is, however, difficult to believe that such a highly mathematical technique could not be as easily acquired or as well handled by suitably endowed scholars in other disciplines. Indeed, some of these might find such a technique easier to acquire or handle than would most economists. To the extent that economists have moved into other fields using
linear programming, I would expect the forces of competition to be such that they would be largely displaced, although individual economists might still do useful work using linear programming. In any case, it seems improbable that knowledge of a technique such as linear programming would become such an essential part of any discipline as to outweigh command of the theory or knowledge of the subject matter. One would not expect economists to dominate such fields as nutrition or oil-refinery engineering even if (which seems improbable) economists as a class were particularly adept in linear programming.

The employment of quantitative methods, now so commonly part of the equipment of the modern economist, has also enabled a number of economists to move into neighbouring disciplines. To the extent that economists find it easier to acquire these techniques and/or can handle them with greater dexterity than their colleagues in the other social sciences (in part because they use them so frequently), it is possible that this may offset their unfamiliarity with the subject matter of these other disciplines and the analytical framework within which these other social scientists work. But it seems a rather fragile basis for predicting a long-run movement by economists into the other social sciences.

My next example, cost-benefit analysis, is more difficult to discuss. My guess would be that the great bulk of the incursions made by economists into contiguous and not-so-contiguous disciplines in recent years have been in connection with the undertaking of cost-benefit studies. Cost-benefit analysis seems to me best described as a technique. But since it is essentially applied price theory, having as its aim to give a monetary value to what is gained and what is lost by following a particular course of action, it is certainly an activity in which economists have some obvious advantages. However, since these studies are usually carried out with a view to facilitating decision making, particularly by public bodies, with the problem to be investigated selected by such bodies, rather than with a view to understanding the system of which these public bodies are a part, and since economists working in unfamiliar fields will tend to rely on the work of others for their data, economists engaged in these studies will tend to play a useful but subordinate role, except to the extent that the particular decisions being investigated are closely related to their main concerns.

More important and more persuasive is the view, which I associate with the name of Gary Becker, that economic theory or the economic approach can form the means by which economists can work in, if not take over, the other social sciences. But before examining this point of view, I will consider what I believe to be the normal binding force of a scholarly profession, its subject matter.

What do economists study? What do they do? They study the economic system. Marshall defined economics in the first edition of the Principles of Economics thus: "Political Economy, or Economics, is a study of man's actions in the ordinary business of life; it inquires how he gets his income and how he uses it." A modern economist, Stigler, has phrased it differently: "Economics is the study of the operation of economic organizations, and economic organizations are social (and rarely individual) arrangements to deal with the production and distribution of economic goods and services." Both of these definitions of economics emphasize that economists study certain kinds of activity. And this accords well with the actual topics dealt with in a book on economics. What economists study is the working of the social institutions which bind together the economic system: firms, markets for goods and services, labor markets, capital markets, the banking system, international trade, and so on. It is the common interest in these social institutions which distinguishes the economics profession.

A very different kind of definition is that of Robbins: "Economics is the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses." Such a definition makes economics a study of human choice. It is clearly too wide if regarded as a description of what economists do. Economists do not study all human choices, or, at any rate, they have not done so as yet. However, the view that economics is a study of all human choice, although it does not tell us the nature of the economic theory or approach which is to be employed in all the social sciences, certainly calls for the development of such a theory.
I said earlier that there are at present two tendencies in operation in economics which seem to be inconsistent but which, in fact, are not. The first consists of an enlargement of the scope of economists’ interests so far as subject matter is concerned. The second is a narrowing of professional interest to more formal, technical, commonly mathematical, analysis. This more formal analysis tends to have a great generality. It may say less, or leave a lot unsaid, about the economic system, but, because of its generality, the analysis becomes applicable to all social systems. It is this generality of their analytical systems which, I believe, has facilitated the movement of economists into the other social sciences, where they will presumably repeat the successes (and the failures) which they have had within economics itself.

The nature of this general approach has been described by Posner in his *Economic Analysis of the Law*: “Economics is the science of human choice in a world in which resources are limited in relation to human wants. It explores and tests the implications of the assumption that man is a rational maximizer of his ends in life, his satisfactions—what we shall call his ‘self-interest.’” By defining economics as the “science of human choice,” economics becomes the study of all purposeful human behaviour, and its scope is therefore conterminous with all the social sciences. It is one thing to make such a claim; it is quite another to translate it into reality. At a time when the King of England claimed to be also King of France, he was not always welcome in Paris. The claim that economics is the science of human choice will not be enough to cause sociologists, political scientists, and lawyers to abandon their field or, painfully, to become economists. The dominance of the other social sciences by economists, if it happens, will not come about simply by redefining economics but because of something which economists possess and which enables them to handle sociological, political, legal, and similar problems better than the present practitioners in these other social sciences. I take it to be the view of Becker and Posner that the decisive advantage which economists possess in handling social problems is their theory of, or approach to, human behaviour, the treatment of man as a rational, utility maximizer.

Since the people who operate in the economic system are the same people who are found in the legal or political system, it is to be expected that their behaviour will be, in a broad sense, similar. But it by no means follows that an approach developed to explain behaviour in the economic system will be equally successful in the other social sciences. In these different fields, the purposes that men seek to achieve will not be the same, the degree of consistency in behaviour need not be the same, and, in particular, the institutional frameworks within which the choices are made are quite different. It seems to me probable that an ability to discern and understand these purposes and the character of the institutional framework (how, for example, the political and legal systems actually operate) will require specialized knowledge not likely to be acquired by those who work in some other discipline. Furthermore, a theory appropriate for the analysis of these other social systems will presumably need to embody features which deal with the important specific interrelationships of that system.

I am strengthened in this view by a consideration of the part played by utility theory in economic analysis. Up to the present it has been largely sterile. To say that people maximize utility tells us nothing about the purposes for which they engage in economic activity and leaves us without any insight into why people do what they do. As Stigler has told us, the chief implication of utility theory is that, “if consumers do not buy less of a commodity when their incomes rise, they will surely buy less when the price of the commodity rises.” But that consumers demand more at a lower price is known to everyone, whether an economist or not, who is at all familiar with the operation of a market. Utility theory seems more likely to handicap than to aid economists in their work in contiguous disciplines. Recently the work of Lancaster on “characteristics analysis” and of Becker on “commodities,” which relate the satisfactions derived from goods and services to certain specified more fundamental needs, shows promise of being more fruitful. But it seems improbable that the list of the important “commodities”, to use Becker’s term, will be the same in the various
social sciences or that they will be uncovered except by specialists in those disciplines.

Economics, it must be admitted, does appear to be more developed than the other social sciences. But the great advantage which economics has possessed is that economists are able to use the “measuring rod of money.” This has given a precision to the analysis, and, since what is measured by money are important determinants of human behaviour in the economic system, the analysis has considerable explanatory power. Furthermore, the data (on prices and incomes) is generally available, so hypotheses can be examined and checked. Marshall said: “[T]he steadiest motive to ordinary business work is the desire for the pay which is the material reward of work. The pay may be on its way to be spent selfishly or unselfishly, for noble or base ends. ... But the motive is supplied by a definite amount of money: and it is this definite and exact money measurement of the steadiest motives in business life, which has enabled economics to outrun every other branch of the study of man.”

If it is true that the more developed state of economics as compared to the other social sciences has been due to the happy chance (for economics) that the important factors determining economic behaviour can be measured in money, it suggests that the problems faced by practitioners in these other fields are not likely to be dissipated simply by an infusion of economists, since, in moving into these fields, they will commonly have to leave their strength behind them. The analysis developed in economics is not likely to be successfully applied in other subjects without major modifications.

If I am right about the relative unimportance of technique as a basis for the choice of professional groupings, if subject matter is really the dominant factor, with the theory or approach in large part determined by the subject matter, what is the outlook for the work of economists in the other social sciences? I would not expect them to continue indefinitely their triumphal advance, and it may be that they will be forced to withdraw from some of the fields which they are now so busily cultivating. But such a forecast depends on the practitioners in the other disciplines making a competitive response. The success of economists in moving into the other social sciences is a sign that they possess certain advantages in handling the problems of those disciplines. One is, I believe, that they study the economic system as a unified interdependent system and therefore are more likely to uncover the basic interrelationships within a social system than someone who is less accustomed to looking at the working of a system as a whole. Another is that a study of economics makes it difficult to ignore factors which are clearly important and which play a part in all social systems. Such a factor would be that people choose their occupations to a large extent on the basis of money incomes. Another would be that a higher price lowers the demand. Such factors may appear in various guises, but an economist is likely to see through them. Punishment, for example, can be regarded as the price of crime. An economist will not debate whether increased punishment will reduce crime; he will merely try to answer the question, by how much? The economist’s analysis may fail to touch some of the problems found in the other social systems, but often the analysis can be brought to bear. And the economist will take full advantage of those opportunities which occur when the “measuring rod of money” can be used.

But if the main advantage which an economist brings to the other social sciences is simply a way of looking at the world, it is hard to believe, once the value of such economic wisdom is recognized, that it will not be acquired by some practitioners in these other fields. This is already happening in law and political science. Once some of these practitioners have acquired the simple but valuable truths which economics has to offer, and this is the natural competitive response, economists who try to work in the other social sciences will have lost their main advantage and will face competitors who know more about the subject matter than they do. In such a situation, only the exceptionally endowed economist is likely to be able to make a significant contribution to our knowledge of the other social sciences.

Economists may, however, study other social systems, such as the legal and political systems, not with the aim of contributing to law or political science but because it is necessary if they are to understand the working of the economic system itself. It has come to be realized by many
economists in recent times that parts of these other social systems are so intermeshed with the economic system as to be as much a part of that system as they are of a sociological, political, or legal system. Thus it is hardly possible to discuss the functioning of a market without considering the nature of the property right system, which determines what can be bought and sold and which, by influencing the cost of carrying out various kinds of market transactions, determines what is in fact bought and sold, and by whom.\textsuperscript{21} Similarly, the family or household and the educational system are of concern to the sociologist, but their operations affect the supply of labor to different occupations and the patterns of consumption and production and are therefore also of concern to the economist. In the same way, the administration of the regulatory agencies and antitrust policy, while part of the legal system and as such studied by lawyers, also provide the framework within which firms and individuals decide on their actions in the economic sphere.

The need to take into account, in analyzing the working of the economic system, the influence of other social systems, above all the legal system, is now widely accepted by economists. It has resulted in numerous studies of the effect of the legal position on the performance of the economic system.\textsuperscript{22} Such work, because of its focus on the economic system, is likely, in general, to be best done by economists. Unlike the movement by economists into the other social sciences which has as its aim the improvement of these other social sciences, a movement which, for reasons I have already given, seems to me likely to be temporary, the study by economists of the effects of the other social systems on the economic system will I believe become a permanent part of the work of economists. It cannot be done effectively by social scientists unfamiliar with the economic system. Such work may be carried out in collaboration with other social scientists, but it is unlikely to be well done without economists. For this reason, I think we may expect the scope of economics to be permanently enlarged to include studies in other social sciences. But the purpose will be to enable us to understand better the working of the economic system.

NOTES

2. Edward Gibbon, \textit{The Decline and Fall of the Roman Empire}, chap. 1.
8. Charles J. Hitch and Roland N. McKeen, \textit{The Economics of Defence in the Nuclear Age}.
22. It is only necessary here to refer to the kind of article that appears in \textit{The Journal of Law and Economics}.\textsuperscript{22}