To David and Miranda, with much love, and some apologies for the times when this work has claimed too much of my attention.
9 Assumptions, Success and Responsibility: Examples of the Uses of Judgment

Reference has been made to the use of judgment as a companion and, I would suggest, as a guide, for technique. Here I will begin to lay out in some detail a few of the most critical tasks to which judgment must be directed.

Neoclassical economics, in basing itself upon a particular set of psychological assumptions, derived from a reading of Adam Smith narrowed by the Utilitarian emphasis and supposedly justified by Darwin, has accepted simplifications and abstractions which are constantly at risk of being invalidated when some of the particulars which have been lost assume a new or unexpected importance. Questions were raised in Part I regarding the long-term impacts that such assumptions may have upon a maturing system of theory. These issues will reappear in this chapter as it begins, from the critic's (or reader's) side, with the textual analysis necessary for recognising the assumptions which a writer has made, and upon which a piece of social science may be based.

Looking at assumptions from the critic's side

The search for the underlying assumptions in virtually any text may be endlessly interesting—and it may also be just plain endless. Certain kinds of modern theory, especially those which are designed to permit computer interaction, often claim that the beauty of their methodology is that it forces them to spell out all relevant assumptions. Such a statement depends for its truth upon how relevancy is defined. There is no algorithm for making such a definition; it must come back to common sense, or judgment.

The belief that it is possible, let alone a matter of practice, for people to know consciously all of the assumptions behind a particular piece of writing, is naive. It is surprising that such a belief has been so often stated in writings about economics, and has received so little challenge to its realism; yet one can find instances of this belief stretching back throughout the history of the field.\(^1\)
The web of assumptions in any one person's mind is so deep, subtle, and many-layered that a complete confession of all those that bear in any way upon the subject at hand would likely be both impossible and excruciating. Given this, it is not necessarily the case (though it might be so, in some instances) that it is a criticism to state that an assumption has not been spelled out by the author. The good critic does not automatically leap upon such an omission saying, 'Aha! now I've got you!' Rather, the interesting question is: *among the set of assumptions not made plain by the author, which are the important ones to consider?* That is to say: which are the unstated assumptions whose statements would materially alter our understanding (on any level) of the text?

That is largely a matter of the critic's judgment. The deepest questions in almost any pursuit: the question, 'What matters?' and also (on the next level away from the general toward the specific) 'What is important in the given context?' — these cannot be answered by any scientific method; their answers usually come from a pre-cognitive area of our mental processes.

Several procedures may assist in getting one's attention caught by important unstated assumptions. One way is to have other assumptions in mind which serve as contrasts. The normal assumptions of everyday life are not a bad place to begin. Everyone possesses, of course, a large stock of these. Unfortunately, the training given to many economists tends to have the effect of making them deaf to the voice of common sense, so that they learn, when operating as economists, not to attend to dissonances between the everyday assumptions upon which they otherwise operate and the assumptions which they encounter in the field. One can, with a little effort, unlearn this deafness. One useful, small activity in this regard may be the cultivation of a habit, while reading economic texts, of actively seeking for places where one can pencil 'PQA' (for 'Particularly Questionable Assumption') in the margins. (Another is the marginal note, 'RM', for 'rigor mortis' — used to mark where the techniques have killed off the meaning of the questions which they were designed to answer.)

A more significant aid is to keep adding to one's familiarity with work in other social sciences, so as to have in mind, for comparison with the implicit assumptions of economics, some of the assumptions of psychology, sociology, anthropology, etc. Without becoming a professional in these other fields, one may still benefit from a different point of view which, if it does nothing else, enhances one's alertness to the restrictiveness of the assumptions in one's own system of theory.
ASSUMPTIONS ON THE CREATIVE SIDE OF SOCIAL SCIENCE

By now, more than a half century after Marshall's death, modern neoclassical economics is believed by many to have been fully axiomatised, constructed in such a manner that every chain of proof unravels back, if followed all the way, to a few axioms about human nature. The essential assumptions on this subject which have been accepted as the basic axioms of the field have not come out of the field of psychology; rather they are deductions from (not to be found explicitly in) the work of Darwin.

Modern neoclassical economics attempts to deal with human beings only through well-known and carefully stated assumptions – a procedure which has the merits of rigour, but which was carried out, perhaps, too quickly, with too little thought given to whether the assumptions employed were those that would best serve as a foundation for an entire discipline. The field has been left with only a scant handful of statements about human beings, as such: all contained in the statement that *rational individuals attempt to maximise their (perceived) utility.* Explanations of the meaning of this statement come down to three jointly tautological definitions:

- maximisation of (perceived) utility is what rational people do;
- (perceived) utility is what rational people maximise; and
- rationality is the characteristic of those who maximise their (perceived) utility.

Others have attacked this system as inadequate. Rather than repeat those arguments here, I will continue to chip away at the more general issues which surround the question of how we choose our assumptions, how we employ them, and how we know when it is time to move on to new ones.

RECOGNISING THE DEFINITION OF SUCCESS

Of all the assumptions, and of all the normative or ideological elements, in any piece of social science, perhaps the most important to recognise is the existence of a *definition of success.* I will first explain what such a definition involves, and then go on to cite an example of the importance of its recognition.

It is helpful to begin by looking in an area where the definition of success is particularly salient. The influence on economics (as well as on other fields) of the evolutionary and, more recently, the sociobiologi-
cal, models may in part be ascribed to the clarity, power and wide applicability of those models' definitions of success. They assess the relative success of individual humans and other living things according to their ability to maintain or increase the representation of their genetic material in the gene pool of future generations. The route to this type of success is defined as 'maximisation of inclusive fitness'; in other words, anything that maximises the future replication of the DNA of an individual ipso facto maximises its 'inclusive fitness'.

It is important to recognise what, in the current enchantment with the power of these models, tends to get forgotten: that such a definition of success is essentially arbitrary. A large reason for its appeal, however, is that its arbitrariness appears so objective: this is not a definition that comes from the inner searchings or moral position of any individual, but one which sees 'the individual as a survival machine built by a short-lived confederation of long-lived genes'. Yet it must be remembered that this seemingly objective statement is also the projection of Man's search for order upon the events of the world. Genes do not actually form purposive confederations, nor do they act with the intent to maximise anything. If something is, in fact, maximised, this can only be inferred, after the fact, by a mentality possessing a particular ability to generalise about causes and effects, and to enunciate laws therefrom.

However useful may be the metaphorical construction of the laws of evolution, they nevertheless have no constraining power upon actual human preferences (which are, let us recall, among the essential subjects of economics), unless some individuals choose so to be constrained. The philosopher Mary Midgley has stated this point well: 'Motives have their importance in evolution and their own evolutionary history – but they have also each their own internal point, and it is virtually never a wish to bring about some evolutionary event, such as the maximization of one's own progeny. Confusion between the aims of individuals and the "aims" of evolution – if there can be said to be such things – is ruinous.'

Upon reflection, it indeed appears that many individuals have made decisions which did not maximise their inclusive fitness. One thinks, for example, of the band of Greek women who walked, singing, off a cliff to their deaths rather than be taken by Turkish soldiers – who would doubtless have given them opportunities for genetic representation in future generations. Or of the Shakers, who upheld their religious beliefs in not reproducing, so that they are now extinct, leaving behind a strange, brief trace in human history, and a few infants' skeletons.
under their floor-boards. These are examples of 'maladaptive' moral codes such as the sociobiologist, William Irons, referred to when stating that the idea of cultural relativism can and should be borrowed from anthropology and used as a meta-context for the conclusions of sociobiology: 'The statement that a particular form of behavior is adaptive to a particular environment is a statement about its effect on survival and reproduction and nothing more. Whether that behavior is also good – morally, esthetically, or otherwise – is a separate issue.'

It must be stressed that it is a matter of choice whether the definition of 'success' that we choose in any particular context is to be more nearly allied with the achievement of something which is good ('morally, aesthetically, or otherwise'), or with adaptiveness, or with something else. In addition to the examples already given we might recognise a variety of other definitions of success, e.g.:

- that of a yuppie family which, in order to maximise a 'success' that is largely defined by personal consumption, is likely to limit its offspring, perhaps to zero;
- that of the Catholic church, which defines success in terms of the total number of souls 'saved'; hence individuals who embrace this religion line up with the sociobiological goal of maximising the number of their descendents;
- or that of a Utilitarian who is concerned with the quality as well as the quantity of human life.

The possible definitions, then, can include individual goals, such as living according to a code of honour or of religious doctrine; the amassing of material goods; or the 'otherworldly' success of being accepted in Heaven. They can also include goals for society or the species, e.g., maximisation of numbers of people going to Heaven, or of the pan-human sum of 'utility' or 'satisfaction'. And we can easily imagine extensions of the list: e.g., people who will risk death or the annihilation of their offspring for the sake of ambition (Lady Macbeth), or for revenge, or in the hope of being remembered; or people who are concerned not only for the human species but for gorillas, whales and obscure fishes; for the Amazon forests; for the whole Earth's ecosystem. The emphasis upon accounting which appeared in Chapter 2 (above) was, in effect, directed towards defining and then evaluating an acceptable measure of success. The 'sustainability' ethic which was adopted there is well represented by Kenneth Boulding, who has said that
The essential measure of the success of the economy is not production and consumption at all, but the nature, extent, quality, and complexity of the total capital stock, including in this the state of the human bodies and minds included in the system... Any technical change which results in the maintenance of a given total stock with a lessened throughput [that is, less production and consumption] is clearly a gain.9

It was because I had in mind a question about how neoclassical economics defines success that I became sensitised to the issue (to be developed in Social Economics, volume 2), of the 'point of view' of the field of economics. There are, as I have been stressing, very many ways in which a person could define success: why did neoclassical economics adopt the definition I have here ascribed to the yuppies (before the latter were even invented as a category)? Marshall's definition was very different, with 'consumption' being subservient to his ultimate goals of improvement of Man's spiritual and mental life, and the exercise and development of Man's 'highest faculties'. Why the divergence since his time?

One answer to that question appeared as I recognised that, as compared to the neoclassical development, Marshallian economics was based upon a social – rather than neoclassical economics' individualistic – point of view. Moreover, in contrast to both Marxian and neoclassical economics, it adopted neither a workers' nor a consumers' point of view, but attempted to embrace both. Here I had stumbled upon one of the rewards of keeping in mind a question about the definition of success – a definition that almost assuredly exists in the form of some assumption behind any text. Such a question will lead the recipient of the text toward a recognition of the point of view taken by its author, as well as some insight into the point of view of the field which s/he represents. More generally, the search for the definition of success is helpful in revealing the essential values – the sense of what matters – embedded in a social science text.

Such an understanding of a text is more readily achieved by a reader who possesses some knowledge of the context in which it was written, as well as some understanding of the viewpoint of the author. The increasingly ahistorical character of education in neoclassical economics requires us to emphasise, under the heading of methodology, contextual issues which, half a century ago, were routinely considered as part of the intellectual history which it was taken for granted would be learned by all entering the field.
NORMATIVE AND/OR IDEOLOGICAL ELEMENTS; STARTING WITH THE ASSUMPTION THAT THEY PLAY SOME ROLE

As was remarked with respect to assumptions in general, it is probably also impossible to lay out every normative or ideological element that has played a part in the writing of virtually anything. Nevertheless, such elements do play a critical role. A more detailed discussion of this subject will have to await the next volume of this work; here I will simply give an example of the way in which one may read between the lines to find normative assumptions or evaluations which affect the apparently positive conclusions to a piece of analysis.

An economist involved in development policy might be expected to address such a question as the following: 'Will the urban cost of living rise or fall if farmers are prevented from importing capital equipment?' This question should elicit a tracing-through of the immediate, secondary and more distant impacts of the suggested policy upon farm machinery importers, food importers and/or exporters, domestic farm machinery producers, farm owners and workers, those who sell other goods and services to the foregoing, etc. The answer, to be truly useful to a policy maker, should not only state the probable net increase or decrease in urban prices, but should decompose these into effects on food prices; on goods and services sales to rural landowners and to rural workers; on domestic farm machine manufactures; etc.

If the facts thus elicited are then used to state a bottom-line figure on whether the urban cost of living has gone up or down, implicit evaluations have been made which assume that an aggregate cost-of-living index which subtracts one person's loss from another's gain does represent some sort of social welfare function (one strongly tinged with classical Utilitarianism). Built into this assumption is likely to be the further assumption, allowed in by default, that every unit of exchange is of equal value, regardless of who pays or receives it. Thus the 'cost-of-living' concept in the initial question had, to start with, smuggled in value judgments in the making and acceptance of an aggregate price index. (Indeed, the everyday concept of a 'bottom line' does the same.)

Suppose the analyst's summary answer to the question posed above is as follows:

In the short run, as labour is substituted for imported capital equipment, there will be more rural employment, reducing the migration pressure on the cities; at the same time, domestic food production will decrease, creating political pressure for increased...
food imports and/or higher food prices. In the urban areas in the short run there will be less pressure on the employment capacity of the industrial sector, while in the long run, as production of domestic farm machinery is stepped up, there will be increased urban job opportunities; and thus, on average, urban incomes will rise. All of this will contribute to urban price inflation.

There is no purely logical transition between this string of facts (which are simply predictions of the consequences of an isolated act or set of acts) and any welfare conclusions which may arise from it: 'ought cannot be deduced from is'. However, even putting aside the evaluation of relative importance which is concealed in the method of aggregation of the summary concept of overall price inflation (will every urban dweller be similarly affected by the 'urban price inflation'?), we need to give a little thought to the economist's decision to accept the implication of the initial question: that implication was that a priority in assessing the proposed policy is to consider its effects upon the urban price level.

The economist is a human being whose choice of response to a question, on the basis of his/her special knowledge as an economist, always includes the alternative of asking, 'Does the question you pose actually ask what you intend to ask? Will the answer to the question which I hear respond to the question which you intend?' There exists, too, the even more 'humanistic' alternative of pointing out (if this is what the economist happens to observe): 'There is a question of higher priority (more relevant or more important from some point of view) that should be asked about this subject, before the one being posed.' Accepting this alternative, however, means accepting that the role of 'expert professional' includes a responsibility for helping those who pose questions to understand the consequences of formulating them in one way, rather than in another.¹⁰

One consequence of such an approach is to open seriously the issue of the social responsibility of anyone in the position of 'expert professional'. Such a role should include a responsibility for helping those who pose questions to understand the consequences of formulating them in one way, rather than in another. This is contrary to current economic thinking, which tends to ignore the process that goes on in the posing of questions; even when the theorist poses his/her
own questions, s/he generally acts as if the questions had been 'given'. Such a pose, like the pretence that a social welfare function will have been 'given' before an economist gets to work on welfare problems, virtually precludes attention to important issues regarding the normative or ideological content of economic theory. The first requirement for understanding these issues is to drop the pretence that either questions or welfare functions are 'given' in some way that is completely outside the activity and the concerns of the economist.

The question which a policy-maker wants to ask of a specialist is not usually, 'if I do such and such (e.g., if I finance the Panama Canal in the following manner), and if nothing else changes, then what will the consequences be?' Instead, the policy maker will most probably want to ask something more like, 'given the following objectives and constraints, what is the total set of reasonable alternative ways of financing the Panama canal; and which of them will do the best job of meeting the weighted bundle of objectives?' If the question is one which has a significant economic component, an economist, employing his/her total package of personal resources (comprising individual 'judgment' attributes plus specialised expertise) may be able to give the most useful response to the policy maker's needs.

Some of the situations where the economist's answer may not be the most useful one include: (a) a situation where other expertise is more crucial than that of the economist; e.g., if the impact of the decision will depend more upon political, cultural, etc. variables than upon economic ones. (In this case, the economist should be employed as an adviser to the politician, anthropologist, sociologist, etc.; or some sort of team should be made up, of members of the relevant sciences, to come to a joint decision); or (b) a case where an economist has a deficiency in judgment which overbalances his/her expertise in economic knowledge and skills. (It is worth asking whether the kind of academic economic training currently available does not tend to produce a disproportionate number of economists with such a deficiency.)

The examples given in this section stress the difficulty of making clean distinctions between normative and positive economics. This difficulty should be kept in mind before we take for granted one of the basic tenets of scientific thinking: that there is no logical connection between a purely positive statement (or question) and a normative statement (or answer). The operative word here is purely; when questions or statements appear positive, but implicitly contain normative assumptions or evaluations, then answers may be logically
derived therefrom which also have normative implications. In such cases the simple statement, 'you cannot derive ought from is', may just not apply. Most often 'ought' is already mixed in with 'is', in the original formulation; and it is possible to derive 'ought' from a mixed 'is/ought' statement.

The for-a-while accepted primacy of prediction, within an image of 'positive' science, has driven many economists to the only honest position that seems compatible with such an ethos: the promise of delivering accurate 'if... then' statements. Such statements are often not, in fact, what is wanted by the people who ask the questions to which economists respond. Most clients of economics are motivated by a need to make decisions. Often the most useful economic output, from their point of view, would indeed be prediction, but of the boldest sort. When economists do venture to make predictions they normally assume that all existing policies and forces in the society will stay as they are. The really useful prediction, however, would be one that could state, 'this is what is going to happen given all of the other changes which will also take place'. That is getting into the realm of science fiction; under no significant circumstances does any actor know what all the other actors are going to do over an extended time.

The question to be looked at here is: given that economists cannot provide the kind of prediction that would be most useful, what are the next best alternatives?

Some economists have turned from prediction to description. The version of the latter currently considered most scientific is econometrics, which, in some forms, offers descriptions of 'what is', with hints that may be employed in analysing 'how it got that way'. Nevertheless, a straight dose of econometrics is, in actuality, sheer description, without understanding: the understanding has to be supplied to some extent by the users (depending upon their knowledge of how to read statistics) and to some extent by the economists, in whatever interpretation they offer. Understanding, in effect, always requires interpretation: a shipload of radios and a table of statistics may be differentiated as 'a tangible fact' versus 'a form of descriptive statement', but both require an additional infusion of meaning in order to be of any use either to a planner or to a theoretician.

'Meaning' is very different from 'fact', and 'description' is somewhere in between the two. Understanding is impossible without
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all three. It is possible to do social science with a much greater level of awareness and understanding than is now common, with regard to meaning, and to different levels of meanings. The process of making such awareness and understanding widespread may look reductionist, because it will call into question many claims that are now considered necessary for upholding the rigorous scientific standards to which we think we adhere. Those standards in fact not infrequently disguise a confusion between fact and meaning, knowledge and belief, proof and persuasion.

THE OUTPUTS OF ECONOMICS: A WAY OF COMPARING SOCIAL AND NEOCLASSICAL ECONOMICS

Givers of advice generally steer the seekers toward the type of advice which they, the givers, have to offer. The response from economists has typically come in one of three forms:

1. a *ceteris paribus* ‘if . . . then’ type of prediction, based upon a model abstracting more or less appropriately from the relevant situation;
2. an econometric description of reality, in which the lessons to be drawn from that description in fact (but not avowedly) depend largely upon the *judgment* exercised in data selection and preparation, and the *meaning* attributed to the results by its interpreter; or
3. a seat-of-the pants, common-sense type of response, in which the economist draws upon his/her life experience and accumulated understanding to point out the most salient features of the situation (description and understanding) in light of the interests which s/he thinks are most importantly at stake (evaluation and goal-definition), and then offers suggestions along the lines of: ‘These are the events you can influence, and the means you have to influence them; the best place for your intervention is probably the following . . . ’ (prediction and prescription).

The first two of the above types of advice are readily claimed and proclaimed by neoclassical economics. The third, though it is often what is actually given by people who happen to be neoclassical economists, does not really fit within the neoclassical methodological framework. (The neoclassical economist who actually gives this type of response may feel it necessary to go back and dress up his/her output in econometric or modelling terms.)
Social economics will need a legitimate way to formalise, to the appropriate extent (and not only in economic applications, but also in the teaching of the field), what was just described as the third common form of response, so as to make the best use of the life experience, judgment, intuition, etc., of the economist. This will most likely look very different from the kind of formalisation now accepted as appropriate in neoclassical economics.

One way to begin may be to reconsider our conceptualisation of the outputs of economics. The most obvious candidates for consideration are those that have just been mentioned: *understanding, description, prediction, evaluation, goal-definition* and *prescription*.

The first thing to be said is that economists always have done, and probably always will do, some of each of these. A corollary is that, given such diverse activities, diverse types of standards are probably required. Take, for example, standards with respect to ‘precision’: certain types of *description* can be expected to be precise; the best *predictions* may give a general, not a precise, idea of the general nature of expected change; while a *prescription* should be precise enough to be implementable, but if it is a prescription for actions that are to take place over time it generally needs to be recognised that, after the first stage, generalised guidance will increasingly become more helpful than precise directives. Similarly, it is necessary to adjust standards of, for example, ‘certainty’, ‘responsibility’, ‘responsiveness to the client’s needs’, ‘breadth of application’, etc., depending upon the types of output which each piece of economic analysis is designed to produce.

If neoclassical economics continues to stress a more simplified, stylised understanding and description (e.g., emphasising the ‘classical’ conditions of competition, etc., that lead to a competitive equilibrium) than is chosen by social economics, this will be an important methodological distinction between the two. At the same time, social economics will have to pay a price for increasing the complexity of its descriptions; this will probably be most evident in the area of *prediction*, where it will have less to say about the ‘theoretical’ (in the sense of mathematically modelled) consequences of *ceteris paribus* changes within idealised situations. The choice may be between a system of theory which describes, and can accurately predict, events in a different world from the one in which we live; versus a system which describes, but is modest in predicting, events of our own world. At the same time, social economics could be expected to be more methodologically self-conscious about (because more accepting of) the outputs of *evaluation, goal-definition* and *prescription*.

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Social economics should be able to achieve a self-conscious methodological flexibility which will be built upon the recognition that the use for which the economic output is sought - the questions which it seeks to answer - will influence how much emphasis is put upon each type of output. Thus

- **evaluation** may respond to such questions as: 'Who is hurt, who helped, to what extent, for what period of time?'
- **understanding** to: 'What are the existing conditions which are most significant in influencing the events of interest? Why and how do they produce these effects?'
- **prediction** to: 'What changes in the current flow of events may be expected? What will be the outcome in a given time if the current flow continues unaltered?'
- **goal-definition** to: 'What are the most important questions to ask here? From what point of view should they be formulated?'
- **description** to: 'What is the range of choice for action?'
- and **prescription** to: 'Out of the possible actions, which should be taken?'

The following passage makes explicit Marshall's division of labour between science and common sense:

Marshall had a vision of the social sciences as a collection of disciplines which have grown up around different particular ways of viewing different particular aspects of Man's social existence, with common sense, or judgment, operating as both a unifying principle (to allow comprehension of problems which cross disciplinary lines), and also as the only basis for real-world decision making. In this picture, common sense is seen as external to the sciences, even while it is, in Marshall's view, essential to their right application and even to their ability to make accurate perceptions.

The following passage makes explicit Marshall's division of labour between science and common sense:

In some parts of the science [of economics] the province of exact reasoning extends so far, that it can go near to indicating the right solution of practical problems. But in every practical problem it is common sense that is the ultimate arbiter. It is the function of common sense alone to propose a particular aim; to collect from each department of knowledge material adapted, so far as that department can do it, to the special purpose; to combine the various...
materials; to assign to each its proper place and importance; and finally to decide what course is to be adopted.\textsuperscript{11}

The scientific process, which (in the thinking behind this passage) is evidently a purely positive one, stops short before the decision or policy making process begins. Then another individual than the economist, or another part of the same individual, but speaking from Common Sense, not from Economic Authority, takes over. Science, in general, can analyse; it is left to common sense to draw, from the analysis, the conclusions which are to apply to the real world.

This is a curious procedure; a little untidy, and perhaps hard to implement; but, if it were practically possible to divide people up in this manner, it might be one of the better approaches to policy- and decision-making. The trick is to get people first to recognise for themselves, and then to admit outwardly, when they are speaking as economists, and when as possessors of common sense. The difficulty of achieving this is possibly a driving force behind the attempt to purge science of all normative elements. In the social sciences generally today there are very few who give to common sense the esteem that Marshall had afforded it; among the majority it is an idea which has fallen into disrepute.\textsuperscript{12}

There are, indeed, many valid objections to what passes, in everyday speech, under the name of common sense. For one thing, it is not at all ‘common’, in that it can bring different people to different conclusions. For another, our common sense tells (most of) us that common sense is a far more serviceable faculty in some people than in others; but it is hard to imagine ways of defining this faculty so that we could agree on who has what brand of it, let alone how to develop it in those in whom it seems wanting. And yet common sense continues to play, by default, many of the roles which Marshall ascribes to it, simply because it is needed, and because nothing has been found to take its place.

This unacceptable reality creates a problem for actual economic practice. The rhetoric of economics, insofar as it maintains a claim to being strictly positive, effectively eschews a policy or decision making role. Modern positivists would say that there is something or someone external to the social scientist – the politician, the citizen as voter, or the moral philosopher (the reference in the classical writings, e.g., Smith and Mill, was to ‘the statesman’) – who plays the role that Marshall claimed for the common sense aspect of the social scientist. It is difficult, however, to delineate exactly the moment when analysis stops and conclusion-drawing and decision-making begin. Insofar as
the economist allows his/her imagination or perception to go on beyond the exact endpoint of analysis, and gets involved in its consequences (let alone the assumption-making and goal-setting which preceded it), s/he is acting on something which goes beyond what Marshall called the economic organon, and which might be called common sense – or what I have tended to refer to as judgment.

It is a fact that, in the real world, economists are called upon to be active in every stage of policy- and decision-making processes, from that least dangerous step that Marshall countenanced, of saying 'what probably won't work'; through the ranking of various alternatives (often according to some kind of cost-benefit analysis); all the way up to stating what should be done, and even to helping the statesman to determine the ends that s/he should pursue. Given all this, it would seem desirable that economic theory itself should at least recognise these realities.

The most conservative way of doing so would be to build into the teaching and the theory of economics the statement: 'This body of theory is often used to bring practitioners to the point where another capability of the human mind – common sense or judgment – takes over from economics.' A more radical approach would be to include within the theory and the teaching of economics some ideas about how an economist can make that transition, along with some guidance on using judgment/common sense to interpret and apply economic theory.

The internal division which Marshall made, within the individual economist, between the use of theory and the use of common sense, may not be altogether satisfactory; but the alternative seems to leave an even more severe gap between theory and practice.

An economics which defines itself strictly according to the narrower interpretation of the field afforded by Marshall is no more than a tool, and economists who believe in this definition, and are true to it, are also only tools to be used by whoever possesses the qualities which would permit him/her to draw conclusions from economic analysis. But if common sense ceases to be highly regarded, and if nothing else takes its place, then there is no basis upon which anyone can claim authority for using economics in the real world. There is then no link between theory and application.

Many of the most humane economists of this century (those whom I would want to claim as 'social economists') have stressed the necessity for observing the distinction between the endpoint of analysis and the moral judgments we might make on its practical application. What I would now like to add to several decades of concern over this
distinction is the recognition that it is unrealistic to assume that social science analysts generally can or will stop short of knowing or caring about the consequences of their analysis. The social sciences, more than any other area of human endeavor, require a set of guidelines both for guarding against the worst pitfalls of, and for making the best use of, the reality that intentions or hopes as to consequences precede, and to some extent determine, most social science analysis.

When this fact is accepted it becomes evident that we cannot cordon off of the operations of common sense/judgment from those of mathematical modelling, econometrics and other techniques; these two contributions to analysis have to be employed together and conjoined within any individual who wishes usefully to apply economics to issues in the real world. With this recognition we return — but we will not pursue this further here — to a subject of Chapter 2 (Section IIIB): how to design educational curricula so that they contribute to the development of judgment as well as of techniques.

Notes

1. Marshall's position, for example, may be exemplified by two passages in Principles. The wording employed in the Mathematical Appendix — 'each particular difficulty, each source of possible error, is pushed into prominence by the definiteness of our phrases' (Principles, p. 700) is somewhat more conservative, and therefore more accurate, than another, more absolute claim that 'people . . . insist on knowing what is, and what is not intended to be assumed' (Principles, p. 71).

2. The rational expectations school would not think it relevant to include the word 'perceived', since they find it convenient to proceed as if it were the case that there is no difference between perception and reality. Others might cite a relativist philosophy which states that we have nothing to go on but perception, hence 'perceived' might as well be omitted here; it is to be taken for granted everywhere.

   It is critical for others (those who believe that there is a conceptual difference between perception and what we call 'reality' — even if we can only infer reality via perception — and who believe that this difference is an important one, with real-world consequences of which the economist must take account) to include the word 'perceived' in this definition.

3. For an especially good critique of the tautological nature of this utility definition, and of the neoclassical efforts to escape pure tautology, see Etzioni, 1988.

   The 'selfishness' implications of the 'rationality assumption' will receive a little more attention in Chapter 11, below.
4. There is less agreement in evolutionary biology upon how the success of a species should be defined. Recent suggestions have included definitions of a species's success in terms of absolute growth of biomass; of relative share of Earth's biomass; of relative activity in the absorption and/or processing of Earth's resources; or in terms of numbers of individuals. Older suggestions, more obviously designed to make Homo sapiens, by definition, the most successful of all, have stressed such qualitative measures as 'complexity' or 'differentiation of functions'. This question in any case no longer receives much attention, as the emphasis in most branches of evolutionary biology falls increasingly upon individual, rather than species, survival and 'success'.


8. Some interesting issues in this area are raised by an essay of Wilfred Beckerman, in which he poses the questions: Should individuals choose to continue their own lives? Or to make sacrifices which will promote the continued existence of the human species? Beckerman explicitly contrasts economic rationality — emphasising, he says, the welfare of human populations — with evolutionary rationality, where each individual's success is contingent upon maximising the numbers of its own descendents. (Wilfred Beckerman, 'Human Resources: Are they Worth Preserving?' in Paul Streeten and Harry Maier (eds) *Human Resources, Employment and Development*, (Macmillan, 1983).)


10. I witnessed a concrete example of this alternative when Buckminster Fuller was asked by a New York City planner, 'How can we accommodate the projected growth in number of automobiles in New York City?' Fuller's answer was, 'You should be asking, instead, how to reduce the number of automobiles that are in the city', and he gave several good environmental, economic and psychological reasons why, even if they could be accommodated, more automobiles were not the best solution to the city's needs. This response, it should be noted, fell on deaf ears: the questioner was a traffic designer whose understanding of his job was that he was to take the probable consumer choices on transportation as given and to adjust accordingly.

11. *Principles*, 1st edn, pps 88-9; abbreviated in the 2nd edn and deleted in the 3rd edn; quoted in *Var. II*, pp. 157–8; italics added. For a passage on this subject which was retained through the final edition of *Principles*, see quotation 4 in Chapter 6. Compare also: 'The only resources we have for dealing with social problems as a whole lie in the judgement of common sense' (A. Marshall, 'The Present Position of Economics' (1885), in *Memorials*).

12. Among philosophers of science when the idea of common sense is used formally it seems to be limited to knowledge of that which is most superficially evident to the senses.
Sometimes indeed the economist may give a practical decision as it were with the authority of his science, but such a decision is almost always merely negative or critical. It is to the effect that a proposed plan will not produce its desired result; just as an engineer might say with authority that a certain kind of canal lock is unsuitable for its purpose. But an economist as such cannot say which is the best course to pursue, any more than an engineer as such can decide which is the best route for the Panama canal.

It is true that an economist, like any other citizen, may give his own judgement as to the best solution of various practical problems, just as an engineer may give his opinion as to the right method of financing the Panama canal. But in such cases the counsel bears only the authority of the individual who gives it: he does not speak with the voice of his science. And the economist has to be specially careful to make this clear; because there is much misunderstanding as to the scope of his science, and undue claims to authority on practical matters have often been put forward on its behalf (A. Marshall, 'The Present Position of Economics' (1885) in *Memorials*, pp. 163–5).

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