

Remarks on the Foundations of Welfare Economics

At the heart of the subject referred to as the foundations of welfare economics or theoretical welfare economics or most recently the theory of social choice, has been the question of the appropriate relationship between the positive and the normative, as have been wider questions of the scope of reason in the making of judgements and the role of the economic expert in society. A quite different perspective upon these questions will be seen to have been offered in the preceding chapters than is to be found in the post-war conventions of the subject. One point of difference which may be observed straightaway arises from the latter being premised for the most part on a quite radical moral scepticism, while one of the main purposes of the present work has been to show some of the logical difficulties with holding such a position. Following from an assumption of moral scepticism has been the belief that interpersonal comparisons of utility are not possible to be made objectively, and tied up to this belief has been the notion of the measurability or immeasurability of utility. It is this belief too, more than anything else, which seems to have motivated the entire theory of social choice; indeed the quintessential belief of the moral sceptic in economics may be that Professor Arrow's famous theorem proved, under seemingly weak but desirable conditions of individual freedom, the impossibility of the existence of a social good (or we might say following Frege, proved the emptiness of the concept of a social good). The purpose of this chapter will be to offer a few further suggestions towards helping to dissolve some of the conceptual

puzzles faced in welfare economics, or at least to clarify their possible philosophical sources. The preceding chapters have advanced a theory of economic knowledge which is at the same time objectivist and explicitly anti-absolutist or anti-platonist. Insofar as the post-war conventions of welfare economics have been steeped in subjectivism and/or platonism, the interpretations given here will be found to be critical and even perhaps quite radical in nature. Yet Professor Arrow himself concluded his Nobel Lecture saying the philosophical implications of his theorem were not clear, and expressed a hope that his theorem would be seen 'as a challenge rather than as a discouraging barrier'.¹ It will be in such a spirit of a continuing and mutually critical tradition of scholarship that the remarks offered here are intended to be taken.

2. As the issues involved are well known to be slippery to the grasp, it may be useful to offer a synopsis of the argument at the outset.

Remark A The theory of demand given by Marshall was relatively direct, literal and commonsensical, whereas the theory of demand given by Hicks has been indirect, metaphorical and abstract. Marshall's use of a concept of utility was not unnatural since a part of his purpose was realistic description of the actual business of life. Hicks's theory has had innumerable uses in modern economics but one ill consequence: that of sending Marshall's theory into exile. The young Hicks's scepticism of the meaningfulness of the Marshallian concept of utility was misdirected, and this is something which the older Hicks has acknowledged.

Remark B Robbins's scepticism of interpersonal comparisons amounted to a species of solipsism. The problem of solipsism may have a relatively straightforward philosophical solution via establishing the possibility of different logical kinds of objective knowledge.

Remark C Interpersonal comparisons are a species of judgement, and are therefore open to objective reasoning (which itself may

be various in kind and open-ended in scope and direction, as has been argued in previous chapters).

Remark D The question of whether a judgement *can be* made objectively is separate from (and prior to) the question of *who* should be making a judgement in a given case. Interpersonal comparisons are a species of judgement. The question of whether interpersonal comparisons *can be* made objectively is a separate question from the question of *who* should be making them in a given case.

Remark E For interpersonal comparisons to be possible to be made objectively in this sense does not say anything at all about the concept of utility being open to measurement or quantification. There is no such implication unless one made a link between an objectivist theory of knowledge and a platonist theory of existence – viz., assuming that if the concept of utility is taken to be meaningful then measurements of utility would be meaningful as well (perhaps corresponding to distances defined in some sort of invisible, transcendental domain).

Remark F That such a link is unnecessary has been argued in previous chapters, especially in Part II. Yet the idea that objectivity is somehow tied up with platonism is widespread. It prevails both among subjectivists, who, wishing to reject platonism, go on to reject objectivity; and among absolutists, who, wishing to endorse objectivity, go on to embrace platonism. The philosophical malaise often found in contemporary economic theory of being alternately subjectivist and absolutist may be a result of an acceptance of this idea (as it may be also of an ambivalence between formalist and platonist views of mathematics).

Remark G Confounding objectivity with platonism may lead to a further malaise of supposing utility and interpersonal comparisons are meaningful if and only if the State should be making interpersonal comparisons (specifically redistributions such as via progressive income tax). This has either of two mutually exclusive symptoms, viz., supposing *if* utility and interpersonal comparisons are meaningful *then* the State should be making

redistributions; or supposing *if* the State should not be making redistributions *then* neither utility nor *a fortiori* interpersonal comparisons can be meaningful.

Remark H Whether or not the State should redistribute in a given case is a separate question from whether or not the State should be involved in making interpersonal comparisons. (For example the judiciary clearly makes interpersonal comparisons but not all of these involve redistributions.) Whether the State should redistribute in a given case and whether the State should be making interpersonal comparisons in a given case is each a distinct question from whether interpersonal comparisons can be meaningful.

Remark I The theory of social choice pioneered by Arrow has been motivated by the scepticisms of Hicks and Robbins. Central to Arrow's theory has been his idea of an all-encompassing 'social state', over which individual preferences are to be defined. Given moral scepticism and an assumption of 'objectivity *if and only if* platonism', this may be the only way for an individual to have social opinions. But consequently the normal concept of an individual is lost. The human beings of social choice theory, like the human beings of modern demand theory, are not normal human beings.

Remark J The definition of each of Arrow's axioms depends on the definition of the social state. The resulting interpretation of Arrow's theorem might be plausible when the size of the society is as small as that of a committee, but it is quite unnatural otherwise. In particular, Sen has defined liberalism following Arrow's route, and this definition comes to look very different from what has been traditionally recognized as liberalism.

These remarks may seem extraordinarily radical relative to certain trends in contemporary economic theory, so it will be important to tread with special care and as much attention to detail as possible.

3. Among the most vexing questions encountered in welfare economics have been ones of the form 'Should X be done if (or even if) it benefits A more than it benefits B?' If this is to be

considered meaningful at all, the notion of a benefit or loss to A and of a benefit or loss to B have to be considered meaningful in the first place, as must be the possibility of comparisons between these. A pair of parallel divisions can be identified among twentieth-century economists on the matter – with Marshall, Wickseil, Pigou and Robertson among others seeming to stand to the one side and broadly answering that the notions are meaningful, and Pareto, Robbins, Hicks, Samuelson and Arrow among others seeming to stand to the other side and broadly answering that they are not. It may be helpful to remind ourselves of a representative view of each side.

Marshall's description of the nature of human wants and their satisfaction went like this: 'There is an endless variety of wants, but there is a limit to each separate want. This familiar and fundamental tendency of human nature may be stated in the "law of satiable wants" or of "diminishing utility" thus: The "total utility" of a thing to anyone (that is, the total pleasure or benefit it yields him) increases with every increase in his stock of it, but not as fast as his stock increases. If his stock increases at a uniform rate the benefit derived from it increases at a diminishing rate. . . . That part of the thing which he is only just induced to purchase may be called his "marginal purchase", because he is on the margin of doubt whether it is worth his while to incur the outlay required to obtain it. And the utility of his marginal purchase may be called the "marginal utility" of the thing to him. Or, if instead of buying it, he makes the thing himself, then its marginal utility is the utility of that part which he thinks is only just worth his while to make. And thus the law just given may be worded: The marginal utility of a thing to anyone diminishes with every increase in the amount of it he already has.'² A famous neoclassical observation followed. 'If a person has a thing which he can put to several uses, he will distribute it among these uses in such a way that it has the same marginal utility in all. For if it had a greater marginal utility in one use than another, he would gain by taking away some of it from the second use and applying it to the first.'³ Marshall went on to argue that the purchaser of a good may be seen as buying an amount up to which the utility to him of the last unit just equalled the price being quoted. If tea was selling at two shillings a pound and a person bought ten pounds, we might say the difference in utility to him of ten

pounds of tea instead of nine was just above two shillings, and the difference in utility to him of eleven pounds instead of ten was just below two shillings. Add to this an observation that every world contains more than one good and so all prices must be relative prices, and we have the famous condition of consumer equilibrium, that the ratio of the marginal utilities to a particular trader of two goods equals the ratio of the prices of the goods being quoted in the marketplace.

Hicks's initial objective in launching a critique of this account would seem to have to have been a relatively limited one: 'My work on this subject began with the endeavour to supply a needed theoretical foundation for statistical demand studies; so that there is a definite relevance to that field. Other matters of fundamental methodological importance are thrown up as well.'⁴ Hicks's aim was to derive the demand curve mathematically, at least partly in the belief that this would be valuable for the purposes of econometrics, and indeed his collaborator R. G. D. Allen would become a pioneer of the statistical study of demand. With such a purpose in mind, it was understandable that Hicks should be sceptical of Marshall's account: 'But now what is this "utility" which the consumer maximizes? And what is the exact basis for the law of diminishing marginal utility? Marshall leaves one uncomfortable on these subjects.'⁵ Whence, putting the indifference curve analysis of Pareto to work in the way every economist now knows, Hicks and Allen showed how the downward sloping demand curve could be deduced without a mention of the word utility. Hicks concluded: 'The quantitative concept of utility is not necessary in order to explain market phenomena. Therefore, on the principle of Occam's razor, it is better to do without it. For it is not, in practice, a matter of indifference if a theory contains unnecessary entities. Such quantities are irrelevant to the problem in hand, and their presence is likely to obscure the vision. . . . We have . . . to undertake a purge, rejecting all concepts which are tainted by quantitative utility, and replacing them, so far as they need to be replaced, by concepts which have no such implication.'⁶ The problem in hand had been to derive the demand curve from the fewest axioms, and Hicks and Allen – in a spirit of Russellian scepticism – showed how this could be done without any necessary reference to a concept of utility or that of a utility function.

It is remarkable how decisively the hicksian view has seemed to prevail over the marshallian in contemporary theory – as when Professor Samuelson declared ‘the whole end and purpose’ of the analysis of consumer behaviour to be the derivation of demand functions in prices and income, or when Professor Arrow reissued Hicks’s occamist challenge: ‘the proponents of measurable utility have been unable to produce any proposition of economic behavior which could be explained by their hypothesis and not by those of the indifference curve theorists.’⁷ Yet it does not seem self-evident that an acceptance of a marshallian concept of utility would necessarily imply utility to be measurable or quantifiable, or even that Marshall himself had believed it to be so. Marshall did conclude that a quoted price for tea of two shillings a pound at which the buyer actually makes his purchase ‘measures the utility to him of the tea which lies at the margin or terminus or end of his purchases; it measures the marginal utility to him.’⁸ But this would seem to be the only sense in which Marshall believed the utility of a good to someone could be measured by the agent or anyone else. To the contrary it is said frequently enough in Book III of *Principles* that desires themselves ‘cannot be measured directly’, that the utility of a thing accrues only to a given individual, that ‘price will measure the marginal utility of the commodity to each purchaser individually: we cannot speak of price as measuring utility in general, because the wants and circumstances of different people are different’, that ‘we cannot compare the quantities of two benefits, which are enjoyed at different times even by the same person.’⁹ Marshall’s purpose is mainly descriptive, to say how people actually ‘live and move and think in the ordinary business of life’, and any names and ‘elaborate machinery’ he invents in his study are intended ‘only to bring to light difficulties and assumptions that are latent in the common language of the marketplace.’¹⁰ Marshall’s illustrations are commonplaces open to ordinary observation: a housewife must decide how much yarn should be put to making socks and how much to making vests so ‘as to contribute as much as possible to family well being’; a clerk is in doubt whether to ride to work, or walk and save the cash for something extra at lunch; a pair of newlyweds plan all their expenditures carefully, ‘weighing the loss of utility that would result from taking away a pound’s expenditure here, with that which they would lose by

taking it away there’, and so on. Marshall’s examples are about tea and salt and socks and vests and wool and wood and furniture and champagne and pineapples. And such goods are desired, delighted in, regretted, and enjoyed by flesh-and-blood human beings, who have appetites for and emotions about the things they find in the world, and senses with which to enjoy them. Moreover, the notion that in most cases, as a person comes to possess or consume more and more of a good, the marginal unit is enjoyed by less and less, may be capable of a physiological and psychological underpinning. It could be a natural limitation of the mind that it better understands and is better aware of what is proximate to it, and that such awareness and understanding diminishes as objects become remote or peripheral to ordinary experience. When this observation is considered in the context of property, it may suggest that the ownership of increasing quantities of goods gradually diminishes awareness of the whole. The person with very little is likely to be acutely conscious of what he does in fact possess, whereas no reader of these pages will be a Scrooge, with an exact inventory in mind of everything he or she owns, down to the last box of matches in the cupboard and the loose change in the pocket (though situations are easily imagined in which we would become acutely conscious of the utility of such things). In short, Marshall’s account of the concepts of utility and marginal utility is one which may be understood by anyone by applying ordinary powers of reason and observation to experience.

For purposes of contemporary demand theory by contrast, axioms and theories about human beings need to be postulated but we do not need either to acknowledge the fact of our own humanity, or to observe human actions and motivations as these happen to be given to experience, or to look to the pleasures and pains of actual human beings. A logical cipher can substitute, to which we associate other sets of ciphers, defining the first to be ‘the agent’, the second to be the ‘commodity space’, the third to be ‘the agent’s preferences’ which are ‘complete’, ‘reflexive’, ‘transitive’, ‘continuous’, and so on. In the previous chapter we have seen that a formalist approach in the philosophy of mathematics has the liberating effect of permitting the mathematician to proceed with the statement of formal systems without reference to any reality at all. A similar liberating effect may

have been made possible in analytical economics by the Hicks/Allen approach to the theory of demand, permitting numerous new formal economic systems to be stated without any necessary reference being made to real economic phenomena. With respect to the theoretical purpose of deriving demand curves in prices and income, which had been Hicks's original purpose, it may be neither possible nor necessary to meet the occamist challenge that the marshallian theory has nothing to offer which cannot be offered by the hicksian and post-hicksian theories. Yet that does not mean the occamist challenge cannot be met with respect to the purpose the marshallians themselves may have had, namely, the purpose of description, requiring the use of our common powers of reasoning and observation to describe how human beings actually *are* in their economic behaviour. The ghost of Marshall might reply to the challenge of Hicks and Samuelson and Arrow on the following lines: 'Agreed that the paretian indifference curve theory, and in due course the axioms of revealed preference, have permitted more austere deductions of the demand curve from fewer and fewer axioms. Agreed too, if you wish, that an "ordinal" theory of demand is analytically more elegant than a "cardinal" theory of demand (though neither I nor my contemporaries were concerned to use such terms). Agreed too that your theory has been and continues to be greatly valuable in innumerable contexts in economic inquiry. But that does not mean you have described how people *are* – how they actually "live and move and think in the ordinary business of life." As a plain matter of fact, *everyone* with whom you or I have actually been acquainted, you and I included, has been a being who has experienced utility or disutility, pleasures or pains, whether of a mental or physical kind, from a wide variety of goods, whether tradeable at a positive price or not. At the same time, *no one* with whom you or I have been acquainted has ever given any evidence of having "preference orderings" of the kind you postulate. I am even prepared to say I know this to be true *for certain*, and moreover, not only do *I* know this but so do you and so does everybody else. We *know* we do experience pleasures and pains, and we know we do *not* define precise orderings between vast numbers of vectors of goods and skills.'

Where Hicks, Robbins, Samuelson, Arrow and others have written in the sceptical and occamist tradition of Russell (and

Russell is well known for a time to have been platonist as well!) the replies of Marshall, Wicksell, Pigou, Robertson and others may be in the critical and commonsensical traditions of Moore and Peirce. And the true point of such a reply would be not to decry in the slightest the achievements of the post-hicksian theory, but rather to place it in juster perspective: to remind ourselves that it is *literally* false, and that its value derives precisely from its *metaphorical* use in contexts in which the primary purpose is not a literal description of the individual agent but something else, e.g. analysis of a backward-bending supply curve of labour, or of the gains from trade, or 'Liquidity Preference as Behavior Toward Risk', and so on in scores of different contexts within economic study. Such a purpose is to be contrasted with the marshallian account which did purport to be literally true, and does succeed in being a more plausible literal description. Indeed there appears to be quite firm evidence that Professor Hicks's present opinion may be closer to such a position than it is to the author of Chapter I of *Value and Capital*: 'the replacement of the old consumer theory – the marginal utility theory – by the modern theory of ordinal preferences (a replacement in which I myself have played a part) was not so clear an advance as is usually supposed. Marshall's consumer, who decides on his purchases by comparing the marginal utility of what is to be bought with the marginal utility of the money he will have to pay for it, is more like an actual consumer, at least so far as some important purchases are concerned, than Samuelson's consumer, who "reveals his preference".'¹¹ Professor Hicks has confirmed in correspondence that his present view is indeed 'very different from that which I took in '34 and '39', and has cited further passages in his recent writings as evidence of a fresh position.¹²

A conclusion we may provisionally register, then, is that it may be possible the marshallian and hicksian theories of the consumer have had subtly different purposes which need not be considered incompatible. One result of such a recognition would be the return of the marshallian account from wrongful exile and its restoration as a plausible and literal description of individual economic behaviour.

4. Where Hicks's scepticism seemed to derive from a premise

that allowing utility and marginal utility to be meaningful notions would permit them to be in some sense 'quantitative', Robbins's scepticism seemed to derive from a premise that it would permit interpersonal comparisons and a numerical sum of individual utilities to be meaningful as well. And much contemporary opinion seemed to exist to such an effect. For example Wicksell had written in criticism of Cassel: 'He also repeats his old objection about the impossibility of "measuring utility", as though exchange and economic activity in general – even in a primitive economy – would be conceivable, if we could not estimate the utility of different goods to us. Similarly, the deliberation of members of Parliament on problems of taxation would be meaningless, if it were impossible to compare the utility of the same good to different persons.'¹³ And Pigou had written that it was 'evident that any transference of income from a relatively rich man to a relatively poor man of similar temperament, since it enables more intense wants to be satisfied at the expense of less intense wants, must increase the aggregate sum of satisfaction. The old "law of diminishing marginal utility" thus leads securely to the proposition: Any cause which increases the absolute share of real income in the hands of the poor, provided that it does not lead to a contraction in the size of the national dividend from any point of view, will in general, increase economic welfare.'¹⁴ And Marshall himself had written of 'the fact that the same sum of money measures a greater pleasure for the poor than for the rich', that a tax of £20 on each of fifty incomes of £200 caused 'unquestionably far greater hurt' *ceteris paribus* than a tax of £1000 on one income of £10,000; that 'the utility, or benefit, that is measured in the poorer man's mind by twopence is greater than that measured in the richer man's mind. . . .'¹⁵ It was to this body of opinion that Robbins replied: 'The Law of Diminishing Marginal Utility implies that the more one has of anything, the less one values additional units thereof. Therefore, it is said, the more real income one has, the less one values additional units of income. Therefore, the marginal utility of a rich man's income is less than the marginal utility of a poor man's income. Therefore, if transfers are made, and these transfers do not appreciably affect production, total utility will be increased. Therefore, such transfers are "economically justified". Q.E.D. At first sight, the plausibility of the argument is

overwhelming. But on closer inspection it is seen to be merely specious. . . . [it] begs the great metaphysical question of the scientific comparability of different individual experiences.'¹⁶

How, if at all, can Robbins's challenge be met? The marshallian notion of utility did entail that 'the richer a man becomes the less is the marginal utility of money to him; every increase in his resources increases the price which he is willing to pay for any given benefit. And in the same way every diminution of his resources increases the marginal utility of money to him, and diminishes the price he is willing to pay for any benefit.'¹⁷ I.e. given an income of fifty dollars a week the utility of me of the fiftieth dollar is much higher than the utility to me of the five thousandth dollar given an income of five thousand dollars a week. Or, if I experience a ten dollar cut in a fifty dollar income I shall be much more upset than if I experience the same in a five thousand dollar income. The statements refer to the individual's *own* experiences and feelings; i.e., they presume he is able himself to describe the state of his own mind when he experiences an increase or decrease in the quantity of the goods he owns and so a decrease or increase in their marginal utilities to him. Thus the philosophical question implicit in Robbins's challenge may appear to be: Is this not all the individual can possibly experience? In particular, how can it be possible for A to know – to know *objectively* – what B happens to feel or experience? Is not such a thing impossible?

Stated in this manner, it may be readily seen that what may have been implicit in Robbins's challenge is something close to the problem of solipsism discussed in the philosophy of mind and which we have met with briefly in Chapter 4. For the solipsist is someone who holds his own feelings and experiences to be indeed *all* that he can *possibly* experience: 'He goes to the limit of declaring that he has no reason for believing in the existence or occurrence of anything but the present state of his own mind.'¹⁸ And, just as with the humean sceptic or the subjective probabilist, there may be truth in what the solipsist means even while there is not in what he says or believes himself to mean. I can *and* cannot know the pleasures or pains or joy or sorrow you feel, depending on which is being meant of two different senses in which there may be a knowledge of these feelings to be had. Wittgenstein remarked at one place: 'For what the solipsist

means is quite correct',¹⁹ and Bambrough has recently sought to make this clearer. I cannot know how you feel pain, pleasure, joy or sorrow *in the same way* you feel the pain, pleasure, joy or sorrow you do: the solipsist is right when he means that he and only he can know the state of his own mind in the way that *only* he can know it. But that does not mean I cannot know *at all* how you feel what you do: the solipsist is wrong when he means that the way he and only he knows the state of his own mind is the *only* way in which the state of his mind can be known. It is as if someone says we cannot really know what the Duke of Wellington saw or did at Waterloo if we are not the Duke of Wellington ourselves: 'When we say that the Duke of Wellington or the child with toothache or the man who had the dream or saw the play or the tomato knows in a way that we do not know, we must distinguish between two uses of these words: we may mean that the Duke or the child or the man does know something that we do not know, or we may mean that his *way* of knowing is different from ours.'²⁰ Just as the way in which it is possible for the eyewitness to know is different from the way in which it may be possible for the historian to know, so the way in which it is possible for you to know how you feel what you do is different from the way in which it may be possible for me to know how you feel what you do. Equally, just as the historian *can* know what happened at Waterloo or Borodino or Plassey without having to know it in the way someone who was there knows it, so I *can* know how you feel something without having to know it in the way you know how you feel it. Indeed such an argument may be able to sustain considerable generalization. No one can feel the labour pains of a woman during childbirth in the same way that she happens to feel them herself. Yet women who have themselves felt the pains of childbirth may be able to *understand* the pain in a way others cannot. Other women who have not given birth but who have miscarried may still understand the pain in a way yet others cannot. And yet other women who have neither given birth nor miscarried but who have experienced the pains of menstruation may still understand it better than someone, such as a man, who has not and cannot have done so, and yet who himself is capable of understanding it as well, though in a necessarily different way. In each case there would be a relevant sense in which an objective understanding is possible,

and yet there are a variety of different logical kinds of such understanding. Reframing the problem in the terms used in Chapter 6 in discussing liberalism and in Chapter 10 in discussing probability, we might say a person has a kind of *privileged access* to his or her own experience which is impossible for others to possess. The solipsist mistakes the fact of this privileged access for a signal that all access is closed, when it is instead a signal that access can be had in logically differing ways. Thus subjective experience, like subjective belief, may be possible without diminishing in the slightest the scope for objective understanding.

There are two further results of the theory of knowledge of Part II which may be relevant here. The first would be simply that questions of judgement, like all questions in general, once adequately described in particular context and circumstance, should be capable of sustaining reasonable and open-ended inquiry and discussion as to their answers; since interpersonal comparisons are a species of judgement, we may predict the same to hold for them as well. Secondly, questions of a given kind may need analysis into two separate senses: whether objective answers can *possibly* be given to such questions, and whether it is known *who* if anyone is in the best position of having an answer in a given case. It is possible that at least some of the discussion in theoretical welfare economics has been muddled by a general failure to make such a distinction, and a confounding of these senses into one. In previous chapters we have seen that Plato had certainly seemed to fail to make such a distinction, and ever since the proper fear or abhorrence of elitism or dictatorship may have contributed at the same time to the abandonment of objectivity. More specifically in the case of the economists' division, both parties may have agreed to the questionable assumption that the possibility of interpersonal comparisons entailed, and was entailed by, approval that it was the State which should be involved in the making of such judgements – where by the State is here meant legislature and executive, since the judiciary clearly has the task of judging already (e.g. to which parent, or which pair of parents, would it be better to give custody of the child?). This would not be to say the State cannot or should not attempt to make interpersonal comparisons as objectively as it can, but merely that there is no necessary connection between an argument that objective comparisons of this sort are possible, and

substantive political questions about whether, in a given context, it is the State which happens to be in the best position to be making them. It is possible that Pigou and others were led from an assumption that interpersonal comparisons were not meaningless to a conclusion that, for example, redistributions by the State were thereby justified; while Robbins and others were led from an assumption that the State should not make such comparisons (or at least that the economist qua scientist could not advise the State to do so) to a conclusion that interpersonal comparisons of utility and the concept of utility itself were meaningless. Here as in other cases of seemingly irreconcilable difference, it is possible that 'one theory is in secret and mistaken agreement with another, where because they both agree on a false disjunction, each of them sacrifices a truth that the other strenuously guards, and embraces the paradox that it is the primary function of the other to controvert.'²¹

These simple philosophical observations may serve to dissolve at least some of the puzzlement over interpersonal comparisons which has vexed theoretical welfare economics for half a century now.²²

5. The modern theory of social choice would seem clearly to have been premised upon the Hicks/Robbins approach to demand theory and welfare economics. For example, Professor Arrow has written forthrightly of how, upon setting out on his investigation, he had 'fully adopted' the viewpoint of *Value and Capital*, and also that his system has been motivated by an assumption that interpersonal comparisons are meaningless: 'The viewpoint will be taken here that interpersonal comparison of utilities has no meaning and, in fact, that there is no meaning relevant to welfare comparisons in the measurability of individual utility.'²³

We have seen in the previous chapter that a view can be taken in the philosophy of mathematics that a logical or mathematical theorem does not, indeed cannot, have any factual significance by itself, merely as a valid theorem. Equally, the validity of a theorem does not depend on any feature of the actual world whatsoever. We may be led to such a view by endorsing for example a traditional *a priori*/empirical or logic/fact dualism, or a hilbertian formalism. So for example we could say that the fact

that the people of Switzerland happen to have had a well-working constitution or the fact that the people of Lebanon have not, is evidence which cannot have any possible effect on the *formal* validity of Arrow's theorem. In other words, given a formalist point of view, a logical or mathematical symbolism would need to be kept quite distinct from the interpretations that it may be open to. The definition of a relation like R between two objects x and y thus xRy , and subsequent definitions of xPy as $xRy \ \& \ \sim yRx$, and of xIy as $xRy \ \& \ yRx$, neither entail nor are entailed by specific interpretations of 'weak preference', 'preference', and 'indifference' given to them in contemporary theories. Indeed to free ourselves from habitual modes of thought, we might even consider briefly a highly unusual interpretation – let us imagine a psychologist to conduct an experiment on sensory perception, in which in each of a set of jars is put the same quantity of a liquid at a different or the same temperature, so in one jar the liquid is at 5°C, in another jar at 6°C, in a third jar at 7°C, and so on. Each of the psychologist's subjects is invited to take the jars two at a time, dip a different finger into each, and rank one as being colder than or as cold as the other – with the requirement that if jar A is ranked at least as cold as jar B and jar B is at least as cold as jar C then jar A must be ranked at least as cold as jar C. Every subject does as told and the psychologist hands in the results to a theorist familiar with Arrow's theorem. Clearly an interpretation of the axioms of that theorem may be possible in such a context – obtaining, for example, what has been called the Pareto principle as follows: 'If any two jars (x, y) are ranked xP_iy by at least one subject i and xR_jy by every other subject j then xPy is the social ranking'; and what has been called the condition of non-dictatorship as follows: 'There is no subject such that whatever his or her ranking of a pair of jars that is the social ranking, regardless of the rankings of the other subjects', and so on. The psychologist may be told that Arrow's theorem can be applied to deduce there to be no social ranking with respect to perception of the coldness of the liquid which would satisfy Arrow's four axioms. Examples of this sort, whether fanciful or plausible, clearly can be generated indefinitely, with the results of experiments on individual perceptions of colour, shades of the same colour, height, weight, sound, taste, and so on (as Piaget might have done in his experiments with the development of

children). And the result would be a *multiplicity* of interpretations of Professor Arrow's theorem – informing us that there are difficulties perhaps not only with the concept 'social welfare' which had concerned Professor Arrow, but also with concepts like 'social coldness', 'social colour', 'social height', and so on.

The purpose of making such a contrasting interpretation would be to gain a juster perspective of the intended interpretation of the theorem – which of course is that of an economic and socio-political context, specifically 'a capitalist democracy' (perhaps the United States) as well as 'the emerging democracies with mixed economic systems (Great Britain, France and Scandinavia).'²⁴ If we followed such an intent and interpreted the theorem as one referring to the analysis of actual economic and socio-political contexts, then some reference to such a context – i.e. *an invitation to accept some empirical claim about the world* – would be necessary to be made, whether it happens in fact to be true about the world or not. Professor Arrow makes one such invitation in his definition of the 'objects of choice' being 'social states': 'The most precise definition of a social state would be a complete description of the amount of each type of commodity in the hands of each individual, the amount of labor to be supplied by each individual, the amount of each productive resource invested in each type of productive activity, and the amounts of various types of collective activity (such as municipal services, diplomacy and its continuation by other means, and the erection of statues to famous men). It is assumed that each individual in the community has a definite ordering of all conceivable social states in terms of their desirability to him. It need not be assumed that an individual's attitude toward different social states is determined exclusively by the commodity bundles which accrue to his lot under each. It is simply assumed that the individual orders all social states by whatever standards he deems relevant.'²⁵ This definition is one which happens to be indispensable to the purpose of interpreting the theorem in its intended context. For what has been meant is something to this effect: 'If (p, q, r, s) obtain in the world then you will find $\sim t$ obtains' – where p, q, r, s are the four axioms and t would be a 'social ordering' which satisfied them. And it is in the definition of each of the axioms that the definition of a social state given above is necessarily presupposed. It is over *pairs of social states* defined as

above – and not jars of liquid at various temperatures or something else – that each individual agent is to be pictured in social choice theory as having and exercising a complete, reflexive and transitive preference ordering symbolized by R . It is only given such an interpretation that it becomes possible now to get what is called the Pareto principle to read: 'If any two social states (x, y) are ranked xP_iy by at least one citizen i and xR_jy by every other citizen j then xPy is the social ranking'; and what is called the condition of non-dictatorship to read: 'There is no citizen such that whatever his or her ranking of a pair of states, that is the social ranking, regardless of the ranking of the other citizens', and so on. We have (in Chapter 2) seen Professor Arrow to hold to a quite radical moral scepticism; yet the subjective element in his theory of social choice does not have to do with what the objects of choice facing the individual agent *are*, but with how the individual agent chooses to rank them. The individual agent is not free to say he is going to take alternative x to be exactly what he pleases; the *same* set of alternatives is presumed to be objectively known and understood by all agents: x is x and y is y and z is z , and everyone takes them to be so. Where the subjective features of the theory appear is in every agent being presumed to rank pairs of alternative social states in any way that he or she pleases subject to transitivity: 'The individual plays a central role in social choice as the judge of alternative social actions according to his own standards. We presume that each individual has some way of ranking social actions according to his preference for their consequences. These preferences constitute his value system. They are assumed to reflect already in full measure altruistic, egoistic motivations, as the case may be. . . .'²⁶ Yet before an individual may be said to be in a position *to rank* one alternative as preferred to or indifferent with another, it must be supposed necessary for him or her *to know* of the existence of the alternatives, or at least for the alternatives to be able to be distinguished. There must be two distinct alternatives (x, y) *known* to the agent before he or she is able to rank them either xRy & $\sim yRx$, or yRx & $\sim xRy$, or xRy & yRx . For the intended interpretation to be viable, therefore, it must be assumed *that every agent can and does know of every alternative social state there is* – that he or she is able to distinguish between them – if he or she is to be imagined as being

able to take them two at a time and rank them according to personal wishes as being either preferred to or indifferent with one another. The domain over which every individual's preferences are to be defined consists of every logically possible social state, and every element of this domain must be assumed to be known by the agent.

Now there may be contexts in which this could be imagined to be plausible. That is to say, where every agent could be imagined to have more or less the same uniform knowledge of the existence of each possible alternative social state. We can think of cases of the distribution of a fixed vector of goods between a small number of individual recipients where every agent knows of each possible collective distribution; e.g., a settlement between divorcing spouses, or a division of property between the children of someone who has died intestate, or the division of resources between the members of a federation. We could think also of contexts where although the number of agents is large, the number of alternatives happened to be small and proxied for social states; e.g., different candidates in an election being taken to be rough proxies for the different social states that may be expected in the event that they came to be elected. In contexts of this sort, where, so to speak, collective decisions are being made in the small, it could be of interest for the economist or political scientist to impose Professor Arrow's axioms and observe the result. However the same cannot be said to hold with respect to collective decisions in the large, which would seem to have been the intended context, where we would be asked to imagine a large number of alternative social states being ranked by each of a large number of individual agents. As discussed in Part II, the particularity of knowledge would render such a claim manifestly false – *as indeed Professor Arrow himself* has argued in his distinguished writings in the theory of general equilibrium: 'In defenses of the free enterprise system such as Hayek's, great emphasis is placed on the particularity of knowledge in different agents. . . . I suggest that the lessons of this observation are sometimes forgotten in current model building, particularly in the emphasis on rational expectations formed in a rather sophisticated way. . . . It is the essence of the decentralized economy that individuals have different information. Each individual is specialized in certain activities and has in general specialized knowledge

about these activities.'²⁷ Of course the last two of these sentences express and endorse as clearly as anything the observation of Aristotle and Smith and Hayek that it would not be a claim of universal knowledge but its contrary which may be true of actual economies and politics. Yet the lessons of this observation seem to have been neglected in the theory of social choice!

This same definition of 'social state', over pairs of which the individual agent is supposed to have a preference, has been central to a notion of liberalism advanced and discussed by Professor Sen and endorsed by Professor Arrow and others. Professor Sen has interpreted his theorem on 'the impossibility of a paretian liberal' as implying that it is logically possible for there to be a contradiction for some sets of individual preferences between what has been called the Pareto principle (as defined previously), a condition of 'unrestricted domain' (i.e., that the domain of the mapping which is to give the social ordering is the product-set of all logically possible individual orderings), and a condition Sen named *L* for liberalism, defined to the following effect: For every agent *i*, there exists at least one pair of alternative social states (*x*, *y*), such that if the agent prefers *x* to *y* then *x* is to be preferred to *y* in the social ranking; xP_iy implies xPy .²⁸ Professor Sen has claimed that while he does not wish to enter into questions in the history of thought, this kind of definition adequately captures what liberals in traditional political thought have meant when they have said they valued a 'protected sphere' for every person, within which the freedom and privacy of the individual is guaranteed. And he has cited J. S. Mill and Professor Hayek as two such liberals. But Professor Sen has said too that it is not necessary to be an archetypical liberal in order to agree to *L*, and he cites Gramsci and even Stalin as among those who might have agreed to *L* as well. Furthermore, it is said to be not sufficient to hold to *L* in order to be considered a liberal: 'Condition *L* reflects only a small part of what a "liberal" or "libertarian" is typically concerned with.'²⁹ Therefore the precise extent of Professor Sen's claim would seem to be that it is necessary but not sufficient to accept *L* in order to be considered an archetypical liberal. And Professor Arrow would seem to be found to be in agreement with such an understanding of the concept of liberalism: 'The only rational defense of what may be termed a liberal position, or perhaps more precisely a principle of

limited social preference, is that it is itself a value judgment. In other words, an individual may have as part of his value structure precisely that he does not think it proper to influence consequences outside a limited realm. This is a perfectly coherent position but I find it difficult to insist that this judgment is of such overriding importance that it outweighs all other considerations. Personally, my values are such that I am willing to go very far indeed in the direction of respect for the means by which others choose to derive their satisfactions.³⁰

Yet a quite straightforward example may suffice to show a difficulty at the roots of such a concept of liberalism. Let us imagine two men, each of whom may be in one of two individual states – say whether or not to wear a moustache – giving a total of four possible ‘social states’ as follows:

	social states			
	z^1	z^2	z^3	z^4
individual K	a	a	b	b
individual S	c	d	c	d

Individual state a might be that K wears a moustache and state b that K does not, while individual state c might be that S wears a moustache and state d that S does not. Thus, by the Arrow-Sen definition, z^1 would be the ‘social state’ in which both men wore moustaches, z^4 would be the social state in which neither man wore a moustache, and z^2 and z^3 would be social states in which one man wore a moustache and the other did not. By the condition of unrestricted domain, each man is to be permitted to have any preference he may wish over all the possible pairs of social states that there can be, viz.,

$(z^1, z^2), (z^1, z^3), (z^1, z^4), (z^2, z^3), (z^2, z^4), (z^3, z^4).$

And by Sen’s definition of liberalism, each is to be ‘decisive’ over at least one pair of social states, in the sense that that individual’s preference over two social states is to prevail.

Now it may well be that what Sen and Arrow have *meant* to say is that by a liberal criterion, each man should be allowed to decide whether *he himself* wears a moustache or not, regardless of what the other does. But that is not what follows from the

formulation actually given. For if K decided to be ‘decisive’ over (z^1, z^2) or (z^3, z^4) , i.e., over social states which differed due to differences in S ’s individual state, or if S decided to be ‘decisive’ over (z^1, z^3) or (z^2, z^4) , i.e., over social states which differed due to differences in K ’s individual state, the Arrow-Sen notion of liberalism would have to admit these decisions, even though they plainly contradict traditional liberal premises. Put differently, the Arrow-Sen concept of liberalism is one which is unable to specify *which* social states are or should be in *whose* ‘protected sphere’. The question seems to have been overlooked whether or not it is a liberal tenet that the individual be free to choose which pair of ‘social states’ he or she wishes to be ‘decisive’ about, among every conceivable pair of such states that there happens to be. Indeed if we agreed with Frege that when a concept is made to extend to every instance its content must vanish altogether, and if the Arrow/Sen concept of liberalism is such that it extends to both liberal cases and to manifestly anti-liberal cases, we may ask if its content does not vanish altogether.³¹ Certainly Professor Sen has claimed that since, given a restriction of the domain, his definition happens to include liberal cases we have to accept L as a necessary condition of liberal thought. But what we may observe instead is not only that the theory of social choice has happened to neglect that the claim of universal knowledge is false, but also that archetypical liberals did not neglect it and in fact built part of their normative arguments precisely on the observation that it *is* false. Modern social choice theory appears to have neglected one of the main positive observations upon which traditional argument in support of liberal institutions has rested. In the Arrow-Sen perspective, the liberal position is one of ‘limited social preference’ (i.e., a particular kind of ‘restriction of the domain’). We would be asked to assume the agent *knows* of every possible social state as defined above, *and then* chooses to be indifferent with respect to those which do not happen to affect his individual state. In contrast, traditional liberal political thought premised itself *inter alia* on an observation that the individual does not and cannot know of every possible ‘social state’, and so *a fortiori* cannot be said to have preferences defined over such a domain. If it is a plain fact that K knows only about his own individual state, while S knows only about his, then K would have to define preferences over only a partition of ‘social

states' thus $\{z_k = [(z^1, z^2), (z^3, z^4)] = [z_{k1}, z_{k2}]\}$ and S over a different partition thus $\{z_s = [(z^1, z^3), (z^2, z^4)] = [z_{s1}, z_{s2}]\}$. Indeed the procedure of defining individual preferences over a set of uniformly known 'social states' may have had the inadvertent result of making trivial the very concept of an individual. For it would seem to have been central to the procedure employed in the theory of social choice for practically every action of any individual to be a possible subject of the deliberation of anyone at all: 'The fundamental fact which causes the need for discussing public values at all is that every significant action involves the joint participation of many individuals. Even the apparently simplest act of individual decision involves the participation of a whole society. It is important to note that this observation tells us all non-trivial actions are essentially the property of society as a whole, not of individuals. . . . [W]e must in a general theory take as our unit a social action, that is, an action involving a large proportion or the entire domain of society. At the most basic axiomatic level, individual actions play little role. The need for a system of public values then becomes evident; actions being collective or interpersonal in nature, so must the choice between them. A public or social value system is essentially a logical necessity.'³² But we are not told which 'trivial' actions the individual might call his own and are not 'the property of society as a whole', nor whether what is and what is not trivial may vary with context. Practically any action by anyone at all would seem to be supposed 'the property of society as a whole'. We are then invited to ascribe to each individual, thus defined, knowledge of all social states as well as preferences over them. And in such an unusual construction, the only way it might come out that the individual acts as an individual in at least some matters may be by saying that it is a fortuitous matter of subjective preference – when all along traditional liberalism has been premised on an observation of the particularity of the availability of knowledge.

In sum, the usual interpretations of Professor Arrow's theorem and Professor Sen's theorem as having put into serious question the possibility of answering questions about the existence or definition of the social good, may be themselves brought into question when a scrutiny is made of how each of their axioms is intended to be interpreted, and whether such interpretations are

reasonable. In particular, an observation that individual knowledge may be of a particular and diverse kind (which may be found to have been accepted in general equilibrium theory) and not of a general or uniform kind (as has been supposed in social choice theory) would give us enough reason not to accept an invitation that the 'objects of choice' faced by the individual agent are or even can be 'social states'. Where Arrow's theorem may be said to be of possible interest would be not with respect to large-scale democratic decision-making in civil societies, but instead with respect to very small-scale democratic decision-making. It would seem to be more relevant to a theory of committees, where each member of a committee can be presumed to have the same uniform knowledge of the alternative 'social states' and therefore the axioms can be made to have relatively plausible interpretations. The graver consequences of employing such procedures have been the misdescriptions of liberalism and the individual. Where liberalism as well as its rival traditions in political thought have been sought to be given objective justifications by their proponents, the modern theorists of social choice have been under the Spell of Hume. These brief critical remarks have been intended to break that spell.