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SYMPOSIUM: THE IMPLICATIONS OF SOCIAL CHOICE THEORY FOR LEGAL DECISIONMAKING

INTRODUCTION: THE SOCIAL CHOICE PERSPECTIVE

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One of the major themes of philosophy in all its branches since the days of the Greeks has been the conflict of the Many and the One. Is the natural universe made of many different principles, as our unformed senses would tell us, or is there a deep underlying unity, so that there is really only one substance? If the former, how can the different aspects of reality relate to each other? There must be something in common for them to interact. But if there is just one substance, how can we observe apparent differences? In particular, how can there be any change except from the interaction of differing principles?

Questions such as these are in a fundamental sense unanswerable. Nevertheless, and contrary to the positivist views that dominated most of our thinking until recently, asking these questions is fruitful. The striving for unity, for the common core of apparently disparate entities, has been a powerful impulse to our increases of knowledge; yet it could not itself be justified as an empirical or logical necessity. Occam's razor is a *meta*-physical principle in the literal sense of the word. Positivism was and is correct in distinguishing between metaphysical questions such as unity versus diversity, and scientific questions, which are in principle answerable from

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empirical information with the aid of mathematics and logic. But metaphysical questions have their role in orienting our scientific discussions.

Nowhere is the opposition of the Many and the One sharper than in the workings of society. Nothing is more obvious than the desire of each individual to achieve his or her over peculiar aims; and, equally, nothing is more obvious than the desirability, nay need, of individuals to join in societies for their own best achievement. "Man," said Aristotle, "is a social animal," a categorization which has been made much of in recent years by the sociobiologists.¹

The gains from social interaction are obvious enough. The parent-child relation is the most striking example: The dependency of the human child on its parents is an extreme among animals. Evolutionary fitness requires that the gain to the child be matched by an imputed gain to the parents; their utility functions, to use the economists' jargon, must have an altruistic component. Human beings are different from each other, and therefore in Ricardian fashion they gain by trade from their differing comparative advantages. In a society, even similar individuals can specialize in different activities and acquire different abilities—the division of labor Adam Smith emphasized. Beyond these market examples is the whole range of externalities. At their deepest level, these go far beyond the economists' substitutes for the market: cost-benefit analysis, simulated markets, and the like. The whole network of courtesies and respect, the internalized inhibitions which, far more than the criminal law, keep crime at levels which are tolerable if not pleasant, the customs and sanctions which prevent excessive lying and deceit—and so preserve to some extent the value of the spoken and written word—are all parts of the social world in which individual behavior is embedded.

The legal system obviously is an important example of the control of individual behavior in the interests of a collectivity. It consists of a set of incentives, both rewards and penalties, to induce alteration of individual behavior. The legal system is itself a social entity, and its aims are the better achievement of social ends.

Much modern thought has revolved about the *decision* or *choice* as the key concept in the analysis of behavior, individual or

1. See, e.g., E. WILSON, SOCIOBIOLOGY 1547-74 (1975).

social.² The individual or the society is thought of as having a range of alternative possible actions from which one must be selected.³ The individual can commit a crime or refrain from committing one; an agency of the collective, such as a court, can punish or not. Also, while some decisions relate to a single moment (*this* crime, *this* ice cream cone), others may be decisions or rules which are to hold in a large number of similar circumstances, for example, legislation or binding judicial decisions.

The hedonistic psychology essential to Jeremy Bentham's utilitarianism has dominated modern economic analysis, especially in the form of neoclassical and Austrian economic thinking, as originated by W. Stanley Jevons, Carl Menger, and Léon Walras between 1871 and 1874.⁴ In this doctrine, the *act* of choice becomes entwined with evaluation and judgment. What is chosen must have been preferred; and what is preferred must be in some sense better. These simple remarks have given rise to a vast literature on the structure of decision and value, both individual and social, and on their relations. Though we have been taught to distinguish sharply between the "is" and the "ought," the logical analysis of decisions tends to blur the lines between them. The distinction can, and in my judgment should be kept, but it requires great clarity of thought to do so. Needless to say, matters are not made easier by the analyst's being also a human being who is being analyzed.

Let me be more specific about the structural requirements on behavior implicit in the languages of preference and choice. First, the very fact of choice implies decisiveness. Given a set of alternatives, something must be chosen. We may, for convenience, admit the possibility of indifference—that we would not care which of several alternatives are chosen—but we cannot admit non-comparability of alternatives. Second, the language of preference

2. For a survey of individual choice theory, see P. FISHBURN, *UTILITY THEORY FOR DECISION MAKING* (1970). For the historical background of modern social choice theory, see D. BLACK, *THE THEORY OF COMMITTEES AND ELECTIONS* 156-213 (1958); Arrow, *Formal Theories of Social Welfare*, in 4 *DICTIONARY OF THE HISTORY OF IDEAS* 276 (P. Wiener ed. 1973).

3. For my exposition of social choice theory, see K. ARROW, *SOCIAL CHOICE AND INDIVIDUAL VALUES* (2d ed. 1963); Arrow, *Values and Collective Decision-Making*, in *PHILOSOPHY, POLITICS AND SOCIETY* 215 (P. Laslett & W. Runciman eds. 1967).

4. W. JEVONS, *THE PRINCIPLES OF ECONOMICS* (H. Higgs ed. 1905); C. MENGER, *PRINCIPLES OF ECONOMICS* (J. Dingwall & B. Hoselitz trans. 1950); L. WALRAS, *ELEMENTS OF PURE ECONOMICS* (W. Jaffé ed. and trans. 1954).

usually conveys the idea of an ordering: If one alternative is preferred to a second and that to a third, then the first alternative should be preferred to the third. More technically, this last property is known as *transitivity*.

If we now identify choice with preference, we are saying something like the following: One alternative is preferred to another if the first *would be* chosen *were* only those two available. (As in virtually all scientific generalizations, it is impossible to confine oneself to actual phenomena; it is necessary also to make counterfactual statements, about what would happen if some conditions were to prevail, even if they do not. The law of gravitation tells us what would happen in solar systems different from our own.) Hence, we have the following standard description of individual choice behavior: All possible alternatives are ordered, in the sense that any two alternatives are comparable, and the preferred choices satisfy the transitivity condition; then the choice made from any given set of alternatives is the most preferred, i.e., that one which is preferred to all other available alternatives.

There are of course many more things to be said about individual choice behavior. Some psychologists will object that the description in terms of orderings is unrealistic and unduly restrictive.⁵ Other psychologists will join older schools of economists and many philosophers to argue that even more can be said; not only can choices be ordered but the intensities of preferences can be measured.⁶ The measurement of preference intensity, if it is accepted as meaningful, is called *utility*, and the hypothesis of its meaningful measurability is termed *cardinal utility*.

The crucial link between individual and social action is the presence of what may be termed a *social mechanism*. This can be described by specifying two types of elements: (1) a range of actions available to each individual; and (2) a social outcome defined for each possible choice of actions by all individuals. The individual "actions" may and frequently are "signals" or messages, acts of communication.⁷ Thus, in a legal system, the individual actions may

5. See, e.g., Tversky & Kahneman, *The Framing of Decisions and the Psychology of Choice*, 211 SCIENCE 453 (1981).

6. See generally C. COOMBS, A THEORY OF DATA (1964); Stevens, *The Psychophysics of Sensory Function*, 48 AM. SCI. 226 (1960).

7. For a general study of social decision processes as the outcomes of communication, see Hurwicz, *Optimality and Informational Efficiency in Resource Allocation Processes*, in MATHEMATICAL METHODS IN THE SOCIAL SCIENCES, 1959, at 27-46 (K. Arrow, S. Karlin, & P. Suppes eds. 1960).

be thought of broadly as all the activities which are of legal significance, such as signing contracts or engaging in activities which may lead to torts, and more specifically as the messages of the legal system, filing suits, assembling evidence, or seeking injunctions. The social outcome would be broadly the changes in performance as a result of contracts and damages and specifically the judgments of the legal system in suits as a function of the court actions taken. The outcome might indeed have a random or unpredictable component even given the actions of all individuals.

Indeed, what I have called a social mechanism is nothing else than a *game* in the terminology introduced by John von Neumann and Oskar Morgenstern.⁸ It defines in an appropriate way the relation between individual behavior (the actions taken by individuals) and social behavior (the social outcomes). Society and the individual enter jointly in the definition. *Given* the social mechanism, the social outcome is determined by individual actions. But the very range of individual actions as well as the outcome appropriate to any set of individual actions are determined by the social mechanism.

For a given social mechanism, individual behavior can be thought of as determined by individual preferences. That is, the individual chooses that action which he or she most prefers. In the context of a game or social mechanism, this is not a straightforward decision. Individuals have preferences over outcomes (e.g., court decisions) and not over their actions as such; and whether a given action leads to a more or less desirable outcome may depend on what other individuals do. This possibility is likely to arise if the social outcomes have two or more components. Suppose, for example, there are two connected highways being considered for construction. The social mechanism requires separate voting on them. Individuals will have different preferences about each of them. Some will want both but not either segment separately. This group will vote for both if they think there are enough others voting for each segment separately to make both pass. If, however, there is a majority for one of the segments but not for the other, the group that wants both would prefer to vote against both.

The problem of interaction among issues is a basic one in reality. It raises in a deep way the meaning of rational individual behavior in a social context. Much of the modern literature on game

8. See generally J. VON NEUMANN & O. MORGENSTERN, *THEORY OF GAMES AND ECONOMIC BEHAVIOR* (3d ed. 1953).

theory is essentially a series of attempts to answer this question.

Consider two prototypes of social or collective choice which have been influential in fixing our ideas: competitive economic equilibrium and elections. In the competitive framework, there is an illusion that social choice disappears completely. Each individual's property is disposed of as he or she will. But the terms on which the exchange takes place, the prices, are in fact the joint result of the supply and demand pressures of all the participants in the economy. The prices are not any sets of numbers but just those causing supply and demand to balance. Hence, they are, if through indirect means, jointly determined by all individuals in the market. The information or messages sent by the participants are the amounts that they are willing to pay and receive at each of various prices for each commodity; the competitive equilibrium in effect aggregates this information and yields a resultant allocation of goods.

Hence, competitive economic equilibrium is a social mechanism. It does have some interesting properties: (1) It requires the transmission of very little information (not as little as frequently supposed, but relatively little); (2) the self-interest of individuals is uncomplicated (they simply demand or supply their most preferred set of goods at the going prices); and (3) under certain conditions, most particularly the absence of externalities, the resulting allocation is efficient in the sense of Pareto (there is no other allocation which will make everyone better off). These are desiderata for any social mechanism.

Election is in some ways the prototypical social mechanism. The actions or messages of individuals are the votes (which may be simple or complicated in nature); the outcome is the determination of the winner, according to the electoral rules. If there are but two candidates, then the principle of majority rule has a straightforward meaning: Each voter chooses one or the other candidate, and the candidate with more votes wins. When there are more than two candidates, there are in principle many forms of voting which have the same spirit as majority rule. The preferences of the individuals are over the entire set of candidates, thus, not only first choices but also second, third, and so forth. Most election systems used in practice depend only on the first choices, as in the usual plurality system; however, the French presidential and legislative elections use a plurality followed by a runoff between the two leading candidates if there is no majority on the first ballot—a procedure implicitly using preferences beyond first choice. Many other systems are theoretically possible. They will usually have in part the same

properties as those stated above for competitive equilibria: (1) Very little information need be transmitted, though, with more complicated electoral schemes, perhaps a bit more of the preference ordering than in the competitive equilibria; (2) there are incentives to misrepresent one's two preferences, especially not to throw away one's vote on a clearly losing candidate; (3) the outcome is bound to be Pareto optimal, though here, even more than in the case of competitive equilibrium, the criterion of Pareto efficiency is not very strong.

There has been an interesting literature, with some applications, on the predictive theory of elections.⁹ In this, the candidates appear as embodiments of sets of issues chosen by them in order to maximize votes; in short, they are political entrepreneurs analogous to those of the economy.

So far, we have taken social mechanisms as given. The interests of classical political philosophers and modern social choice theorists alike have been concentrated on the design of social mechanisms. Any design problem involves an idea of the good. Specifically, the "good" in this context denotes "socially good."

As I have suggested earlier, once we start with the idea of individual preference, it is natural to identify the good with the satisfaction of individual preferences. Some philosophers have rejected such an approach on the grounds that individuals do not know what is good for them. But most would accept this, subject to obvious qualifications for those deemed incompetent, including children. State intervention to protect individuals is indeed frequently referred to as "paternalism." A minimal expression of the acceptance of individual preferences is the Pareto principle.

But when the social mechanism has implications for distributive justice, stronger concepts of respect for individual preferences are sometimes called for. If one accepts the notion of cardinal utility and the further proposition that the utilities of different individuals are comparable (we can make statements of the form, "this hurts me more than it hurts you"), then the utilitarian logic becomes very acceptable: Choose that social alternative which makes the sum of individual's utilities as large as possible. This concept has had great intellectual sway, in both economics and law, and has also aroused violent opposition.¹⁰

9. For a survey of this literature, see D. MUELLER, *PUBLIC CHOICE* 263-70 (1979).

10. For defenses and uses of utilitarianism in economics, see F. EDGEWORTH, *MATHEMATICAL PSYCHICS* (1881); A. LERNER, *THE ECONOMICS OF CONTROL* (1944);

One difficulty with utilitarianism is that it contradicts minimal information transfer: a criterion that we found satisfied in both competitive equilibria and elections. In both of these social mechanisms, we need only transmit knowledge about preferences, not about cardinal utilities. Indeed the very difficulty in seeing how such information could be transmitted has led social choice theorists to emphasize voting methods.

There is one final consideration on the nature of the outcomes generated by the social mechanism: They can be described as yielding a social choice among alternatives. It is tempting to add that these outcomes can be interpreted as expressions of social preference, just as individual choices are thought of as expressions of individual preference. In that case, the choices of outcomes from different sets of alternatives should be consistent with each other, for example, satisfying the transitivity condition. It is as if the collectivity has a degree of rationality (in the sense of consistency among choices) comparable to that of an individual.

Most systematic social thinking has followed this line. The utilitarian criterion meets the condition of collective rationality; so does the difference principle of John Rawls (to make the worst-off individual as well off as possible).¹¹ In general, collective rationality implies that the social mechanism should be chosen so as to maximize some function based, one way or the other, on individual preferences. It turns out that this program is difficult to achieve, at least with limited transmission of information about intensities of utility. Nevertheless, the exploration of these possibilities has been immensely illuminating.

The questions (not answers) raised by the social choice approach have been applied only in limited degree to the field of law. I hope the following articles will begin such an exploration.

Dalton, *The Measurement of the Inequality of Incomes*, 30 *ECON. J.* 348 (1920). For an attack on utilitarianism as insufficiently egalitarian, see A. SEN, *ON ECONOMIC INEQUALITY* (1973). By implication, those opposed to any use of the tax system to achieve egalitarianism are also anti-utilitarian, e.g., M. FRIEDMAN, *CAPITALISM AND FREEDOM* 172-76 (1962). In the law, the utilitarian logic was used by the developer of utilitarianism, Jeremy Bentham; for a more recent use of this method, see R. WASSERSTROM, *THE JUDICIAL DECISION* (1961). For a strong attack, see R. DWORIN, *TAKING RIGHTS SERIOUSLY* 232-38 (1977).

11. J. RAWLS, *A THEORY OF JUSTICE* 60-75 (1971).