

# REFLEXIVITY, PREDICTION AND PARADOX

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The unique difficulties associated with the prediction of events in the social sciences have long been recognized in terms of the various effects which have been produced by the assertion or communication of such predictions. Predictions made about social behavior or about human affairs in general seem to stimulate curious reactions in the behavior or attitudes of social agents and such reactions do seem to present special difficulties for the human sciences. What I would like to concern myself with here is an examination of the nature of the phenomenon of reflexivity (this process of turning back upon itself of something) and its significance in the social sciences. Some attempt will also be made to link the problem of reflexivity in the social sciences to what has been identified as the increased symbolization of modern, technological societies.

What has come to be called "the paradox of prediction" in the social sciences has often been presented or described in vague and general terms. Thus, for example, it has been said that an understanding of the nature of events in the social world may function as a "new variable that changes the results."<sup>1</sup> This generalization is not very useful insofar as the presentation of new information in the sciences in general could have any number of possible emergent effects which may change or affect the results of *any* related inquiry: At any rate, the dialectical nature of the assertion of claims to knowledge in the social sciences has been identified in terms of the "contradictory results" which are presumably generated by an increase of knowledge of political or economic processes. That is, a particular forecast may change a given situation and thereby affect the way in which events subsequently

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<sup>1</sup> Cf. R.L. Simpson and J.M. Yinger, *Racial and Cultural Minorities*, New York, 1958.



occur.<sup>2</sup> One factor which is thought to bring about the occurrence of self-fulfilling or self-negating predictions in the social sciences is the fact that the social scientist is an intervening social agent in the social system of which he is a part. This intervention seems to occur on at least two distinct levels. It takes place at the level of the presentation of hitherto obscured social facts which, in turn, generates new social phenomena (i.e., the exposure of personal or institutional practices or functions may in itself produce new social changes). It also occurs at the level of publically announced predictions pertaining to a limited or extensive range of social phenomena. Even though some theoretical physicists have referred to the effect-determining intervention of the scientific observer (e.g., in microphysical experimentation), it is generally conceded that the phenomenon of reflexivity serves to distinguish the social from the natural sciences. Without quarreling with the validity of this distinction, I believe that the precise meaning of the reflexive role of assertions in the social sciences requires some clarification.

### *Prediction and Reflexivity*

The unique character of reflexive prediction in the social sciences is manifested in instances in which the public prediction of an election result, of bank failures, of economic changes for good or ill or general sociological trends seems to generate novel effects which were previously unpredictable. This feedback process presumably introduces a paradox into the methodology of prediction which is peculiar to the social sciences. What has often been overlooked is that a significant factor in the process of reflexivity or feedback is the *nature* of such predictive claims. The other aspect of this phenomenon is the reaction or non-reaction of social agents whose beliefs, attitudes and reactions are the relevant factors in determining the effects of a given prediction, prophecy or forecast. It has been maintained that what makes a prediction reflexive are the "causal mechanisms which mediate between the event which is the issuance of that prediction and the nonoccurrence of the event predicted."<sup>3</sup> The "causal mechanisms" turn out to be the beliefs, attitudes, sentiments, psychological sets and behaviors of the social agents who respond to a given prediction. There have been four basic elements of

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<sup>2</sup> B. Moore, "Strategy in Social Science" in *Sociology on Trial*, N.J., 1963, p. 66.

<sup>3</sup> R.C. Buck, "Rejoinder to Grünbaum," *Philosophy of Science*, (1963), p. 373.



a reflexive prediction that have been identified. (1) The truth-value of the assertion would have been different if the means or status of its dissemination had been different; (2) the dissemination of this forecast was causally efficacious in generating unexpected reactions or behaviors; (3) the content of the prediction was believed by those who were aware of it and was acted upon in some way; and (4) there was something about the dissemination status of the forecast or its causal consequences which was abnormal or unexpected by the predictor or by those who recognize or identify its reflexive character.<sup>4</sup>

Although the concept of reflexivity is said to be relatively clear and simple, this is actually not the case. What makes the understanding of a truly reflexive prediction difficult in many instances is the number of variables which may enter into this complex social process. Although it is correct to hold that "the dissemination status of the prediction must be a causal factor relative to the prediction's coming out true or false,"<sup>5</sup> this is certainly sometimes quite difficult to know in any strict sense since we have to hypothesize the reactions or possible reactions of a number of social agents. When an election victory is predicted in advance of a complete tabulation, this may have a positive "band-wagon" effect or it may lead to complacency on the part of voters who might have voted for the predicted winner of the election. The verification of the cause of the nonoccurrence of the predicted event (insofar as this is possible) would take place after the fact. Say, for example, in the form of interviewing people who declined to vote because they assumed their candidate would be elected. Ostensibly, such information would substantiate the fact that it was the publication of the prediction which caused specific reactions. But it is certainly the case that there may be relevant factors which may be ignored in instances in which an unambiguous verification of a set of behaviors is not attainable.

It is clear that, in the first place, reflexivity is related to the originating source of a prediction and to the formulation style of the socially relevant prediction. A reflexive assertion or prediction is one which has a self-fulfilling or self-frustrating effect upon those who are privy to it. These effects are never independent of the style of dissemination of the particular forecast. In this regard, it is plausible to maintain that the style of formulation and dissemination of a

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<sup>4</sup> R.C. Buck, "Reflexive Predictions," *Philosophy of Science*, (1963), pp. 361-362.

<sup>5</sup> G.D. Romanos, "Reflexive Predictions," *Philosophy of Science*, (1973), p. 104.



prediction (or, for that matter, communication of socially relevant information) must be significant causal factors in relation to the true or false nature of the prediction.<sup>6</sup> Clearly, the credibility, social status or prestige of the individual, representative or group disseminating information or presenting predictions are significant factors affecting reflexivity. In addition, the material origin or medium transmitting the predictive claim or socially relevant information must be brought into consideration. Thus, for example, a sociologist predicting an increase in anomic or socially disruptive behavior because of increasing alienation amongst the unemployed members of a society in a technical journal may produce little or no response in a society while the same announcement presented by a popular journalist in a newspaper with a large circulation may generate strong positive or negative reactions among social agents. We would also expect that the dissemination of information or of a prediction at different times of the year, different hours of the day or during various kinds of weather would probably produce varying results linked to the piece of information or the prediction. Thus, the announcement of a tax rebate immediately prior to the deadline for filing tax returns would undoubtedly have more constructive psychological effects on a population than one made a year in advance of the time at which tax returns must be submitted. Both the mode of transmission of socially relevant information or predictions and the temporal index of such a transmission are key causal factors in the phenomenon of reflexivity.

Aside from the causal factors of the originating source of a forecast or statement, style of dissemination, style of formulation (e.g., in subdued, neutral language or in dramatic, stimulating pronouncements, etc.), there are other relevant variables that should be considered in attempting to identify the operative functioning of reflexivity. Although it is usually excluded from discussions of the paradox of prediction in the social sciences, it would seem that there is some evidence that the apparently neutral presentation of social facts, social practices or social processes can generate social change or, at least, changes in the feelings, attitudes and beliefs of members of a society. Thus, for example, a series of studies of the incomes of the wealthiest members of a society may very well lead to movements directed towards a reform of tax laws. Again, the publication or dissemination of a report to a president on the state of racial relations or tensions by a prominent sociological advisor to the president seemed to produce (in and of itself) a flurry of aggressive,

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<sup>6</sup> *Ibid.*, p. 106.



protest activity on the part of black Americans. In this case, it was apparently the sociologist's advice that the issue of racial tension be subject to "benign neglect" which was the direct cause of a reflexive social reaction which was the very opposite of the effect desired. This particular case illustrates the reflexive effects which can be brought about by a sociological prescription and tends to confirm Parsons' claim that "The observer of a system of action, as scientist, must himself in some sense be conceived of as an actor."<sup>7</sup> This is *a fortiori* the case when the "scientist" is prominent and his pronouncements are dramatically and widely disseminated.

It may be said, then, that reflexivity may be characteristic of *any* socially relevant prescription, communication or prediction. The identification of the paradox of prediction in the social sciences is not by any means an isolated or restricted phenomenon. With the exception, perhaps, of abstract, purely theoretical formulations in the social sciences, virtually any sufficiently publicized assertion pertaining to social processes has the potentiality to produce constructive or regressive, positive or negative reflexive reactions in a social milieu. There are a number of reasons why this is the case, reasons which are intimately connected to the structure and form of contemporary, 'advanced' societies.

### *Reflexivity and Symbolization*

The conception of reflexivity has become quite extensive insofar as it applies to a wide variety of sociological commentaries, prescriptions and predictions. There are two basic reasons for this: (1) the tendency for many sociologists to adopt a more committed and less neutral stance in regard to social, political and economic issues and (2) the emergence of a historical trend towards greater symbolization in contemporary, 'technological' societies. In regard to the former tendency, it has become apparent that a number of social scientists have abandoned their value-free stance in regard to social phenomena and have, in some instances, adopted an adversary role in relation to dominant social classes and have prescribed what is characterized as a "reflexive sociology." Gouldner, for example, has argued in defense of a critical sociology in which the sociologist is urged to examine his own social role, his relation to social groups and his basic motivations. It has been said that a reflexive sociology should be committed to humanistic values and should serve a reformist

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<sup>7</sup> Talcott Parsons, "The Point of View of the Author," in *The Social Theories of Talcott Parsons*, N.J., 1961, p. 325.



function in regard to defective or unjust social practices or institutions. It is held that sociology should not solely be concerned with accumulating empirical data, formulating theories or hypotheses or providing impersonal objective descriptions of social practices or social actions. More specifically, reflexive sociology should seek to explore and make public "hostile information" and it should seek to change "social reality" in accordance with ethical principles, especially the principle of social justice.<sup>8</sup> If this orientation towards the role of the sociologist is adopted, it is obvious that it makes of the social scientist a person who intentionally intervenes in social processes and whose chief role is that of a social critic who strives to change social reality.

Presumably, then, the reflexive sociologist would not only be self-conscious about his own scientific activity, but would use sociological description and the dissemination of information in order to intervene in the social system in such a way as to stimulate attitudinal and behavioral reactions in social agents. Reflexive sociology prescribes an investigation of social phenomena identified as unjust, alienating or socially disruptive, as well as the dissemination of the results of such an investigation precisely in order to generate socially relevant action deemed constructive or reformative. Despite some of the dangers inherent in the rejection of even a semblance of objectivity in sociology, reflexive sociology seeks to generate constructive social reactions by uncovering "hostile information" or exposing details within a social structure which are judged to be contrary to individual freedom or the ideal of social justice. This advocacy of intervention in social processes would surely result in an increase in the amount of reflexive phenomena which we would expect would produce consonant or dissonant social reactions. In this regard, it should be pointed out that there are a number of instances in which so-called neutral sociological studies (e.g., of the plight of the migrant workers in the United States) have generated and lent support to social action groups which have tried to improve the condition of migrant workers. This seems to indicate that the potential for reflexive effects—whether negative or positive—is a constant factor in the process of penetrating social reality. There is a generalization pertaining to social analyses which has at least some validity: the deeper the penetration of social reality or socio-cultural structure, the greater the degree of reflexivity produced in the process. The dissemination of detailed sociological

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<sup>8</sup> Alvin Gouldner, *The Coming Crisis of Western Sociology*, 1970, pp. 488-500.



information concerning virtually all aspects of a social structure ineluctably becomes a casual and reflexive factor (producing lesser or greater, longer or shorter term, effects) in social change. Sartre's variation on Parsons' theme is appropriate here: the only theory of knowledge appropriate to sociological understanding "is one which is founded on that truth of microphysics: the experimenter is part of the experimental system."<sup>9</sup> It is for this reason that uncovering sociological investigations may be intervening factors in society. Such intervention is contingent because of the possibility of a non-response to even the most startling sociological revelations.

Aside from a consciously adopted intention to provoke feedback in a social system, there is a secondary reason why the public presentation of information about social practice or social relations often generates positive or negative feedback (or reflexive phenomena) in contemporary society. Before discussing this, we should call attention to Parsons' conception of the "interpenetration" of a social system and a cultural system, of concrete systems of "interacting persons" in a social and a cultural system at the same time. For, it is the cultural system which "is organized about patterns of the *meaning* of objects and the expression of these meanings through symbols and signs" which is the field in which the rational or irrational responses to sociological information, prescriptions or predictions take place. It is the "structural component" of a cultural system which comprises "patterns of expressive symbolization defining the 'forms' and 'styles' in which objects are cathected and symbolically represented, or through which they acquire and express meaning"<sup>10</sup> which is intimately associated with the interpretive psychic response to public truth-claims or predictions about society.

A second factor contributing to the increase in reflexive phenomena in the social world is the apparent growth of symbolization in contemporary societies. It has been maintained that there has been a trend towards the increasing significance of symbols in which the relative importance of objects has declined. There has been a general increase in the availability of, and transmission of, societal knowledge, as well as pseudo-information, misinformation and propaganda. This general shift from a concern with concrete, practical issues or problems (which, of course, continue to some extent in technological societies) has been taking place for some time

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<sup>9</sup> J.P. Sartre, *Search for a Method*, trans., H. Barnes, New York, 1963, p. 32, n.9.

<sup>10</sup> Talcott Parsons, *Sociological Theory and Modern Society*, New York, 1967, pp. 141-142.



now. It entails the greater importance of symbolic relations and communications, as well as the complementary increase in both constructive and regressive social control insofar as symbols "are more malleable than objects." It has been contended that

the greater the role of symbolic elements in a society, the more readily . . . that society may be recast; and the controlling processes . . . are . . . more symbolic than uncontrolled societal processes. Consequently, an increased symbolization of societal processes in principle increases the societal capacity to actualize the potential inherent in the increased malleability of society.<sup>11</sup>

The primary indicators of the increase of the phenomenon of symbolization are the growth of mass media, the shift of the labor force activity from mining, agriculture and manufacturing to tertiary service roles which deal more with symbols than with objects, and the significant growth of organs of information communication and societal knowledge. Another identifiable sign of increased symbolization is that the foundations of social stratification are becoming more symbolic both in terms of service functions and in terms of the importance of education in post-modern societies.<sup>12</sup> All of the above factors, in coordination with an increase in technological innovations, have the cumulative effect of increasing the processes which probe the motives, aspirations and anxieties of social agents and, at the same time, of promoting reflexive phenomena in the realm of knowledge pertaining to social institutions, social roles and social actions. Although the specific societal effects of new social knowledge are often difficult to measure, there is some evidence that sociological penetration of a social system has at least the effect of calling attention to hitherto obscured social facts. It is interesting to note that the use to which new socially relevant knowledge is put is conditioned not so much by the nature of the knowledge itself as upon the structure and organization of the society at a particular time.<sup>13</sup> The overall effect of increasing symbolization in society is a raising of the consciousness of societal units in reference specifically to the social environment. Or, simply put, symbolization increases self-consciousness about one's social system.

If the above description of the spread of symbolization in 'advanced' societies is reasonably valid, this would seem to entail the

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<sup>11</sup> Amitai Etzioni, *The Active Society*, New York, 1968, p. 198.

<sup>12</sup> *Ibid.*, p. 199.

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notion that the reflexive character of sociological prescriptions, information dissemination and prediction would become more pervasive. In societies marked by symbolization we would expect that social agents may be assumed to have become more volatile in relation to information, prescriptions and predictions pertaining to their social system. If *this* assumption is valid, we would also expect an increase in self-fulfilling or self-defeating predictions pertaining to socially relevant pronouncements because of an increased sensitivity to symbolic communications (whether of genuine or spurious information). The basic problem seems to be that in highly symbolized social systems social agents are prone to unpredictable responses to reported events, sociological information, social prescriptions and sociological forecasts. That is, the psychological response of such social agents may be compliant, indifferent, approving or antagonistic in regard to any specific socially relevant assertion, especially if it is widely disseminated and originates from a currently prestigious source. In sum, then, the reactivity of social agents in highly symbolized societies tends to generate stochastic social phenomena.

If the above remarks have some validity, we may want to say that the "causal mechanisms" influencing the reflexive process in the dissemination of societal knowledge are far more complex than has previously been realized. The "paradox of prediction" in the social sciences is too narrow a classification to include all of the possible incidents of reflexive processes which do occur. Since it is not only prediction, but description as well, which can produce negative or positive feedback in society, we are really considering the paradox of the communication of sociological knowledge. That is, there is a reflexive feature in all societal knowledge (which produces some response) because social agents are often affected by such knowledge and often affect the content of societal knowledge. The merely descriptive penetration of social reality has, in highly symbolic societies, the potentiality to change social reality in dramatic ways and, in a sophisticated sense, actually does change it—independent of any immediate response on the part of social agents—insofar as it becomes a part of social reality when it is disseminated.

Even though the presence of symbolization in post-modern societies does not, contrary to expectations, seem to mitigate real social problems (e.g., poverty, crime, inflation, unemployment, etc.), it does suggest that the originators of societal knowledge may have a constructive or negative effect upon a social system which is, in many instances, unpredictable. What this indicates, as I have said, is that the issue of reflexivity pertains not only to socially relevant



predictions, but has a pervasive influence upon a variety of social pronouncements. What has been said about prediction in the social sciences seems to apply (potentially) to *all* sociological information in a highly symbolized society. Thus, "a prediction may behave reflexively not only as a result of its being clearly 'disseminated' in some way, but just in virtue of its having been made ("formulated") at all."<sup>14</sup> Given social actors capable of acting on beliefs (based upon information or misinformation), and given a social system in which symbolization is dominant, we may plausibly assume that there will not only be a growing sensitivity to particular predictions, but to virtually any assertions, descriptions, reports, investigations or analyses which penetrate a social structure or social process in a significant way.

The fact that some reactive responses on the part of social agents in a symbolized society would probably occur in an individual case does not mean that such responses will be socially constructive nor that they would necessarily contribute to the welfare of society. For, it seems that anomie is closely associated with the pluralism characteristic of symbolized, post-modern societies. The degree of influence which societal knowledge may have on a society depends upon the socio-economic condition of the social agents, upon their basis psychological set at a particular time (the admittedly ambiguous 'mood' of a society), upon the timing of dissemination, upon the current prestige of the originators of such knowledge and upon the sentiments (Pareto's "residues") of social agents which are often not accessible to either analysis or verification. Despite some possibly valid generalizations about the "mood" of members of a society at a particular time, it is certainly difficult to gain access to the dominant feelings, attitudes and beliefs of social agents at any specific moment of social history. However, with the assumed increase in symbolization and the consequent cognitive-affective volatility on the part of large segments of a society, this often obscured penumbra of social reality has clearly become a more significant causal factor in contemporary societies. One of the consequences of this, as I have argued, is that the problem of reflexivity or reactive social feedback has become more pervasive and more complex in contemporary symbolized societies. Increased reflexive responses to socially relevant data seem to create a greater ambiguity in social reality which makes the prediction of patterns of social behavior more difficult than it might have been even in the recent past. Paradoxically, the increase in symbolization in society extends the potentialities for

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<sup>14</sup> G.D. Romanos, *op. cit.*, p. 109.



social control and, simultaneously, decreases the power of sociological prediction thereby undermining the anticipation of the effects of social control. It would seem, then, that reflexivity (in the broadest sense of the term) is part and parcel of the extent and depth of sociological analysis which is itself a significant contributor to the increased social symbolization which apparently makes sociological prediction more difficult. This should not surprise us too much insofar as the social scientist is a social agent in the social system he studies (and the fruit of his numerous investigations presumably has some effect upon social reality) and societal knowledge itself becomes a new factor in social reality which affects it sometimes in a minimal, sometimes in a maximal, sometimes in a positive, sometimes in a negative, way.

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