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Nicholas Rescher

September 1969

P-4182



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Nicholas Rescher<sup>\*</sup>

Consultant, The RAND Corporation, Santa Monica, California

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### 1. INTRODUCTION

The Delphi method is a process for the controlled elicitation of group opinion by an iterative use of questionnaires with a selective feedback of earlier group responses as an informational input for later reference by group members.\* In recent years the application of Delphi techniques as a means for pooling expert opinion about factual questions—particularly in the context of predictions of the future—has become increasingly widespread. Recently the suggestion has begun to be voiced that Delphi might also prove a useful tool of inquiry in the area of values, in contrast to its traditional applications in the factual domain. The primary aim of the present discussion is to sketch some theoretical background considerations for the application of the Delphi method in the value area.

One preliminary observation is in order. When one steps outside the traditional area of application of Delphi

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\* It is presupposed that the reader is familiar with the Delphi method. For indications of some relevant literature see the Bibliography at the end of the paper.

to factual issues, one perhaps arrives first of all at the possibility of its use as an instrument for decision-making. Just as we can use Delphi in the traditional way to explore the prospects of a group consensus regarding "what the facts are (or—in predictive applications—will be)," so we can deploy it on the issue of "what to do." This step does not yet carry us into the value domain—although it takes us to its threshold. However, we do not cross that threshold until we inject an overtly evaluative element of "what ought to be done" with its reference to the positive and negative, the favored and disfavored aspects of the case.

## 2. VALUING AND EVALUATION

The basic distinction between valuing (or disvaluing) on the one hand, and evaluation (positively or negatively) upon the other, must be heeded. Positive evaluation does not entail valuing. The man who abominates and despises tennis can evaluate a certain match as excellently played, although he does not value that match at all. (One can characterize an animal as a splendid specimen of a python without being in the least attached to it.) Nor, conversely, does valuing entail positive evaluation: to value something is not necessarily to evaluate it highly. A man may evaluate a ring as utterly devoid of monetary value or esthetic merit, etc., but yet value it all the same because it belonged to his deceased child.

To value a thing is nothing more nor less than to assume pro-attitude towards it: to like it or prize it or treasure it, etc. On the other hand, to evaluate something positively is to deem it to be meritorious—or at least (like the python) meritorious sui generis, in terms of the criteria-of-merit applicable to things of its kind. One can without irrationality value something "for no good reason whatsoever," but (rationally) to evaluate it positively is to take a "principled" step that requires reference to criteria (or standards, norms, or the like).

This fundamental distinction between valuing and evaluation is not without significance for research in the value area. For it suggests that if one's interest is in the rational aspect of value—where, since reasons can be given, we operate in the sociological, interpersonal and public rather than the psychological, idiosyncratic and private sector of the area—then evaluation rather than valuing should constitute the target of inquiry.

### 3. THE ELEMENTS OF EVALUATION

Consider the paradigmatically evaluative contention: "Smith's services are a significant asset to our firm because of the conscientiousness and competence with which he performs his work in the accounting department." Any reasoned evaluation of this sort involves three primary elements:

1. the value object: the item being evaluated (Smith's services to the firm as rendered through his work in the accounting department).
2. the value grade that is assigned, i.e., the specific evaluation made ("a significant asset").
3. the involved value(s) ("conscientiousness" and "competence" in the performance of work-duties).

The bringing-together of these three items is mediated by criteria, that is to say, rules specifying that with reference to certain values, certain value grades will be applicable whenever the characteristics (i.e. now strictly factual characteristics) of the value object are of a specific sort. Put in mathematical terms, criteria are functions of several parameter-places (values) whose independent variables are the factual characteristics of value grades. An examination-grade key is a typical example. The value at issue is (say) competence in mastery of subject matter, and the criterial correlation is given by some such table as

<u>Number of Incorrect Answers</u>	<u>Applicable Evaluation</u>
1-2	excellent
3-4	very good
6-8	fair
9-12	(just) passable
13-18	poor
> 18	very poor



Note that such a criterial rule enables us to move from a strictly factual item (the number of incorrect answers) to an evaluative result (the evaluation grade at issue). It is this feature of evaluative criteria that puts them into the forefront of interest in the theory of value.

#### 4. DELPHI AND VALUES

One obviously appropriate application of the Delphi method is as an instrument for finding out what the "values of the group" are. Delphi is a tool for exploring group opinion, and there can be no reason of principle why it should not be directed at group opinion about values as well as facts.\* At this level of application, Delphi can provide a means for explaining the structure of group values by focusing not simply upon choices, but upon the reasons for making them one way rather than another, and the weights of these reasons, thus revealing—inter alia—what values are regarded as relevant to the decision at issue. The relevant techniques can be deployed in much the usual way, as a means for discovering and sharpening an area of group consensus in the value sphere: to aid in determining what the shared values are and their comparative weights, the criteria to be used in evaluation, and the like.

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\* For the use of Delphi-style questionnaires for the study of group values see K. Baier and N. Rescher (eds.), Values and the Future (New York, Macmillan—The Free Press, 1969).

Nor does the matter end here. To be sure, the Delphi techniques can be viewed as a method for discovering and sharpening an area of group consensus, but to insist upon this application exclusively is to be guilty of an oversimplification. Rather than serving as a tool for discovering or forging (even forcing?) a group consensus, Delphi can provide a technique for discovering subgroups of variant opinion in a group—when the pattern of responses is multi-peaked (rather than single-peaked, as is in general the case with the rather straight-forwardly factual issues upon which experiments with the Delphi method have to date concentrated), a prospect more than likely in many spheres of the value area.

##### 5. CONFLICTS OF INTERESTS AND CONFLICTS OF VALUES

It will be important for present purposes to distinguish between conflicts of interest and conflicts of values proper. A conflict of interests arises when a possible (or for that matter actual) state of affairs valued by a person or group is incompatible with one that is valued by another. Thus if X derives pleasure from exploding cherry bombs (i.e., values the setting-off of cherry bombs as a source of pleasure) while Y values "blissful silence," then there is a conflict of interest between them—though, to be sure, only they must operate in each other's proximity. A conflict of interest thus typically obtains in a situation in which there is a mutual exclusivity among different

parties with regard to the access, possession, use, or enjoyment of some treasured item.

A conflict of values is something altogether different. The key to a conflict of values lies in the polarity of contrary values: liberality/frugality, (jingoistic) patriotism/pacifism, equality/excellence, etc. Conflicts of value arise when different individuals espouse values whose realization stands in systematic conflict in this way.

In the example given above there is not only a conflict of interests but a conflict of values as well. X values auditory excitement (shrieks, bangs, etc.) while Y values peace and quiet. These are obviously conflicting values. However, conflict of values need not result in a conflict of interest in specific situations. A certain disarmament agreement might conceivably please both jingoists (as resulting in a balance of strength more favorable to our side) and pacifists (as a step towards more comprehensive disarmament). Moreover, a conflict of interests may perfectly well obtain despite a total agreement on values. Thus A and B might both relish the prospect of marriage with a certain young lady—a rivalry which creates an irreconcilable conflict of interests—but yet they may well on all of the value issues in question (the value of marriage, of feminine pulchritude, charm and vivacity, of domesticity, etc.).

One more complication must be introduced. Short of

an actual conflict of values as such, there can yet be another, more subtle kind of value conflict: a conflict as to the criteria of value-realization. Suppose you and I agree in mutual acceptance of patriotism as a value; we both very much "want our country to be great and to bestride the world-stage like a Colossus." Here, then, there is, ex hypothesi, a complete agreement in values. But if I measure national greatness primarily in terms of military power and a Palmerstonian throwing about of national weight, and you measure greatness primarily in terms of artistic, scientific, and cultural achievement, then a serious disagreement yet remains. Just this is the sort of thing at issue in a conflict in value criteria. Conflicts of value—in contrast to conflict of interest—thus divide into at least two important species, viz., conflicts among values as such and criterial conflicts.

#### 6. DELPHI AND CONFLICTS OF INTEREST

It is pretty clear on the very surface of the matter that orthodox Delphi techniques are not going to prove significantly helpful in the sphere of conflicts of interest when the Delphi participants are the interested parties themselves. After all, Delphi as developed in the factual area is an opinion-pooling technique that strives to detect and exploit a latent consensus in the subject-group. Thus when there is divergence and conflict in the group, as is

the case in the situation we have in view, then the Delphi cannot forge ex nihilo a consensus that is—by hypothesis—absent.

Perhaps this weakness of Delphi is a venial. After all, as regards the rational resolution of conflicts of interest, a whole body of machinery has given up in recent years in the theory of games, utility theory, and decision theory to provide an organon for coping with problems in this area by means of essentially analytical machinery. But the matter need not rest here altogether.

Even if one grants that Delphi may well not be a tool for affecting a resolution in conflict-of-interest cases among parties themselves, its failure to provide such an instrumentality of negotiation need not settle the issue of its usefulness. For there is still the prospect of its employment as an instrumentality of arbitration. Excluding the interested parties themselves from the Delphi group, we turn instead to noninvolved third parties for guidance as to how a reasonable resolution of the conflict at issue is to be constituted. There is no reason of general principle why Delphi should not prove a most useful device in this sphere. The prospect certainly merits close scrutiny.

## 7. A CRITICAL DIVERGENCE

One significant species of "value conflict" occurs in a decision context where a synoptic, on-balance, everything-taken-into-account evaluation is called for because a

decision must be made one way or another, but where there is a potentially divergent outcome when evaluation is made with reference to various diverse values that enter in. For example, a man is to decide whether or not to adopt a certain diet. Now this diet can be evaluated in point of its healthfulness, palatability, contribution to appearance (complexion, weight), its appetite-satiation, and the like. With respect to each and every one of these items the situation might be quite clearcut (e.g., the diet is distinctly healthful but quite unpalatable), and yet there might be conflict because different indicators point in different directions pro or con. Even when, in such a case, the situation is quite clearcut as regards the several specific individual criteria, there still remains an unresolved issue, that of combining these criteria into one overall measure, so as to make them mesh with one another into one inclusive overall evaluation. This matter of adjusting tradeoffs between such diverse factors—say by giving them weights for some sort of averaging process.

When, as in the preceding example, only a single individual is involved in such a criterial conflict situation the application of Delphi procedures does not seem to be in order. But the case is different when a multiplicity of individuals are involved. Thus suppose that a firm must decide whether or not to proceed with a certain program, say the introduction of a new product line. This

program can be evaluated with reference to various relevant values, say profitability, staff morale, the public image of the firm, and the like. In such a multi-person involvement with criterial diversity the concept of establishing a consensus through a Delphi process appears workable and appropriate.

One further aspect of this criterial divergence situation warrants note. In such cases we do not actually confront a literal conflict of values, for there is no generalized clash among the values involved. Staff morale does not in general conflict with the good image of the firm (quite the reverse!), nor—young spinach-haters notwithstanding—is there a general conflict between healthfulness and palatability. In such cases then we do not face an actual conflict of values as such, but a situation-bound, ad hoc conflict between the plus or minus sectors operative in point of this or that particular value.

#### 8. A VALUE CONFLICT AND CONSENSUS

A "value conflict" in the strictest sense of that term occurs, as we have said above, when an individual or group subscribe to "contrary" values whose conjoint realization is infeasible in a systematic way. A person cannot conjointly act systematically on the values of friendship and self-interest. The insertion of "systematically" plays a key role here: action on incompatible values can of course be consistent on occasion. Nor could a national

group consistently cultivate both good neighborliness and its own economic advantage.

When a value-conflict exists within a group, Delphi procedures can in principle be most useful for determining its nature and extent. Moreover, since it is possible in specific concrete cases that a consensus regarding the concrete courses of available action can obtain despite disagreement and conflict at the value level, this prospect represents a potentially promising sphere for Delphi investigation.

#### 9. THE PROBLEM OF CORRECTNESS

When considering the matter of the "correctness" of the results of Delphi findings in the value area, it is important to distinguish between two separate issues: (i) whether a well-defined value consensus actually exists in the group and whether we, the Delphi experimenters, have correctly succeeded in identifying it, and (ii) whether this consensus, as duly identified by us, is itself correct or not. The second of these issues brings us to a particularly thorny—yet centrally important question, the correctness of evaluations as such. For there is the merely internal issue (i) of what values or evaluations correctly to be ascribed to the group. But beyond this lies the external issue (ii) of what the actually correct values and evaluations are.



It should be noted that most of the criteria of correctness that are sometimes involved actually relate only to the first of these issues. Specifically this is true of such criteria as the following:

- (1) Differential selectiveness, so that certain responses are favored over others.
- (2) Temporal stability, so that responses remain relatively constant over time.
- (3) Group convergence, so that the responses tend to converge with an iterative feedback of earlier findings.
- (4) Group reliability, so that the responses of similar groups tend to be similar.

Note here that (1)-(3) in fact relate to the question of the existence of a meaningful group consensus, while (4) would serve primarily to augment our confidence in having found this consensus. None of these items go far towards resolving the second aspect of the "correctness" issue: the actual correctness or validity of the value judgment as such.\*

This is unquestionably a thorny problem. As one writer puts the matter:

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\* It is helpful to inject here a reference to the epistemological issues revolving about the rivalry between the coherence and the correspondence theories of truth. Note that all of our items (1)-(4) relate to the issue of the internal coherence among the value judgments: the matter of an external agreement with an objective reality is not broached.

As far as the workability of Delphi for such value judgments is concerned—in the sense that respondents are willing to furnish lists of objectives, to allocate weights, and to accept a statistical aggregation of weights supplied by a group—the procedures appear to be feasible. But the question of the validity of the procedures is much more obscure when value judgments are involved. The prevailing opinion at the present time appears to be that there is no clear sense in which value judgments can be said to be true or accurate. (I do not agree with this prevailing opinion ...) Hence it is of practical importance to ask whether there is any objective way to test Delphi procedures in the value area. The issue is somewhat paradoxical. It is difficult to believe that when a group of corporate policy makers formulate a set of objectives for a major industrial firm, they could accept the judgment that any other set of objectives is just as good as the set they have produced. In this respect there is apparently some sense in which they presume that their list is "correct." It would seem that without some such weak presumption, the making of value judgments is rather futile.

Now what is primarily at issue cases as that mentioned is presumably a matter of "means-judgments" or "instrumental judgments" regarding values. In such cases, some very fundamental desiderata are accepted as given, obviously including the continued existence of the firm itself, perhaps also the maintenance or increase of its place in the hierarchy of its competitors, its profitability, and the like. In the light of these primary objectives, other—now

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\* Norman C. Dalkey, The Delphi Method: An Experimental Study of Group Opinion, The RAND Corporation, RM-5888-PR (Santa Monica, June 1969), pp. 73-74.

"subsidiary"— objectives such as the public image of the firm, the morale of its employees, its production and sales levels, etc. can now be assessed, in terms of the extent of their contribution to these overarching objectives which represent basic value issues that can be looked upon as settled. At just this juncture, there certainly is a sphere in which the concept of correctness is legitimately applicable in a straightforward and intelligible way. For it is an in principle testable, empirical contention that the actual cultivation of such-and-such values or the actual pursuit of such-and-such objectives in fact contributes positively to the realization of certain other values or the attainment of certain other objectives. In just this way, the question of correctness—and essentially factual correctness—can be raised with respect to the essentially contributory considerations at issue in evaluative means judgments. And such factual issues—incidentally—certainly constitute one important value-related problem-area that can be investigated by Delphi processes of the standard (i.e., factual) kind, and admit of the standard, agreement-with-the-facts made of assessment of correctness.

But what of the ultimate ends judgments? For surely we cannot indefinitely pile means upon means upon means—supporting the elephant on the back of a turtle on the back of an allegator, and so on. Somebody might well object: "Well and good for means-values subordinated to

given ends, but what of the ultimate end values themselves—what justified them?" On this issue, the philosophical value theorists part ways. Some hold that there are no absolute end-values: the end values of one context themselves turn into means values with a broadening of the context, essentially ad indefinitum. Others that there are certain value absolutes rooted in the nature of man and the characteristics of his environment.\* But be this as it may, this issue of in-the-final-analysis ultimacies is sufficiently far removed from the stage of the specific practicalities of concrete value problems as to be evitable in most if not all situations in which it is reasonable to deploy the Delphi method for the study of value issues.

#### 10. A SUMMING UP

In conclusion, it seems appropriate to cast a retrospective glance over the preceding discussion and to summarize its findings regarding the potential usefulness of Delphi processes in the value area. It would appear that the Delphi process can be used:

- (1) To determine what the operative values of a group are, what relative weights they have, what sorts of possible tradeoffs obtain among them, and the like.

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\* On these issues see N. Rescher, Introduction to Value Theory (Englewood Cliffs, New Jersey: Prentice Hall, 1969).

- (2) To explore the sphere of value criteriology, clarifying by what criteria the values of a group come to be brought to bear upon actual cases.
- (3) To discover divergences of value posture within a group and the existence of subgroup with aberrant value structures.
- (4) To serve as a tool for seeking out areas of value consensus—or agreement as to actions and preferences—that may exist even when there are conflicts of value.
- (5) To provide a tool for the third-party evaluation of conflicts of interest.
- (6) To assess the correctness of value ascriptions to given groups.
- (7) To assess the correctness of value judgments in the area of means-values.

But in one basic respect there does seem to be a (by no means vitiating) limitation in the use of Delphi in the value area, viz. that there is no generally practicable technique for checking the value judgments of the group against "the actual facts." But this limitation, albeit valid, is not confined to the value area. We are in a comparable position with regard to a wide section of factual historical issues where "the data" necessary lie irremediably outside our grasp. (For example, the question of the population of England in 1400 A.D.)

BIBLIOGRAPHY

- Brown, Bernice, "Delphi Process: A Methodology Used for Elicitation of Opinions of Experts," ASTME Vectors, Vol. 3, No. 1, 1968, pp. 4-8.
- , "Technological Forecasting by Iterative Guesstimation," Product Design and Value Engineering, Vol. 13, No. 9, October 1968, pp. 30-33.
- , Delphi Process, The RAND Corporation, P-3925, September 1968.
- Brown, Bernice, and O. Helmer, Improving the Reliability of Estimates Obtained from a Consensus of Experts, The RAND Corporation, P-2986, September 1964.
- Brown, Bernice, S. Cochran, and N. Dalkey, The Delphi Method, II: Structure of Experiments, The RAND Corporation, RM-5957-PR, June 1969.
- Campbell, Robert M., "The Delphi Technique: Implication in the Corporate Environment," Management Service, November-December, 1968, pp. 37-42.
- Dalkey, N. C., Delphi, The RAND Corporation, P-3704, October 1967.
- , Quality of Life, The RAND Corporation, P-3805, March 1968.
- , Experiments in Group Prediction, The RAND Corporation, P-3820, March 1968.
- , Predicting the Future, The RAND Corporation, P-3948, October 1968.
- , The Delphi Method: An Experimental Study of Group Opinion, The RAND Corporation, RM-5888-PR, June 1969.
- Dalkey, N. C., and O. Helmer, "An Experimental Application of the Delphi Method to the Use of Experts," Management Science, Vol. 9, No. 3, April 1963, pp. 458-467.
- Girshick, M., A. Kaplan, and A. Skogstad, "The Prediction of Social and Technological Events," Public Opinion Quarterly, Spring 1950, pp. 93-110.
- Gordon, T., and O. Helmer, Report on a Long-Range Forecasting Study, The RAND Corporation, P-2982 (DDC No. AD607777), September 1964.
- Helmer, O., The Systematic Use of Expert Judgment in Operations Research, The RAND Corporation, P-2795, September 1963.
- , Convergence of Expert Consensus Through Feedback, The RAND Corporation, P-2973, September 1964.

Helmer, O., Social Technology, Basic Books' Inc., New York, 1966.

——, The Use of the Delphi Technique in Problems of Educational Innovations, The RAND Corporation, P-3499, December 1966.

——, Analysis of the Future: The Delphi Method, The RAND Corporation, P-3558, March 1967.

New Developments in Early Forecasting of Public Problems: A New Intellectual Climate, The RAND Corporation, P-3576, April 1967; also in Vital Speeches, Vol. 33, June 1967, pp. 497-499.

——, Systematic Use of Expert Opinions, The RAND Corporation, P-3721 (DDC No. AD662330), November 1967.

Helmer, O., and N. Rescher, On the Epistemology of the Inexact Sciences, The RAND Corporation, R-353, February 1959, also in Management Science, Vol. 6, 1959, pp. 25-52.

Kaplan, A., A. L. Skogstad, and M. A. Girshick, The Prediction of Social and Technological Events, The RAND Corporation, P-93, April 1949; also in Public Opinion Quarterly, Vol. 14, 1950, pp. 93-110.

Kelly, H. H., and J. W. Thibaut, "Experimental Studies of Group Problem Solving and Process," Gardner Lindzey (eds.), Handbook of Social Psychology, Vol. II Addison-Wesley Publishing Company, Inc., Reading, Mass., 1954.