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# Comments Concerning the Position of Theories in the Behavioral Sciences

## The Problem

The importance of developing theories has been incessantly expressed in sociological literature. Robert K. Merton has stated repeatedly that the major task of sociologists today is to develop sets of general propositions rather than to engage in either purely descriptive studies unrelated to any theory or in the construction of conceptual schemes for one all-inclusive theory to be developed in the future, from which all other sociological theories might be derived. His suggestion is to put the main emphasis on theories and not on concepts or heuristic directives.[1] Stouffer,[2] Homans,[3] Zetterberg,[4] Neal Gross,[5] and others have expressed similar convictions. Various sociologists and psychologists, who use the term "theory" in different ways, have also emphasized the need for, and importance of, theory.[6]

At the same time it has been suggested in several publications that very little has been done to accomplish what is considered by many sociologists to be the major task. In 1947 Stouffer said, "I fear indeed that when we speak of the engineering application of sociological theories we may lie talking largely of the future rather than the past." He admitted that there must exist some examples of general sociological propositions that could be applied to a program of social action, but he asked "How many examples of this kind can be found? If there are a good many," he added, "why doesn't somebody write a book about them?"[7]

In 1949 R.K. Merton wrote that "despite the many volumes dealing with the history of sociological theory and despite the plethora of empirical investigations, sociologists (in-

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[1] R.K. Merton, *Social Theory and Social Structure*. Glencoe: The Free Press, 1957, p. 9.

[2] S.A. Stouffer, "Discussion," ASR, February 1947, p. 12. See also E. Shilos, *The Present State of American Sociology*. Glencoe: The Free Press, 1948, pp. 54–59

[3] G.E. Homans, *The Human Group*. New York: Harcourt Brace, 1950.

[4] H.L. Zetterberg. *On Theory and Verification in Sociology*. Stockholm: Almquist & Wicksell; New York: The Tressler Press, 1954.

[5] N. Gross, W. S. Mason and A. W. McEachern, *Explorations in Role Analysis*. New York: J. Willey, 1950.

[6] See, e.g., H. Becker and A. Boskoff, *Modern Sociological Theory*. New York: The Dryden Press, 1957; T. Abel, "The Present Status of Sociological Theory," *ASR*, Vol. 17, No. 2 (April 1952); T. Parsons, *Essays in Sociological Theory*. Glancoe: The Free Press, 1949, p. 17; S. Hall and G. Lindzey, *Theories of Personality*.

[7] Op. cit.

cluding the writer) may discuss the logical criteria of sociological laws without citing a single instance which fully satisfies these criteria."[8]

In 1960 G. Homans suggested that "there are still good reasons for asking the question: What single general proposition about human behavior have we established?" And, he added, "we shall find ourselves waiting for an answer."[9]

In 1954 H.L. Zetterberg wrote that the present sociological thinking has little to offer students who want to go beyond descriptive studies. Courses dealing with social theory are mostly concerned with the history of social thought or with defining and classifying human behavior and developing a vocabulary which enables us to talk about social phenomena in a scholarly fashion.[10]

In 1956 the same author stated that "great progress has been made" but "the number of specific topical findings which are not integrated into a sociological theory is very large."[11]

At the same time some authors still take the position that the quest for invariant relations in sociology is an idle dream.[12]

In my opinion so much has been done in this respect during the last years that what was said concerning the position of theories ten years ago no longer holds, and the problem of the possibility of non-historical propositions in the behavioral sciences is quite obsolete. But there are various factors which make it very difficult to see this change clearly. I will mention two factors which seem to be the most important.

The first one is the enormous ambiguity of the term "theory." Books and articles which include the term "theory" in the title sometimes contain general propositions[13] but very often do not.[14] The same is true of publications which do present sets of strictly general propositions. Some systems of such propositions are called "theories"; others are not.[15]

The second factor results from the most common type of division of labor within the social sciences. Works analyzing regularities of the same type are often classified under various areas of the social sciences (e.g., psychology of personality, child psychology, so-

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[8] Op. cit., p. 96

[9] Op. cit., p. 115.

[10] Op. cit.

[11] "A Guide to American Sociology, 1945–1955," in H. L. Zetterberg (ed.) *Sociology in the United States*. Paris: UNESCO, 1956.

[12] C. W. Mills, *The Sociological Imagination*, p. 149; Barrington Moore, *Political Power and Social Theory*. Cambridge, Mass.: Harvard University Press, 1958. See also reviews of "The Sociological Imagination" by P. Selznick and L. Feuer in *Berkeley Journal of Sociology*, Vol. 5, No. 1, p. 129 and G. E. Homans in *ASR*.

[13] See, e.g., L. Festinger, *A Theory of Social Comparison Processes*, L. Festinger, *A Theory of Cognitive Dissonance*. Evanston, Ill.: Row, Peterson, 1957; W. E. Miller, "Theory and Experiment Relating Psychoanalytic Displacement to Stimulus-Response Generalization," *J. Abn. Soc. Psych.* 1948, Vol. 43, pp. 153–178; M. Deutsch, "A Theory of Cooperation and Competition," *Hum. Rel.*, Vol. II, No. 2; D. Cartwright and F. Harary, "Structural Balance: A Generalization of Heider's Theory," *Psych. Rev.*, Vol. 63, No. 5, 1956, pp. 277–296; J. R. French, "A Formal Theory of Social Power," *Psych. Rev.*, Vol. 63, No. 3, 1956; A. R. Cohen, *A General Theory of Subculture in Delinquent Boys*. Glencoe: The Free Press, 1955.

[14] See, e.g., K. Lewin, *Field Theory in Social Science*; T. Sarbin, "Role Theory" in G. Lindzey (ed.), *Handbook of Social Psychology*. Cambrige: Addison-Wesley, 1954; S. F. Nadel, *The Theory of Social Structure*. Glencoe: The Free Press, 1957; T. Persons and E. Shils (eds.), *Perspectives in Personality Theory*. New York: Basic Books, 1957.

[15] See, e.g., S. M. Lipset, M. Trow and J. Coleman, *Union Democracy*. Glencoe: The Free Press, 1956; J. Coleman, *Community Conflict*. The Free Press, 1957; G. P. Murdock, *Social Structure*. New York; J. Wiley, 1959; T. Hopkins, *The Exercise of Influence in Small Groups*, Ph.D. thesis, Columbia University (Unpublished), 1959; S. Schachter, *The Psychology of Affiliation*. Stanford, Calif.: Stanford University Press, 1959.

cial psychology, political sociology, sociology of ethnic relations, social anthropology, etc.) according to the kind of empirical data and the kind of techniques used.[16] As a result, scientists from one area often have a rather limited contact with investigations which aim at testing the same or similar hypotheses by using different types of data or different techniques.
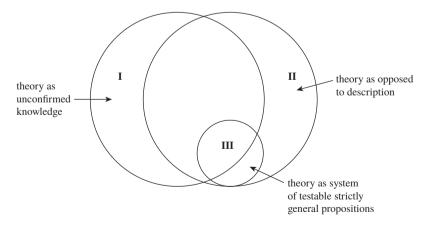
This paper has three aims. First, I hope to clarify various meanings of the term "theory" in order to remove misunderstandings resulting from the existing ambiguities. Second, I hope to show, by discussion of some concrete examples, that the position of theories conceived as systems of universal propositions is not so hopeless as is sometimes supposed. Third, I want to put forth certain problems emerging from a comparison of several theories—problems which in my opinion have some relevance to the codification of theoretical knowledge in the social sciences. The first problem will be discussed In Section II, the last two in Section III.

### Three Meanings of the Term "Theory"

#### Basic Distinctions

The term "theory" is widely used in the contemporary social sciences in at least three different meanings. The first refers to unconfirmed knowledge; the second to knowledge which is not purely descriptive; the third to a system of testable, strictly general propositions.

The denotations of these three concepts overlap. Some theories in the first sense may also be called "theories" in the second and third sense. But not all of them. The same is true of two other concepts which were distinguished above. The relations between these three concepts may be illustrated by the following figure in which denotations are represented by circles.



The main subject of our interest in this paper is theory in the third sense. However, in order to avoid very common misunderstandings it seems desirable to devote the following

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[16] See H. L. Zetterberg, *A Guide to American Sociology, 1945–1955*, op. cit.

three paragraphs to a more detailed and concrete discussion of the three concepts mentioned above.

### Theory as Opposed to Confirmed Knowledge

In trying to explain the meaning of the term "theory," S.C. Hall and G. Lindzey state that "the most common conception is that a theory exists in opposition to a fact. A theory is an unsubstantiated hypothesis or a speculation concerning reality which is not yet definitely known to be so. When the theory is confirmed, it becomes a fact."[17] This meaning is pretty common in the works of psychologists and sociologists. For example, N. Sanford and M. Conover state that controversy and confusion regarding the Ego and the self flourish because of the absence of suitable objective indices, and they conclude that "If there were sufficient methodological access to the Ego and to the inferred self theoretical issues could quickly be turned into empirical questions."[18] B. Berelson and Steiner in Introduction to the Behavioral Sciences[19] and Berelson and Janowitz in Readings in Public Opinion and Communication[20] also opposed theories to "facts," that is, to the knowledge confirmed by systematic evidence.

The concept of theory as speculation unconfirmed by empirical data has one undesirable consequence which is quite apparent in the above-quoted book by Hall and Lindzey. The writers agree that a good theory should enable us to derive testable hypotheses. At the same time they admit that when a theory is confirmed, it ceases to be a theory. "In our view," they write, "theories are never true or false."[21] A good theory, when turned into a system of testable hypotheses, is no longer a theory. In this way the concept of theory presented here, often even contrary to the intentions of scholars who use it, has a pejorative connotation.

### Theory as Opposed to Description

R.K. Merton has noted that the term "sociological theory" has been widely used to label six different types of scientific works: (1) methodology; (2) general sociological orientations; (3) analysis of sociological concepts; (4) post factum sociological interpretations; (5) empirical generalizations, that is, "isolated propositions summarizing observed uniformities of relationships between two or more variables," and scientific laws which are defined by the author as "statements of invariance derivable from theory."[22]

If we assume that in the contexts described by Merton the term "theory" means "the knowledge which is not purely descriptive," it will become clear why six different types of scientific works and several others are sometimes called "theories." The concept of theory, as opposed to description, is, in my opinion, very common. In this sense the sentences

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[17] *Theories of Personality*, op. cit.

[18] N. Stanford And M. Conover, *Personality, A Contribution to Project A of the American Psychological Association*, unpublished.

[19] B. Berelson and G. Steiner, Introduction to *the Behavioral Sciences*. To be published.

[20] See, e.g.,

[21] Op. cit.

[22] Op. cit.

which describe what happened in a particular time or place are not considered theories. But other products of scientific activity may be called theories. An investigator taking a random sample of voters in order to reveal the political preferences of voters at a given time in a particular country is doing a descriptive study. A researcher concerned with any other kind of scientific activity is, according to this tradition, concerned with theories. This is presumably the meaning of the word "theory" in the writings of the authors who use this term to describe the results of the type of work that was characteristic of the great sociologists of the previous generations. Typical in this tradition is T. Abel's statement: "the traditional meaning of the term 'theory' refers to a category of ideas and substantive contents which we associate with the work of such men as Comte, Spencer, Toennles and Durkheim, Summer, Cooley, Simmel and Max Weber."[23] Abel's emphasis is that the term "theory" applies not only to the above-mentioned sociological works but to all works of this kind. However, the works of these sociologists were extremely varied. Probably their only element in common is that they were not limited to description of what happened in a particular time or place.

The results of scientific activity that can be distinguished from description are extremely heterogeneous. I shall distinguish several of them.

First, these results include new concepts. Let us give as examples various forms of mechanisms of defense—overcompensation, substitution, aggression, displacement of aggression, regression, rationalization; or various phenomena important for understanding the process of learning—drive, cue, response, reinforcement, extinction, spontaneous recovery, generalization, discrimination, gradient of generalization, etc.; or various concepts referring to the expectations of others—position, role, role consensus, intra-role conflict, inter-role conflict, a perceived obligation, a perceived pressure, role-set, etc.; or various concepts used in analysis of mutual relationships within small groups—rank, observability, conformity, frequency of interaction, reward power, legitimate power, structural balance; or various concepts used in analysis of social stratification—class, objective and subjective class membership, multidimensional hierarchy, inconsistency of status, relative deprivation, level of aspiration, vertical upward and downward mobility, intergenerational mobility, etc.

The authors who introduce new concepts presumably believe that these concepts suggest some important variables which may disclose new regularities or are useful for better descriptions. These beliefs are not always justified, however. Many conceptual distinctions hinder more than they help an analysis of social reality. But as a matter of fact, a great part of intellectual work in the social sciences consists of introducing new concepts. A. Rappaport is right when he says that "for a social scientist a 'theory' is often (in effect) a system of reference that is a multitude of definitions. That is to say the theoretician of social science invites the reader to categorize his observations in a certain way."[24] This is the way in which the term "theory" is used by Nadel in his book *A Theory of Social Structure*.[25]

[23] T. Abel. *The Present Status of Social Theory*.

[24] A. Rappaport, "Uses and Limitations of Mathematical Models in Social Sciences," in L. Gross (ed.), *Symposium of Sociological Theory*.

[25] *The Theory of Social Structure*. Glencoe: The Free Press, 1957.

A second type of work described as theoretical in the sense just discussed consists of giving operational definitions to non-operational concepts. Social scientists who introduce new concepts very often do not make clear how these concepts should be used. Let us take, for example, such concepts as "political consensus" or "status polarization." Many writers have suggested that some degree of both consensus and conflict is necessary for the maintenance of a stable democratic system. How are these terms to be used? How is one to decide in which of the given countries there is a greater degree of political consensus? This is a problem considered by C. Runciman, who tries to formulate criteria by which degrees of political consensus or conflict can be measured. Concepts such as "social cohesion," "reference group," "cognitive dissonance," "threat to self-esteem," etc., suggest similar problems.

A third type of scientific work referred to as a theory consists of suggesting heuristic directives which assume that some factors are partially important in explaining various aspects of human behavior or social systems. Let us recall the differences between various theories of personality.[26] A great part of these differences may be conceived as differences in assumptions regarding the relative importance of certain types of variable. Some examples of important differences in the general orientations of psychologists of personality are the emphasis on conscious[27] or unconscious determinants of behavior;[28] the importance of reward[29] as opposed to contiguity in learning;[30] explaining human behavior in terms of early experience[31] as opposed to contemporaneous factors;[32] the emphasis on reality as it is perceived by the individual[33] in contrast to objective reality;[34] explanations in terms of a small number of basic motives[35] or in terms of a large, sometimes limitless, number of motives;[36] and the greater or lesser significance attributed to individual self-perception.[37] These are mostly differences in the kind of heuristic directives and in beliefs concerning the fruitfulness of certain types of variables, rather than differences in systems of empirical propositions.

Similar types of differences can be found in the analysis of cognitive processes.[38] Some tend to look at the processes in question as expressions of needs—expressions which facilitate the adjustment of the organism. Others put an emphasis on the organization of the cognitive field and on the consistency between new and old cognitions. Still others emphasize a kind of physical stimulation. This is the difference in beliefs about what kinds of

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[26] See, e.g., S. Hall and G. Lindzey, op. cit. and N. Sanford and M. Conover, op. cit.

[27] As. E.g., K. Lewin, H. J. Eysenck or C. R. Rogers.

[28] E.g., S. Freud, K. Horney, H. A. Murray.

[29] E.g., J. Dollard and N. E. Miller.

[30] E.g., H. S. Sullivan.

[31] E.g., S. Freud or A. Alfred.

[32] E.g., K. Lewin and some of his students.

[33] E.g., K. Lewin or C. R. Rogers.

[34] E.g., J. Dollard, N. E. Miller, W. H.Sheldon, H. J. Eysenck, or R. Cattell.

[35] E. g., S. Freud, A. Alfred, K. Horney, E. Fromm, P. Lecky.

[36] E.g., K. Lewin, G. W. Allport, H. A. Murray and G. Murphy.

[37] See, e.g., A. Alfred, K. Horney, C.R. Robers, P. Lecky and G. Goldstein as opposed to N.E. Miller or H. J. Eysenck.

[38] See L. Postman, "Toward a General Theory of Cognition," in J.H. Rohrar and M. Sherif (eds.), *Social Psychology at the Crossroads*. New York: Harper, 1951.

variables are particularly fruitful, as well as the difference in explanatory habits and in the heuristic directives that are accepted and recommended.

P. Selznick gives us another example of a "theory" conceived as a set of heuristic directives. This concerns not individuals but formal organizations. The directives suggest looking at the analysis of organizations mainly to identify the unanticipated consequences of purposive actions and to pay attention to such causes of unanticipated effects as: a desire to defend an organization and the maintenance of unity, order, and discipline; the aspirations and interests of personnel which make certain members opposed to the aims of an organization; institutionalized patterns of behavior which may limit the choice of means; lack of control over the incumbents of power; or compromises with the requirements of the social environment. "The theory of organizational commitments" is a theory, if by "theory" we mean a set of heuristic directives which recommend what kinds of variables are to be taken into account rather than contribute a set of specific propositions.

A fourth type of intellectual work that is frequently referred to as theoretical as opposed to descriptive consists of the construction of models. I mean here a system of mathematical functions, sentences, diagrams, or tables concerning relationships between variables, relationships which have as yet no empirical interpretation. The Levinian interpretations of findings concerning levels of aspiration may be used as one of many available examples of this type of work.[39]

Levin et al. assumes that, from possible actions, "that action is chosen as a goal for which the sum of attractiveness (positive valence) minus the sum of disagreeableness (negative valence) is a maximum."[40] In analyzing the level of aspiration it is assumed that "the general character of activity is constant. The choice is determined by the different valences which different degrees of difficulties within the same activity have for the same person."[41]

The authors propose the following formulae.

First, the valence of each level of activity $[Va(a^n)]$ is equal to the positive valence of success on that level [pos $Va(suc\ A^n)$] minus the negative valence that future failure has on that level [neg $Va(Fai\ A^n)$].

Symbolically:

$$(1) \qquad Va(A^n) = \text{pos. } Va(suc\ A^n) - \text{neg. } Va(Fal\ A^n).$$

Second, with increased difficulty the valence of success also increases.

$$(2) \qquad \text{pos } Va(suc\ A^{high}) \text{ pos } Va(Suc\ A\ low).$$

Third, with increased difficulty the valence of failure decreases.

[39] K. Lewin, T. Dembo, L. Festinger and P. Sears, "Levels of Aspiration," in J. McV. Hunt (ed.), *Personality and Behavior Disorder*. New York: The Ronald Press, 1944.
[40] Op. cit.
[41] Op. cit.

(3)                         Neg. Ba(Fai $A^{high}$) neg. Va(Fai $A^{low}$).

Fourth, as the positive valence of success increases with difficulty and the negative valence of failure decreases, the total valence on the high level should always be greater than the total valence on the lower level.

(4)              $Va(A^{high}) = Va(Suc\ A^{high}) + Va(Fai\ A^{high})$,

$$Va(Suc\ A^{low}) + Va(Fai\ A^{low}) = Va(A^{low})$$

Consequently, Lewin says, there is nothing paradoxical in the fact that people reach out for difficult tasks. If they do not always choose the most difficult tasks, it is probably because the choice is determined not by the valence of future success or failure as such, but rather by these valences modified by the subjective probability of the occurrence of these events. The weighted valence of success is the product of the valence and of the probability of success.

(5)                    $°Va(suc\ A^n) = Va(suc\ A^n) - Prob.\ (Suc\ A^n)$

Similarly weighted valence of failure [$°Va(Fai\ A^n)$]

(5$b$)                   $°Va(Fai\ A^n) = Va(Fai\ A^n)\ .\ Prob.\ (Fai\ A^n)$.

The sum of these valences is called "resultant weighted valence" [$°Va(A^n)$]
The authors state that

(6)                    Level of aspiration n if $°Va(A^n)$ = maximum.

Levin at al. discussed several factors determining the values of the scale of probability (such as past successes and failures, numbers of experiences, existence of definite upper and lower limit, wishes and fears) and factors determining the valences of future success or failure, such as group standards and past achievements. In addition, they state that all these coexistent frames of reference underlying the probability scale, the scales of valences of future success and failure, can technically be recombined to these main scales if one attributes to each of the underlying frame-of-reference scales (uRS) the relative weight of potency with which it influences the individual.[42]

It is apparent that what is labeled the resultant valence theory is a model in the sense clarified above. It is a set of formulae with supplementary tables and diagrams which describe relationships between variables for which we have no measures.

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[42] Op. cit.

Sometimes a model as conceived here is a first step toward a system of empirical hypotheses. This is the case when the relationships described in a given model receive an empirical interpretation. Models are used in this way by T. French in the paper "A Formal Theory of Social Power,"[43] and by L. Festinger in the paper "An Analysis of Compliant Behavior."[44] However, models are often presented without any attempt at empirical interpretation. This is a type of scientific work quite different from theories conceived as systems of testable and strictly general propositions.

The fifth type of scientific work that can be distinguished from description consists of formulating and testing general hypotheses. Almost every issue of any sociological and psychological journal brings several new examples of this kind of endeavor. Here are two illustrations.

G. Lenski assumes, following the tradition of Max Weber, that the vertical structure of societies is usually multidimensional, that individual status consists of a series of positions in a series of related vertical hierarchies, and that some of these positions can be much higher than others. Lenski reports several investigations designed to explore some consequences of inconsistency of status. His findings confirm the hypothesis that individuals characterized by a high inconsistency of status are significantly more liberal in their political attitudes and behavior than individuals characterized by a high consistency of status, when status differences in the vertical dimensions are controlled.[45] This hypothesis is used to predict that the more frequently acute status inconsistencies occur within a population the greater the proportion of that population that will be willing to support programs of social change, and that persons with high inconsistencies of status may be an important source from which the leadership of successful revolutionary movements is recruited.[46]

As an explanation of the relationship between status inconsistency and liberalism, G. Lenski put forth in another article the hypothesis that persons with a high degree of status inconsistency "are more likely to be subjected to disturbing experiences in the interaction process and have greater difficulty in establishing a rewarding pattern of social interaction than others."[47] From this hypothesis and from the theorem of psychology of learning which states that unrewarded behavior tends to decline in frequency, Lenski derived the hypotheses that inconsistency of status is followed by low frequency of participation in voluntary relationships, low intensity of such relationships, and low frequency of contacts motivated by a desire for, or expectation of, pleasurable interaction with others. These hypotheses were confirmed by empirical findings.

D. Bramel made an ingenious experiment designed to test a hypothesis concerning the sources and direction of projection.[48] One of his hypotheses was that "when a person is exposed to a self-referent cognition which is dissonant with this self-evaluation and which

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[43] J. R. French, "A Formal Theory of Social Power," *Psych. Review*, Vol. 63, No. 3, 1956.

[44] L. Festinger, "An Analysis of Compliant Behavior," in M. Sherif and M. O. Wilson (eds.), *Group Relations at the Crossroads*. New York: Harper, 1953.

[45] G. E. Lenski, "Status Crystallization: A Non-Vertical Dimension of Social Status," *ASR*, Vol. 19, No. 4, August 1954.

[46] Op. cit.

[47] G. E. Lenski, "Social Participation and Status Crystallization," *ASR*, Vol. 21, No. 4, August 1956, p. 459.

[48] D. Bramel, "Some Determinants of Defensive Projection," Ph.D. thesis, Stanford University, 1960, unpublished.

he perceives as being of negative valence, there is an increased likelihood that he will then attribute the dissonance trait to other persons."[49] His second hypothesis was that "attribution resulting from this state of discomfort is more likely to be directed toward positively valued than negatively valued persons."[50] Bramel explained both hypotheses in terms of the theory of cognitive dissonance.[51] He assumed that new self-knowledge that is inconsistent with the accepted self-image produces tension; this tension may be reduced by projection either because "the undesirable trait is made to appear less objectionable by associating it with favorably evaluated persons," or because "the projector may succeed in convincing himself that he is no more than average in his degree of possession of the trait."[52]

It is not difficult to show a large number of similar hypotheses. They usually have the form of strictly general hypotheses, i.e., they do not include any proper names, or terms which can be defined only by use of proper names.[53] In many cases the hypotheses are derived from some previously accepted theorems or at least are suggested by such theorems. Even if their relationship with previously formularized theories is not clearly stated, it is usually not difficult to ascertain. On the other hand, it is often quite obvious that the presented hypotheses in their full generality do not hold. In the first of our examples, it can be shown that (1) not every kind of status inconsistency resulted in a threat and defensive responses;[54] (2) the responses analyzed by G. Lenski are not always available to the individual characterized by high inconsistency of status, nor could they always receive social acceptance,[55] or be necessarily more efficient than other defensive mechanisms in reducing the feeling of threat. Consequently it seems that the hypotheses in question are generally true only when qualified by various additional conditions.

Similar comments are suggested by the hypotheses tested by D. Bramel. For example, defensive mechanisms other than simple projection may be used if an individual can doubt the validity of opinion which attributes an undesirable trait to himself. He may, for example, emphasize the lack of sufficient evidence, or the dishonesty and lack of competence of his informant. The simple projection of an undesirable trait on favorably evaluated persons may also be prevented by its inconsistency with the well-justified knowledge of these other persons. These possibilities do not exist in Bramel's experiment, but his hypotheses do not exclude such situations. Yet in these situations the hypotheses in question would probably not be confirmed—and would need some modification.

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[49] Op. cit., p. 12.

[50] Op. cit., p. 13.

[51] See L. Festinger, *A Theory of Cognitive Dissonance*. Evanston: Row, Peterson, 1957; L. Festinger, "The Motivating Effect of Cognitive Dissonance," in G. Lindzey (ed.), *Assessment of Human Motives*. New York: Grove Press, 1960; also, F. Heider, "Attitudes and Cognitive Organization," *J. Psych.*, Vol. 21, 1946, pp. 107–112; and F. Beider, *Psychology of Interpersonal Relations*. New York: J. Willey, 1958.

[52] Op. cit., p. 68.

[53] See K. Popper, *Logik der Forschung*, and K. Popper, *Logic of Scientific Discovery*.

[54] See, e.g., W. F. Kenkel, "The Relationship Between Status Consistency and Politico-Economic Attitudes," *Am. Soc. Review*, Vol. 21, June 1956, pp. 366–368; J. W. Goffman, *Status Consistency and Preference for Change in Power Distribution*.

[55] The importance of social acceptance of the chosen pattern of responses is discussed by A. Cohen, *Delinquent Boys*, op. cit.

Single hypotheses confirmed by systematic evidence are very seldom described as theories. This is probably due to other connotations associated with the term "theory," analyzed in II, 2, and according to which theories must be more or less speculative.

The sixth kind of result of scientific work described as "theories" consists of systems of strictly general empirical hypotheses. In spite of frequent complaints to the contrary it should be emphasized that the number of such theories, particularly of theories concerning individual behavior, or mutual relationships within small groups, or the functioning of formal organizations, is quite large and increases with every year. This meaning of the term "theory" is so important that we shall discuss it in a separate part of this paper.

I tried to show that the term "theory" is occasionally used to refer to every kind of scientific work except description. In the discussion of this concept of theory it was shown that six different kinds of results of scientific work can be and are described as theories in the meaning conceived above. Several other kinds of scientific work might be included in that list, for example, post facto explanations, characteristics of a given society,[56] or metatheoretical analysis. Such a broad meaning of the term "theory" hinders communication and produces misunderstandings. The concept of "theory" as opposed to description is not equivalent with "theory" conceived as unconfirmed knowledge. Sets of concepts, heuristic directives, models, and post facto explanations could probably be called theories in both meanings discussed above. However, general hypotheses or systems of general hypotheses supported by systematic evidence would not be considered theories by scholars who oppose theories to empirically confirmed knowledge. At the same time they would be considered theories by writers who use the term "theory" as opposed to description. In fact, both meanings often converge. As a result, single hypotheses confirmed by systematic evidence are seldom referred to as theories.

### A Theory is a System of Interrelated Empirical and Strictly General Hypotheses

The sociologists who like Merton, Stouffer, Homans, or Zetterberg emphasize the importance of theories and advocate their development use the term in the way in which it has traditionally been used in physics and in the philosophy of science. A theory is conceived here as a system of interrelated empirical propositions which do not include any limitations to a particular time or place. More exactly, a set of propositions is a theory in this sense if and only if

(1) they constitute neither definitions nor norms but statements;
(2) they are empirical propositions, i.e., do not follow from the accepted definitions of terms and can be subjected to an empirical test;
(3) they are in some way mutually related;
(4) they are universal propositions. Of course, this does not mean that they will never be disproved or that they describe conditions which exist in any time and place; it only means that their form does not exclude the possibility of their applying even to very remote times and places.

The simplest criterion for deciding whether a given general proposition is a universal one refers to the type of terms used in this proposition. A general proposition is a universal

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[56] E.g., D. Bell, *End of Ideology.*

one if it does not include any proper names or any terms which cannot be defined without using proper names. For example, a proposition that "in the United States upwardly mobile people are more likely to be conservative than socially immobile people in the same occupational group"[57] is not a universal proposition because the term "the United States" is a proper name. Yet the proposition that "physical fear leads to arousal of affiliative tendencies particularly directed toward others in a similar situation"[58] is a universal proposition because it does not include any proper name or any term that could not be defined without using proper names.

However, doubts are often expressed as to whether the program of constructing theories as conceived here in the social sciences is not an illusion, attractive but not realizable. In addition, even scholars who are convinced that it is the most important task of the social sciences have often expressed the opinion that very little has been achieved in this field, and that speculation about sociological theories has been as a rule purely normative, without reference to any serious example.

We shall try to break with this bad tradition. Within the limits of the available space let us show by discussion of some concrete cases at least three various types of theories which are to be found in the contemporary social sciences and some problems which suggest themselves during the discussion of each type of theory.

### Some Types of Theories

#### 1. Drive-reduction Theories

The first kind of theories which we would like to describe assume the existence of a concrete kind of drive, which, when not satiated, produces a tension and gives rise to activities oriented toward reducing or eliminating this tension. As an example of this kind of theories I shall present the theory of social comparison processes by L. Festinger.[59] The basic idea of that theory can be presented in the following 13 propositions.

The first proposition assumes the existence of a certain hypothetical drive:

(1) In every human organism there exists a drive to evaluate if one's own opinions are correct and if one's own abilities are satisfactory. The second proposition describes two alternative ways of satisfying the drive.

(2) There exists an inverse correlation between the availability of objective standards and the importance of social standards. The more readily available are objective frames of comparison, the less individuals tend to evaluate their opinions and abilities by comparison with the opinions of others. The third proposition deals with the direction of social comparisons.

(3) The greater the perceived differences of opinions or abilities, the weaker is the tendency to evaluate one's opinions or abilities through comparison.

    (a) When possible, one tends to compare one's own opinions or abilities with the opinions or abilities of the people considered to be most like oneself.

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[57] S. M. Lipset and J. Linz, *The Social Bases of Political Diversity*. Stanford, Calif.: Center for Advanced Behavioral Sciences, 1956, Ch. VIII, p. 16; S. M. Lipset and R. Sendix, *Social Mobility*, p. 68.

[58] S. Schachter, *The Psychology of Affiliation*. Stanford, Calif.: Stanford University Press, 1959.

[59] L. Festinger, "A Theory of Social Comparison Processes," *Human Relations*, Vol. 7, 1954, pp. 117–140.

  (b)  If one notices that persons having different opinions also differ from oneself in other related characteristics, the tendency to make comparisons diminishes.

  The fourth proposition describes the consequences of an absence of relevant comparisons.

(4)  If an individual has neither physical nor social comparisons or if he can evaluate his opinions or abilities only by comparison with persons who are very different from himself, his subjective evaluations of his opinions and abilities become unstable.

  The fifth proposition deals with the consequences of differences in opinions or abilities in a group.

(5)  The existence of different opinions or abilities in a group leads to attempts by the group members to reduce these differences. The pressure toward reducing discrepancy concerning a given opinion or ability increases:

  (a)  If the strength of the drive to evaluate that opinion or ability increases, for example, with an increase in the importance of this opinion or ability or with an increase of its relevance to immediate behavior;

  (b)  If the importance of a given group as a comparison group for some particular opinion or ability increases, for example, with an increase of the attraction to the group or with an increase of the relevance of this opinion or ability to the group.

  The sixth proposition describes various ways in which differences of opinions or abilities in a group are reduced.

(6)  If a discrepancy exists with respect to opinions or abilities, tendencies arise:

  (a)  To change one's own position so as to be more similar to others in a group;

  (b)  To change others in a group and make them more similar to the majority of the group;

  (c)  To reduce the attraction to deviants, to increase interaction with them, or to exclude them from the group and thus to narrow the range of comparison.

  Propositions seven to ten describe factors that determine the kind of response to discrepancies in a group.

(7)  As opposed to persons who are very different from the majority of a group's members, those whose opinions or abilities are very similar to the opinions or abilities of the majority exhibit:

  (a)  Stronger tendencies to change the positions of others;

  (b)  Relatively weaker tendencies to narrow the range of comparison and;

  (c)  Much weaker tendencies to change their own positions.

(8)  If there is a great difference of opinions or abilities, the attempts to reduce the difference have not been effective, and the group is not attractive for other reasons, persons who deviate will tend to move out of the group. The cessation of comparison with others is accompanied by hostility or derogation to the extent that continued comparison implies unpleasant consequences, e.g., threatens one's own opinion.

(9)  If the group's attraction for the member is so strong for other reasons that he continues to wish to remain in the group in spite of the fact that he differs markedly from the group in some opinion or ability, and if he has no other comparison group for his opinion or ability, and if the opinion or ability is highly relevant to the group, there will be an increase of uniformity of opinions within the group.

If under the same circumstances the ability of the member is below the abilities of the others and he cannot change it, the situation will produce deep experiences of failure and feelings of inadequacy with respect to this ability.

(10) If a person is restrained either physically or psychologically from leaving a group, and its attraction to him is zero or even negative, but the group employs threats or punishment for noncompliance, public conformity will occur without private conformity.

The eleventh proposition concerns implications of the drive for self-evaluation for the processes of forming groups. The drive for self-evaluation is an important factor contributing to making the human being gregarious, and impels persons to belong to groups and to associate with others. The subjective evaluation of the adequacy of one's performance of important abilities is among the satisfactions that persons attain in the course of these associations with other people.

Consequently

(11) The selective tendency to join groups with similar opinions and abilities and to leave others, together with the process of influence and competitive activity, produce relative similarity in the opinions and abilities of persons who associate with one another (at least those opinions and abilities that are relevant to the association).

The twelfth proposition deals with the effects of segmentation into groups on satisfaction of the drive for self-evaluation.

(12) Segmentation into groups allows a society to maintain a variety of opinions within it and to accommodate people with a wide range of abilities. When applied to social stratification it means that (12a) strong status distinctions help the members of the lower status groups to ignore the differences and compare themselves with their own group.

The thirteenth proposition describes the behavior of minority groups, which are unable completely to ignore the opinions of the majority groups.

(13) If members of minority groups are unable completely to eliminate comparison with the position of the majority, they become less secure in their self-evaluation than the majority group, seek stronger support within their own group, are less able to tolerate differences of opinions or abilities that are relevant to the group, and tend to reject from the group those members who deviate markedly. This accounts for the persistent splitting of minority groups into smaller and smaller factions.

The outline of the theory of social-comparison processes presented above is not quite complete. I omitted, for example, the differences between opinions and abilities, and empirical evidence for the theory. Keeping in mind these simplifications, let us pay attention to some characteristics of the theory presented above and of other theories of the same type.

The basic variable in Festinger's theory is the need to evaluate one's own opinions and abilities. It seems fruitful to compare Festinger's analysis with the analysis of several other writers who discussed, often in a quite different fashion, similar human needs and the social conditions that led to the arousal of these needs. Let me recall here E. Fromm's statement that besides physiologically conditioned needs there is another imperative part of man's nature—"just as compelling": "the need to be related to the world outside oneself, the need to avoid aloneness." Fromm writes that "this relatedness to others is not identical with physical contact. An individual may be alone in a physical sense for many years and yet he may

be related to ideas, values, or at least social patterns that give him a feeling of commu-
nion and 'belonging.' Physical aloneness becomes unbearable only if it implies also moral
aloneness."[60] The needs which are fundamental in Fromm's analysis are not very different
from the basic variable of Festinger's theory. Let me also recall David Riesman's distinc-
tions between inner-directed and other-directed people and between societies dependent on
inner-direction and those dependent on other-direction.[61] Neither writer uses experimental
techniques and their style of work is quite different from Festinger's. But their ideas are not
quite unrelated to the basic problems of Festinger's theory. The discussion of similarities
and differences might be fruitful.

Festinger suggests some implications of his theory for the processes of group formation.
There are many other implications. For instance, in studies of voting behavior it has been
discovered that "the larger the number of social cross-pressures to which the voters are
subjected, the less interest they exhibit in a presidential election" and consequently the
upwardly and downwardly mobile people, those who have a variety of statuses, tend to
abstain from voting.[62] These findings can apparently be derived from Festinger's theory.
The same regularities have been discovered many times in various areas of the behavioral
sciences. The integration of such findings into more inclusive theories seems to be a very
important task.

It was previously mentioned that Festinger's theory is one of the drive- or tension-reduc-
tion theories. Several theories of the same type can be found in contemporary psychology,
social psychology, sociology, and social anthropology. If we compared types of variables
included in these various theories, we would realize that certain types of variables are taken
into consideration in some of them but do not appear in others. We mean here such types of
variables as, for example, the previous experiences of individuals, personality differences,
or contemporary situational determinants of the strength of a given drive.[63] The compari-
son may suggest in what direction a given theory should be developed.

The comparison of several drive-reduction theories may also help in constructing theo-
ries which would be more economic than two theories known today. In one of his papers,[64]
Festinger states that "any specifically defined human motive must be treated as a hypothet-
ical construct..., a notion which the psychologist invents in an attempt to explain certain
behavior which he observes." The choice between alternative motives should be made "on
the basis of which one explains the most data most efficiently."

One cannot, and must not, choose on the basis of questions such as: "Are people aware
of the existence of such needs or motives?"; "Is there a physiological basis for such a need
or motive?"; or "Does it sound plausible?" These are all irrelevant issues to raise. The only
issue is whether or not the hypothetical construct is useful, that is, functions better than
other constructs in explaining the data.

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[60] Erich Formm, *Escape from Freedom*. New York: Rinehart, 1941, p. 19.

[61] D. Riesman, N. Glazer, R. Denney, *The Lonely Crowd*. New York: Doubleday, 1953.

[62] B. Berelson, P. Lazarsfeld and W. McPhee, *Voting*.

[63] Compare, from this point of view, Festinger's theory of social comparison processes with S. Schacter's theory
of affiliation.

[64] L. Festinger, "The Motivating Effect of Cognitive Dissonance," in G. Lindzey (ed.), *Assessment of Human
Motives*. New York: Grove Press, 1960.

"But," Festinger continues, "no one single hypothetical construct can explain anything. Before it can do any explaining it must be a part of a theory or at least a part of a hypothesis. Thus it turns out that one cannot choose among alternative hypothetical human needs apart from the theory in which these constructs are imbedded... The greater the number of different antecedent conditions which affect the magnitude of the need, and the greater the number of consequent behaviors which are motivated by the need, the greater is the usefulness as an explanatory device, of the postulated need and of the theory concerning it."[65]

Festinger's point of view immediately raises several questions regarding the theory of social comparison processes. Can we explain more efficiently all theorems of this theory as well as several other hypotheses by another hypothetical drive? What is the explanatory and predictive power of such a drive as the drive to evaluate one's own opinions and abilities as compared, for example, to such hypothetical drives as a cognitive dissonance or a threat to one's self-image? What is the relationship between theories which postulate these alternative drives or needs? Which one is the most inclusive?

The theories that assume the drive- or tension-reduction hypothesis but do not postulate any specific need or drive give rise to another problem. Some of these theories are formulated in such general terms as to deal with any kind of drive. The elaboration of reinforcement learning theory by T. Dollard and N. Miller may be used as a case in point.[66] The question arises as to whether these theories are fully consistent with less general theories and what additional assumptions are necessary to derive the less general theories from the more general ones.

So far I have discussed the theories that claim that a great part of human behavior can be explained by assuming as a basic force a striving to reduce tension or to restore equilibrium. However, it is well known that many psychologists do not consider the drive-reduction hypothesis as adequate to account for all motivation.[67] Often some supplementary models are accepted as, for example, the generation-of-tensions model or the self-expression model. This gives rise to the question of the theoretic fruitfulness of these models and of the relationship between theories based on these models and the theories discussed above.

I have paid much attention to the drive-reduction type of theories because of their frequency in various areas of the contemporary social sciences. However, it is only one among many types of theories that can by analyzed by discussing their concrete instances. Let us now present some theories that analyze various relationships from the point of view not of their importance to personality, but of their importance to the functioning of a social system.

### 2. Theories of Mutually Interdependent Factors Within Small Groups

A small group is presumably the simplest kind of social system. Among the existing theories concerning small groups, two types of theories can be distinguished. The theories of the first type describe relationships between various characteristics of individuals as members of a group. The theories of the second kind describe relationships between properties not of group members but of groups themselves.

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[65] Op. cit.
[66] J. Dollard and N. Miller, *Personality and Psychotherapy*.
[67] See, e.g.

A good example of the first of these types is given by the theory constructed by T. Hopkins.[68] He defined first of all the concept of a small group and five concepts that designate various characteristics of the members of a small group. These five characteristics are:

1) "rank," that is, "the generally agreed upon worth or value of a member relative to the worth or value of the other members." It may be measured by the ratings of other members on "leadership," "contributions to the group," "greatest importance to the group," and so forth.

2) "observability," that is, the member's knowledge of the norms accepted in the group. The relationship between the actual number of members who accept the given norms and estimations of members concerning this number may be used as an index.

3) "centrality," which depends on the frequency with which a member interacts with other members and the range of other members with whom he interacts.

4) "conformity," that is, the degree of congruence between the member's norms and the norms of the group.

5) "influence," conceived as effect on a consensus of opinions in the group.

"Those five properties," Hopkins says, "are the variables of the theory which, in consequence, consists of assertions about the way these properties are related to one another." He formulates and reports empirical evidence for 14 such propositions. Some of them are the postulates of the theory; others are derivable from the postulates. These are the propositions of the theory:

For any member of a small group

 (1)  The greater his centrality relative to other members, the greater his observability;
 (2)  The greater his observability, the greater his influence;
 (3)  The greater his centrality, the greater his influence;
 (4)  The greater his conformity, the greater his observability and vice versa;
 (5)  The greater his centrality, the greater his conformity;
 (6)  The greater his conformity, the greater his influence;
 (7)  The higher his rank, the greater his centrality;
 (8)  The higher his rank, the higher his observability;
 (9)  The higher his rank, the higher his conformity;
(10)  The higher his rank, the greater his influence;
(11)  The greater his influence, the higher his rank;
(12)  The greater his influence, the higher his conformity;
(13)  The greater his influence, the higher his observability;
(14)  The greater his centrality, the higher his rank.

The theory presented above is one of the theories that describe the mutual relationships within small groups. It describes interrelationships between five variables that characterize properties of individuals as members of a group. Other theories include propositions that refer to several other variables as, for example, friendliness, equality of rank, or dependence, which can characterize the relationship between two members of a group, or some properties of a group such as the degree of connectedness of the power structure and of the communication network, the degree of discrepancy of opinion, the structural balance,

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[68] T. Hopkins, "The Exercise of Influence in Small Groups." Ph.D. thesis Columbia University, 1959, unpublished.

etc. Comparison of several such theories may help in constructing a more inclusive theory, which would include more variables, describe more regularities, and allow us to predict a greater number of facts.

The analysis of existing theories may also help in finding out to what extent the regularities described in these theories also hold in larger social systems and what relationships exist between theories concerning small groups and theories concerning the reduction of drive or tensions.

### 3. Theories of a Larger Social System as Composed of Subgroups Competing for Scarce Goods

Let us show now a third type of theories. It can be exemplified by the theory of oligarchy and democracy which was developed by S.M. Lipset, M. Trow, and J. Coleman.[69] In one respect this theory is similar to the preceding one. It also deals with a social system— one that is, however, larger than a small group. The theory to be discussed has a formal organization as its subject.

It has been observed for a time that in trade unions, business associations, professional societies, and cooperatives—in myriad nominally democratic voluntary organizations— the real and often permanent power rests with the men who hold the highest positions. This observation has led Michels to the conclusion that "it is organization which gives birth to the domination of the elected over the electors, of the mandatories over the mandators, of the delegates over the delegators. Who says organization says oligarchy."[70]

Several factors make for this tendency:

 (1)  The efficiency of an organization's hierarchical structure for the accomplishment of organizational aims.
 (2)  The control by the officials of an organization over the means of communication.
 (3)  The monopoly over organizational skills by the functionaries of the organization.
 (4)  The desires of the leaders to retain their power in the organization.
 (5)  The apathy of the average members and their lack of interest in the organization.

If all these factors are very strong, then independently of the ideology of the organization, "the real and often permanent power rests with the men who hold the highest positions." However, these factors are not necessarily connected with the existence of an organization. The less important they are, the greater the chances of democracy. The theory discussed here describes several conditions that determine the strength of the factors mentioned above. It seems that its basic ideas may be presented, in a somewhat generalized form, in the following set of propositions.

 (1)  The chances of democracy in an organization increase if there is no outside threat to the organization that would increase the need for unity and subordination.

When applied to trade unions within the private enterprise system, this hypothesis means that

 (a)  The more secure a union is in its relations with management, the less it is obliged to behave like a military organization, or

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[69] S. M. Lipset, M. A. Trow and J. S. Coleman, *Union Democracy*. Glencoe: The Free Press, 1956.
[70] Op. cit.

    (b) The more decentralized and unconcentrated in ownership is the industry with which a union deals, the less it is obliged to create a large and bureaucratized administration.

Similar hypotheses concerning the conditions which increase the effectiveness of a hierarchical structure and centralization of power by the leaders could be formulated as "other types of organizations and for other situations."

  (2) Chances of democracy in an organization increase if the members have an opportunity to communicate with one another and to acquire the prestige of leaders outside of the administrative machine.

The opportunity for independent communication and for achieving the status of independent leader increases:

    (a) The greater the number of strengths of independent organizations, formal and informal;

    (b) The more leisure time and money the rank and file members have available for engaging in organizational activity;

    (c) The more secure is the average member against the repressions of functionaries of the organization; for example, the more secure is the process of getting and holding a job, and the stronger the protection for the rights of the opposition;

    (d) The more available are alternative sources of status, which make it possible for members to acquire the status and prestige of leaders, outside the administrative machine, and which enables status to be attached more to the men as persons than to any office they hold.

  (3) The chances of democracy in an organization increase if the members have an opportunity to develop organizational skills. This opportunity increases if, for example:

    (a) There exist independent organizations as a means of training potential opposition leaders in organizational skills.

When applied to trade unions, this hypothesis allows one to predict that

    (a1) The unions with the greater autonomy of their locals have greater chances of democracy;

    (a2) the unions that came into existence through the federation of existing independent locals have greater chances for democracy than unions that are organized "from the top down" by a central committee or single local;

    (b) Previous and potential leaders who are the most able and most ambitious, remain in the organization and take a part in the life of the organization.

Within the trade unions it can be expected that

    (b1) the more attractive the job—in the same occupation—awaiting a union leader who leaves office as compared with alternative jobs he could get outside the occupation, the greater the chances that he will remain in the same occupation and in the same unions as one of the potential leaders of the opposition.

  (4) The chances of democracy in an organization increase if the leaders are less interested in retaining their power.

The interest in retaining the leader's office decreases

    (a) The less the status of leaders is dependent on their holding office, for example,

(a1)  the more the acquired status attaches to the men as persons rather than to the office

(a2)  the more they are able to attain status in other ways than through holding office

(a3)  the more able they are to retain the statuses of leaders on leaving office.

(b)  The greater the protection for the rights of the opposition based both on the organization's code of law and on real sources of independence.

(5)  Chances of democracy in an organization increase with the increase of interest of their members in the organization and with the increase of their participation in organizational activities.

The interest in the organizational affairs and organizational activity of the members increases

(a)  The more the members of an organization associate with each other informally.

In trade unionism the informal interaction increases

(a1)  the more the workers are cut off from association with people outside their occupation, by a "deviant work schedule," by status marginality, or by physical isolation;

(a2)  the greater the chances for men to socialize with one another informally on or around the job; for example, as a result of irregular work-loads during a normal shift;

(a3)  the greater the identification with their occupation and the more interested men are in their work;

(b)  The greater the number and variety of functions which an organization performs for its members.

The theory, which was presented above in a form a little more general than the original one, suggests some general observations.

In this theory there is one basic dependent variable: the degree of oligarchy and democracy, or in other words, the extent of equality in the distribution of power. From this point of view, the theory presented above is a particular instance of a larger set of theories. We mean here theories that consider social systems as systems of subgroups that compete for the greatest share in certain scarce and desirable goods. The goods that are the subject of competition can be various: it can be power, or wealth, or something else. It seems worthwhile to explore (1) how far the basic propositions of the presented theory can be applied to the analysis of inequalities in the distribution of power (or degree of democracy) within societies and (2) how far they can be useful in the analysis of inequalities of different kinds, for example, inequalities of wealth or prestige.

In their analysis of factors that determine the increase or decrease of oligarchy, Lipset, Trow, and Coleman introduce several psychological hypotheses. Some of them describe regularities known from other investigations; for example, the hypothesis that the less the status of individuals is dependent on their position of leaders, the weaker their need to retain power; or the hypothesis that the more attractive the job in the same occupation awaiting a union leader who leaves office as compared with alternative jobs he could get outside the occupation, the greater the chances that he will remain in the same occupation and in the same union. In both cases the continuation of a certain social relationship is explained by

a comparison of the rewards and costs of this relationship with those of other relationships available to the individual. It is the same type of relationship which was explored by Kelley and Thibnut in order to account for the viability of a dyadic relationship,[71] or by March and Simon in order to explain the decision to leave an organization,[72] or by K. Lewin[73] and L. Festinger[74] in order to explain moving from one group to another.

The theory presented above also includes several psychological hypotheses which, it seems, need further analysis and explanation in terms of more general theories. The authors state, for example, that "the men who willingly suffer marked personal disadvantage by opposing authority for a principle are... too rare to maintain a going opposition party. Principled opposition may enrich democracy with ideas, ideals, and issues, but economic security for the most of the oppositionists is essential for its maintenance."[75]

Is this hypothesis, considering economic security as a necessary condition of opposition, generally true? If so, what more general theory can explain this regularity? If not, what qualifications are needed?

Similar remarks are suggested by the hypothesis that the more workers in the same union associate with each other off the job, informally, and in various leisure-time clubs, the stronger their interest in the activities of the union and readiness to participate in those activities. Does it generally hold that with increasing frequency of informal interactions among the members of an organization their interest in the organization increases as well? What theory can explain this regularity? I believe that a detailed analysis of such problems may advance a codification of the existing theoretical knowledge in the social sciences.

## Summary

In this article, I tried (1) to distinguish between various meanings given to the word "theory" in the contemporary social sciences; (2) to present examples of three types of theories conceived as systems of strictly general propositions; and (3) to point out some problems suggested by the analysis of existing theories which seem to be relevant to the codification of theoretical knowledge in the social sciences.

An attempt was made toward clarification of three main meanings of the term "theory."

In the first meaning the term "theory" designates speculations that have not been empirically tested and that often are not testable.

In the second meaning the term is used to refer to every kind of result of scientific nativity except description. In this way "theory" is used to include: (a) new concepts, (b) operational definitions of non-operational concepts, (c) heuristic directives which describe certain classes of variables as the most important determinants of behavior, (d) models conceived as mathematical functions, sentences, diagrams, or tables concerning relationships between variables which have no empirical interpretation, (e) single general hypothe-

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[71] Kelly and Thibaut.

[72] J.C. March and H.S. Simon, *Organizations*. New York: J. Wiley, 1959.

[73] K. Lewin, *Self-Hatred among Jews in Resolving Social Conflicts*. New York: Harper, 1948.

[74] L. Festinger, "An Analysis of Compliant Behavior," in M. Sherif and M.O. Wilson (eds.), *Group Relations at the Crossroads*. New York: Harper, 1953.

[75] *Union Democracy*, op. cit.

ses supported by systematic evidence, (f) systems of strictly general hypotheses; and many other results of scientific work, as for example, post facto interpretations, the characteristics of a given society, metatheoretical analysis, etc.

In the third meaning the term "theory" is synonymous with a system of empirical and strictly general propositions which are in some way mutually related.

Theories conceived in the third sense were the main subject of our interest. I tried to give a systematic presentation of the basic proposition of three theories: (1) the theory of social comparison processes by L. Festinger; (2) the theory of interrelationships in small groups by T. Hopkins; and (3) the theory of distribution of power in formal organizations by S. M. Lipset, M. Trow, and J. Coleman. In the discussion of Festinger's theory I tried to emphasize certain similarities between the propositions of this theory and the basic ideas of such writers as Fromm and Riesman. I suggested some implications of this theory as well.

Festinger's theory was also used as an example of a drive-reduction type of theory. It was stated that the comparison of several theories of this type (1) may suggest how the theories can be elaborated by pointing out what type of variables are used in some of them and not used in others, and (2) may help to find out which hypothetical drives have greater explanatory power than others and can be used to construct the most inclusive and most economic theories. The other problems concerned the relationship between theories that assumed a specific kind of drive and theories dealing with any kind of drive or theories that do not imply the reduction-of-tensions hypothesis.

The theory formulated by T. Hopkins was used as an example of theories that describe mutual relationships within the smallest social systems. It was expected that the systematization of several such theories and their comparison could lead to the construction of a theory that would include more variables than the theories known today and that would allow us to predict more events. The other problems mentioned dealt with the possibility of generalizing at least some propositions concerning small groups to larger social systems.

The theory proposed by S. M. Lipset, N. Trow, and J. Coleman was analyzed as an example of theories that consider social systems to be systems of subgroups competing for the greatest share in some scarce but desirable goods. It would seem that for an analysis of inequalities in the distribution of power within societies—as well other kinds of inequalities—taking this theory as a starting point may be fruitful. It also seems that the analysis of psychological hypotheses included in theories of this kind, in terms of general psychological theories, may be fruitful both for the development of organization theories and general theories of behavior.