ASPECTS OF CONCEPT FORMATION, EXPLICATION, AND THEORY CONSTRUCTION IN SOCIOLOGY *

RICHARD G. DUMONT AND WILLIAM J. WILSON

University of Massachusetts

Criteria for the selection, evaluation and utilisation of “theoretical” concepts in sociology are advanced. It is argued that concepts functioning within scientifically acceptable theory sketches possess both epistemic and constitutive connections and may thus be potentially significant. Certain isolated abstract concepts cannot be evaluated on this basis, but they may be advanced as candidates for the theoretical language in either a theory sketch or an explicit theory via the process of explication. A program of explication, consisting of the interdependent phases of meaning analysis and empirical analysis, is introduced. It is suggested that explicated concepts may help to evaluate isolated abstract concepts on methodological grounds, and may prove instrumental for making implicit theories and theory sketches more explicit.

Philosophers of science have recently raised some challenging and controversial methodological issues concerning “theory” in the social sciences. Their writings apparently have provoked a number of sociologists to re-examine critically the “scientific status” of contemporary Sociological “theories.” The examination of these theories according to rigorous evaluative criteria (with regard to the structure of explanation, significance of concepts, and the nature of evidence) has cast considerable doubt on their explanatory and predictive import and has thrown their deficiencies into sharp and uncomplimentary relief. It is sometimes argued that since the criteria invoked by philosophers of science are


Although there is a lack of consensus among philosophers of science regarding specific explicit criteria for the evaluation of theories, e.g., the thesis of explicit definability of theoretical terms, the following are examples of the general kinds of rigorous criteria that are frequently invoked: explanations may be deductive or probabilistic, but the premises must contain general or statistical laws. Concepts have to be embedded in experimental laws to have empirical significance in the observational language; in the theoretical language, concepts are given empirical significance if they are embedded in postulate networks, where the postulates and theorems represent theoretical laws, and are connected to terms in experimental laws by rules of correspondence. These latter distinctions are elaborated more specifically below with the introduction of the notions of “epistemic significance” and “constitutive significance.”

985
based primarily on reconstructions of physical science theories, they are not applicable to the social sciences. Such assertions often stem from a recurrent confusion between technique and methodology. Although one may question the extent to which techniques in the natural and social sciences differ, the claim that there is a difference in methodology between the two disciplines is very radical indeed. As Richard Rudner has stated:

"... the methodology of a scientific discipline is not a matter of its transient techniques but of its logic of justification. The method of science is, indeed, the rationale on which it bases its acceptance or rejection of hypotheses or theories. Accordingly, to hold that the social sciences are methodologically distinct from the non-social sciences is to hold not merely (or perhaps not at all) the banal view that the social sciences employ different techniques of inquiry, but rather the startling view that the social sciences require a different logic of inquiry. To hold such a view, moreover, is to deny that all of science is characterized by a common logic of justification in its acceptance or rejection of hypotheses."  

The use of rigorous evaluative criteria in the formal examination of sociological theories has two major functions: (1) making explicit their logical and/or empirical status, and (2) helping to evaluate claims made by particular theorists. Both of these functions fall within the context of justification. An implicit and less frequently noted function of the use of these criteria falls within the context of discovery. Specifically, rigorous evaluations of sociological theories may suggest at least two alternative paths to take in the construction of definitive theories: (1) purging the realm of sociological inquiry of all that does not conform with the standards of rigorous evaluative criteria, or (2) developing a practical program for selecting or developing those aspects of current sociological theory that show promise for eventual conformity with these criteria.

Though a few of the most extreme advocates of the tradition of logical positivism might find comfort in embracing the first of the two alternatives, such a drastic program is likely to be enshrouded with numerous impracticalities. Even though it is universally agreed that the present "scientific status" of sociological inquiry leaves much to be desired, the discarding of all that does not conform strictly with the rigorous evaluative criteria would amount to dismissing nearly all of the accumulated body of the sociological enterprise. Such an approach, in our opinion, would deny recognition to much in the field that shows some merit. In short, the whole-hearted pursuit of any program evolved in conjunction with the adoption of the first alternative might conceivably lead to throwing out the "good" with the "bad" sociology.

It would seem that if one envisions the ultimate emergence of explicit theory in

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5 An excellent critique of the claims made by Talcott Parsons with respect to his "general theory of action," for example, is provided by Max Black, op. cit.

6 The terms "context of justification" or "context of validation" and "context of discovery" were originally introduced by Hans Reichenbach. The former refers to the process of rational reconstruction whereby the theorist attempts to justify his findings in presenting them; Reichenbach discussed the latter in terms of thought processes leading to the discovery of theories. We have expanded this notion to include physical steps that the theorist takes in developing or discovering his theory. See Hans Reichenbach, Experience and Prediction, Chicago: University of Chicago Press, 1938, and "The

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7 Although it is acknowledged that there exist no definitive discovery rules, it is possible that rigorous evaluations of sociological theories might shed some light on the efficacy of current discovery procedures, and that attempts at reconstruction could be suggestive of new directions to be taken. However, the term "suggest" in this context does not mean "logically imply"; what is being asserted is that there may be some empirical connection between rigorous formalizations and steps taken in theory construction.

8 The decision of whether a concept is to be afforded "promissory status" or "potential significance" is based exclusively on methodological grounds until an empirical association is established between such concepts and the role they subsequently play in scientific theories. This notion is discussed in greater detail below when the "potential significance" of sociological concepts is emphasized.
sociology, the adoption of the second alternative provides the most practical approach. This paper elaborates one aspect of the second alternative by suggesting bases for the selection, evaluation, and utilization of "theoretical" concepts that function either within or outside of the context of systematic sociological theories.10

THEORY SKETCHES AND CONCEPTS WITH EPISTEMIC AND CONSTITUTIVE CONNECTIONS

In general, theoretical concepts in explicit theories possess both epistemic and constitutive significance. The former signifies that the concepts are connected, either directly or indirectly, with observables by rules of correspondence that have been empirically justified; i.e., via these rules, confirmed relationships have been established between observable concepts and theoretical concepts.11 The latter implies that the concept in question enters into a sufficient number of relations with other terms in the theoretical laws of the postulate network, and contributes to the explanation and prediction of observable events.12

Due to the absence of explicit theory, theoretical concepts in sociology lack both epistemic and constitutive significance. Many concepts in sociology, however, function in theories that are more appropriately labeled "explanation sketches" (or "theory sketches"). An explanation sketch "consists of a more or less vague indication of the laws and initial conditions considered as relevant, and it needs 'filling out' in order to turn into a full-fledged explanation. This filling out requires further empirical research, for which the sketch suggests the direction." 13

9 For a concise account of explicit theory as "an interpreted axiomatic system" see Cicourel, op. cit. Briefly, "an interpreted axiomatic system contains descriptive as well as logical terms. Replacing the marks and logical truths of an uninterpreted axiomatic system by descriptive terms and empirical statements leads to an interpreted system. Thus, interpreted axiomatic systems require that a correspondence be demonstrated between the elements, relations, and operations of the mathematical and substantive systems in question. The empirical consequences require that the measurement properties of the theoretical events be specified. Not all theories are axiomatic in nature. When a theory consists of a set of laws and definitions that are deductively interrelated, it is an axiomatic system." Ibid., pp. 8–9.

10 Corrective suggestions concerning explanation and evidence represent other aspects of the second alternative.


For a discussion of how rules of correspondence may be variously applied to sociological concepts, see William J. Wilson and Richard G. Dumont, "Rules of Correspondence and Sociological Concepts," Sociology and Social Research (forthcoming).

12 The terms "epistemic significance" and "constructive significance" are used in preference to the general notion of "empirical significance" to convey more precisely the status of theoretical concepts in explicit theories as opposed to theoretical concepts in theory sketches. The separation here is merely a conceptual one, for, in a real sense, a concept must have epistemic significance if it has constitutive significance. That is, if it contributes to the explanation and prediction of an observable event, it must, in some way, be connected with observables. By the same token, a concept has to have constitutive significance if it has epistemic significance, because the constitutive connections provide the rationale for the selection of rules of correspondence; i.e., via the rules of correspondence a confirmed relationship has to be established, according to the assumptions of the theory (constitutive connections), between the observable concepts and the theoretical concepts.

13 Carl G. Hempel, "The Function of General Laws in History," in Herbert Feigl and Wilfred Sellars (eds.), Readings in Philosophical Analysis, New York: Appleton-Century-Crofts, Inc., 1949, p. 465. Since a theory is a type of explanation, the term "theory sketch" (which was suggested by Richard Ogles in private conversations) gives a more precise specification of the kinds of potential theories that characterize sociology. Henceforth we shall use the term "theory sketch" to connote the general notion of Hempel's explanation sketch as it relates specifically to theories. Note that the word "potential" was emphasized. Consistent with Hempel's notion, an explanation sketch (theory sketch) must be distinguished from a pseudo explanation. A scientifically acceptable explanation sketch needs to be filled out by more specific statements; but it points into the direction where these statements are to be found; and concrete research may tend to confirm or to inform those indications. . . In the case of non-empirical explanations or explanation sketches, on the other hand
Concepts functioning within these theory sketches have constitutive connections in the sense that they are either defined in other "theoretical terms" or are related to other theoretical terms by the propositions in the theory sketch, e.g., "the suicide rate is inversely related to the degree of status integration in society." Yet they lack constitutive significance because they do not function within theoretical laws. Such concepts are connected with observables by rules of correspondence, but the theory sketch does not provide a definitive rationale for the use or selection of the rules of correspondence. The connection between the observable concepts and the theoretical concepts is only presumed to represent an empirical relation. The use of empirically meaningless terms makes it impossible even roughly to indicate the type of investigation that would have a bearing upon those formulations and that might lead to evidence either confirming or infirming the suggested explanations." Ibd., pp. 465-466.

For a recent discussion of what might be entailed in "filling out" an explanation sketch, see Fred Newman, "Discussion: Explanation Sketches," Philosophy of Science, 32 (1965), pp. 168-172.

There are several scientifically acceptable theory sketches in sociology, as distinguished from pseudo-theory sketches. Homans' theory of elementary social behavior and Gibbs and Martin's theory of status integration are representative examples. George Homans, Social behavior: Its Elementary Forms, New York: Harcourt, Brace, and World, 1961; and Jack P. Gibbs and Walter T. Martin, Status Integration and Suicide: A Sociological Study, Eugene: University of Oregon Books, 1964. The most important feature of scientifically acceptable theory sketches is that their propositions are, in principle, testable. Their major weakness lies in the imprecision of definitions and empirical indicators. For example, in Homans theory of elementary social behavior, the value of a unit is vaguely defined as the degree of reinforcement or punishment one receives from that unit. Moreover, Homans states that value is measured by studying the past history of an individual in relation to his present circumstances. Such a measure takes account of the two components of value: amount of past reward and present need. Homans readily admits that these components are not very precise, and that the propositions in which the term functions are necessarily imprecise.

For an example of this weakness with reference to Gibbs and Martin's theory sketch of status integration (cited in footnote 14), see Robert Hagedorn and Sanford Labovitz, "A Note on Status Integration and Suicide," Social Problems, 14 (1966), pp. 79-84. Commenting on the theory of status integration, Hagedorn and Labovitz have stated: "A major problem with the theory is the term "epistemic connections," as opposed to "epistemic significance," will be employed to describe this weak connection. The presumed relationship is given added weight as additional research reveals that the observed data agree with the predictions based on the constitutive connections. But it is only after the accumulation of research findings has established the constitutive connections as theoretical laws that we can introduce a definitive rationale for the rules of correspondence.

Although concepts embedded in theory sketches lack epistemic and constitutive significance, they are part of testable propositions, and can be evaluated according to the nature of their constitutive connections with other theoretical terms and their epistemic connections with observable terms. In each instance, they may be accorded "potential significance."

IMPLICIT THEORIES AND ISOLATED ABSTRACT CONCEPTS

Many concepts in sociology cannot be evaluated on this basis, however, because they do not operate within the context of a formal theory, be it a theory sketch or an explicit theory. For those of us concerned not only with evaluation, but also with theory construction, the question is whether or not there is any basis for giving special attention to some of these isolated concepts in sociology. Before attempting to answer this question, it might prove fruitful to review critically the present state of such concepts, which we shall label isolated abstract concepts.

The most characteristic feature of such concepts is that they tend to be ambiguous. The lack of congruence between the theoretical conception of status integration and its operational measurement. As indicated by examples cited, actual occupancy of a status configuration (which is the empirical referent of status integration) does not always reflect incompatibility or role conflict." P. 84.

Even if it is agreed that the specification or definition of theoretical terms never can be complete, i.e., there always remains an openness of meaning, as Hempel has indicated, the criterion of inter-subjective certifiability requires that "... the terms used in formulating scientific statements have clearly specified meanings and be understood in the same sense by all who use them." 16

Though it may be legitimately contended that the criterion of inter-subjective certifiability may be met in each of the contexts in which a specified theoretical term is thought to be applicable, this does not alleviate certain methodological difficulties when the concept is of the isolated abstract variety. The dimensions of this problem become clearer when one considers some of the more fundamental processes involved in concept formation. Concepts, particularly those expressed in theoretical language, represent some degree of abstraction from the complexities of observable phenomena. Such abstraction is essential if the concept's specific domain of application is extensive. The reason that the sociologist must attribute a variety of meanings to his isolated concepts in the various contexts in which he uses them is primarily a matter of the mode of abstraction. Though abstraction is desirable, it is essential to distinguish between legitimate (scientific or theoretical), and intuitive, or pre-scientific abstractions. Theoretical abstractions occur within the body of a given formal theory (explicit theory or theory sketch). They generally arise as a result of noting, inferring, or deducing certain relationships between or among other established concepts. Intuitive abstractions, on the other hand, afford no clear specification as to how they are derived.

It may be, however, that such abstractions have their bases in some underlying implicit "theory" that awaits formal discovery before its form, content, and functions can be made explicit.17 Both implicit theories and explicit theories represent polar extremes along a continuum of "theory explicitness," with theory sketches representing intermediate states of explicitness.18 This process is outlined in Figure 1. The primary difference be-

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* The term 'indicator' is used instead of 'correspondence rules' to signify that isolated abstract concepts are not part of a formal theory.

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17 Cicourel has also used the term “implicit theory” to refer to sociological theories in general. His treatment of the term indicates usage closely related to our notion of the theory sketch. See Cicourel, op. cit.

18 Although the notions of implicit theory, theory sketch, and explicit theory are the only kind of explanations considered here, this should not preclude the possibility of discussing other kinds of explanations as they relate to the above continuum. Hempel has distinguished partial explanations, elliptically formulated explanations, and explanation sketches. However, since Hempel has confessed that any decision as to whether or not a proposed explanation is to be qualified as one of the above kinds is a matter of “judicious interpretation,” and further, since it is not our primary purpose to draw such fine distinctions here, we shall not attempt to discuss them further. See Carl G. Hempel, “Explanation in Science and History,” in Robert Colodny, (ed.), Frontiers of Science and Philosophy, Pittsburgh: University of Pittsburgh Press, 1962, pp. 9–33.
between an implicit theory and a theory sketch is that the form of the propositions characterizing the latter have been formally spelled out—even though their assertions may not be known to be true. Accordingly, some isolated abstract concepts may be "isolated" and intuitive only in the sense that they are not contained in a theory sketch or explicit theory. However, implicit theories have no systematic usefulness if their form, content, and functions remain hidden.

For example, although there is no explicit theory or theory sketch of social stratification, researchers in the area seem generally agreed as to the importance of the term "social status," and implementations of this concept in actual research situations suggest its candidacy for lower-order theoretical language in any theoretical undertaking. The concept of "social status" represents an abstraction, rather closely bound to common sense usage, that is thought to convey a vague indication of hierarchical ordering among individuals. In general, stratification analysts concur that its value lies in giving meaning to the more directly observable characteristics which it is felt somehow to subsume, and any attempt to operationalize this concept usually requires a mad search for indices that are often only presumed to be related to one another and to the intuitively conceived notion of "social status." Thus, if we may presume that certain key isolated abstract concepts in sociology suffer from numerous methodological difficulties, what program could be introduced to allow some rigor and consistency of usage so that these concepts can be systematically advanced as candidates for the theoretical language in either a theory sketch or an explicit theory?

EXPLICATION

One answer, we believe, may be found in the general notion of explication, the process whereby an initially vague and imprecise concept may be attributed with a more exact meaning, thereby increasing the likelihood of its intersubjective certifiability.

If the present intuitively derived notions which abound in sociology are thought to be essential for the description and explanation of behavioral phenomena, consider how much more useful a clear explication would be. The concept so explicated could then be substituted for its less precise counterpart in propositional statements, thus increasing the explanatory and predictive potential of the proposition in which it is embedded.

Although the notion of explication is itself somewhat vague, it appears to be reducible to a general program that posits two primary tasks, meaning analysis and empirical analysis. Whereas the former simply requires a validation of the various linguistic expressions of a concept, the latter is concerned with the validation of the assertions stipulating its essential empirical properties. In de-

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19 Present so-called "theories" in social stratification can be classified more appropriately as taxonomies or pseudo theory sketches, following Hempel's scheme—see footnote 13. A taxonomy is a schema for the description and classification of social phenomena. Parsons' "A Revised Analytical Approach to the Theory of Social Stratification" and Weber's "Class, Status, and Party" are representative examples. Davis and Moore's theory, "Some Principles of Social Stratification," illustrates our conception of a pseudo theory sketch. More specifically, such notions as "functional importance," "functional necessity," and "need" are treated in a non-empirical manner; that is, there is no clear specification of the objective criteria of their application. Accordingly, sentences containing such terms are not only often used tautologically, but also they do not lend themselves to specific predictions and empirical tests. Consequently, these sentences cannot be said to have potential explanatory import.

20 It is obvious that the future of this notion in stratification theory in particular, and in sociology in general, is not to be judged a priori. Rigorous inquiry alone will determine its significance and empirical import. It is introduced here solely for illustrative purposes.


scribing how these modes of analysis function in the process of explication, Hempel has stated:

"An explication of a given set of terms . . . combines essential aspects of meaning analysis and of empirical analysis. Taking its departure from the customary meanings of the terms, explication aims at reducing the limitations, ambiguities, and inconsistencies of their ordinary usage by propounding a reinterpretation intended to enhance the clarity and precision of their meanings as well as their ability to function in hypotheses and theories with explanatory and predictive force." 28

In order to establish clearly the relevance of the process with respect to concept formation, we shall discuss a procedure of explication that seems appropriate for the present stages of empirical and theoretical development in sociology and that provides criteria for the selection and evaluation of isolated abstract concepts.

**Meaning Analysis.** The first procedural step of meaning analysis involves a survey of the literature in an attempt to cull out the most basic implicit or explicit assumptions inherent in the various meanings that have been attributed to the concept. We shall illustrate this process by drawing, once again, upon the notion of "social status."

There seems to be general agreement that although social status is thought to be related to such variables as occupational prestige, education, income, etc., it is somehow more than these, taken singly or in combination. It is assumed that they and other variables contribute to status, but how or to what extent invites speculation. 24

Although it is not necessary to discuss the historical evolution of the concepts of social stratification here, it is essential to note that the Weberian conceptualization has been the most influential in American sociology. 25 Weber conceived of society as being stratified in three basic dimensions: economic class, status, and power. "Social status" was nominally defined as personal honor or prestige. From this and related definitions has resulted the indeterminancy and ambiguity which characterize the usage of "social status" by contemporary stratification analysts. 26

The difficulties which plague this term are traceable to its defining phrase. As noted previously, whether fully or only partially defined, fruitful scientific concepts are either directly or indirectly connected with observables. For example, the physical property of magnetism is not in itself observable but, its definitions refer to experiential data which are:

If a small iron object is close to 'x' at (time) 't', then 'x' is magnetic at time 't' if and only if that object moves toward 'x' at 't'. 27

Contrast the above with a grossly similar partial definition of "social status":

Given any two individuals, a and b, then a has higher social status than b if and only if a has more honor or prestige than b.

It is clear that, whereas the former assertion stipulates observable phenomena which are intersubjectively certifiable, the defining terms of the latter, "prestige" and "honor," are not directly observable. Thus "social status," in its most customary usage, may be more appropriately classified as a phenomenological rather than an observational term. 28


27 Hempel has employed this particular partial definition of magnetism in an attempt to illustrate the notion of Carnap's "reduction sentences" in Hempel, "Fundamentals of Concept Formation in Empirical Science," op. cit., p. 26.

28 A solution to this dilemma in sociology has been the tendency of those concerned with "social status" to introduce indicators which are employed to infer its presence and to provide some degree of "objectivity" for its application. Witness the proliferation of social status indices that have been utilized through the years. Social status has been equated with such variables as income, wealth, place of residence, age, sex, religion, ethnicity, living room furnishings, etc. The difficulty with these indices is that their precise relationship to the concept which they are intended to objectify remains unspecified. Though there have been some

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25 Ibid., Ch. 1 and 2.
The above discussion has been necessarily brief because a thorough documentation of the literature on social status would take us beyond the scope of this paper. For our purposes, however, the following statements of the basic assumptions suggested by the customary usage of the term "social status" seem warranted: 29

(1) Social status, though it may indeed bear a close relationship to objective variables such as education and income, is basically a phenomenon of human perception.

(2) Inherent in this conceptualization is the notion that social status is an orderable attribute. It is assumed that individuals form some sort of hierarchical status ranking.

There may be numerous other assumptions in the ordinary usage of this concept. In our reconstruction, however, these are the most fundamental.

The discussion thus far illustrates what is implied by culling out the basic assumptions suggested by ordinary usage. We are now in a position to state the second phase of meaning analysis, namely, that which involves certain decisions concerning the syntactical status of the concept's defining phrases. Questions which might be raised are: is the concept a class of property term, i.e., can it be defined in terms of genus proximum and differentia specifica, as the logical intersection of two other classes? Or is it customary to conceive of it as a comparative term, i.e., do the defining phrases suggest that the concept is to apply only to those instances where two or more objects in possession of the property may be meaningfully compared and ordered in terms of quantitative representa-

29 Since this form of rational reconstruction is not based on a set of established explicit rules, it is quite possible that alternative conceptualizations and explications may be advanced for the same term. The respective advantages and disadvantages of the alternatives will be decided finally by the extent to which they enable the concept to operate as an efficient instrument in propositional statements. This consideration has led Hempel to state, "Thus understood, an explication cannot be qualified as true or false; but it may be adjudged more or less adequate according to the extent to which it attains its objectives." Ibid., p. 12.

noteworthy efforts directed toward investigations of the inter-relations among the various indices, few attempts have been made to specify clearly the meaning of this term on the basis of the objective data with which it is thought to be related.

Empirical Analysis. The empirical analysis of a concept refers to that process whereby the basic assumptions which have been brought to light as a result of the meaning analysis are submitted to direct empirical test. To illustrate, it will be recalled that the basic assumptions concerning "social status" are that it is a phenomenon of human perception, and that it represents an orderable attribute. Further, it was argued that in its customary usage, "social status" is most appropriately classified as a comparative term. Accordingly, an empirical analysis of "social status" would seek to provide at least a tentative answer to the following question: does there exist a measurable attribute, social status, such that a single individual and/or a number of individuals can order others meaningfully in terms of this attribute? This is the crucial question, for the history of science testifies to the superiority of measurable concepts in contributing to the construction of fruitful theories. 30 Thus, if individuals cannot meaningfully order others with respect to their relative statuses, the values of the perception version of this notion as a potentially significant sociological concept may be seriously questioned.

In carrying out this phase of the explication, it is essential that scaling or measurement procedures appropriate to the syntactical status of the concept's defining phrases (as determined by the meaning analysis) be

30 For an excellent discussion of this issue, see Kaplan, op. cit., esp. Ch. V.
introduced. Since we have tentatively agreed that our illustrative concept, "social status," is most appropriately conceived as a comparative term, we will restrict our discussion to a proposed scaling procedure for such terms.

Scaling (or measurement), in its least rigorous interpretation, consists of the assignment of numerals to objects possessing measurable attributes such that the relationships among the objects maintain a one-to-one or isomorphic relation to the system of numbers of which the numerals are representative. There are several ways by which this isomorphism may be established or demonstrated. We will discuss only two of these: measurement by fiat vs. measurement by fundamental process.

Fundamental measurement, which is sometimes said to reveal the existence of "natural laws," is that which presupposes no other. The first step consists of assigning numerals to represent quantities so that the following postulates of order for a quasi-series hold: given that C=coincidence, P=precedence, and a, b, and c are any three elements which share the attribute in question, then: (1) C is transitive, i.e., whenever aCb and bCc, then aCc; (2) C is symmetric, i.e., whenever aCb, then bCa; (3) C is reflexive, i.e., aCa, bCb, cCc; (4) P is transitive, i.e., if aPb and bPc then aPc; (5) P is C-irreflexive, if aCb, then it is not the case that aPb; and (6) P is C-connected, if it is not the case that aCb, then either aPb or bPa. The primary difference between measurement by fiat and measurement by fundamental process is that in the former, if these postulates are considered at all, they are merely assumed to be satisfied for the attribute under consideration. Most of the so-called indices of "social status," for example, provide no tests for these postulates and an isomorphism is, at best, "only presumed to exist." What sets function of respondents (among those rating an occupation) giving either an 'excellent' or a 'good' response. Another . . . requires weighting the various responses with arbitrary numerical values. . . . This latter measure has received rather widespread use despite arbitrariness in the numerical weights. . . . (italics ours)


33 See Torgerson, _op. cit._, Chs. 2–4.

34 Careful reflection reveals the necessity for both hypotheses (1) and (2), for, clearly, the confirmation of the latter presupposes the validity of the former. That is, if individuals cannot meaningfully order others with respect to their relative statuses, then any order which is uncovered in an investigation of the pooled responses of a number of individuals (employing some form of summary statistics, for example) must be spurious. On the other hand, if a particular study concerns itself solely
Hopefully, the preceding discussion conveys what is meant by a direct test of the assumptions which are either implicitly or explicitly suggested by current usage. With respect to our illustration, for example, the meaning analysis dictated the direct test of the postulates of order for a quasi-series. It is not to be concluded that that phase of explication referred to as empirical analysis must always involve attempts at measurement or scaling. Depending on the nature of the concept in question, other approaches might be efficacious. It is likely, however, that the most fruitful explications will be those that involve appropriate measurement procedures.

The relationships between this suggested program of explication for "theoretical" terms and the alternative criteria regarding concepts with epistemic and constitutive connections are apparent. Both provide a methodological rationale for the evaluation of concepts, one on the basis of whether or not the concept is contained within a theory with hypothesis (2), disconfirming results could foster premature closure, for even if it is found that individuals do not agree in their status rankings of others, it may not be safe to assume a priori that "social status" is a useless notion. It may still be meaningful when its perceivers are taken one at a time. Whether or not this is the case depends upon a direct test of hypothesis (1) in the face of negative evidence for (2).

Though we do not wish to undertake an extended discussion of particular scaling techniques, with respect to our illustration, the experimental procedure of paired comparisons seems to offer distinct possibilities because of all the methods appropriate to stimulus or judgment models, paired comparisons is the only one that does not impose transitivity on the data. By the very nature of the procedures, methods of ranking, rating, and sorting require that if \( aPb \) and \( bPc \), then \( a \) must, as a consequence, \( PC \). In contra-distinction to this, paired comparisons requires that each respondent compares each stimulus to every other stimulus, thus allowing for the possibility of individuals giving the responses \( aPb \) and \( bPc \), but \( cPa \). Thus, the method allows for a direct test of the transitivity hypothesis for \( P \). Since no equality judgments are allowed, however, an equivalent test for the relation \( C \) is not available, strictly speaking. The equality relation may be inferred by observing the joint proportions. See Torgerson, op. cit., Chs. 8-9.

For an alternative example of a scaling technique used to analyze social status ranking data, see Peter Park, "Scale Analysis of Social Status Ranking," Sociological Inquiry, 37 (1957), pp. 345-356.
SUMMARY

The purpose of this paper was to suggest bases for the selection, evaluation, and utilization of "theoretical" concepts that function either within or outside of the context of systematic sociological theories. A brief description of the role and status of theoretical concepts in explicit theories was provided in order to contrast the role and status of "theoretical" concepts in systematic sociological theories. The term theory sketch was used to describe such theories in sociology. It was emphasized that although theoretical concepts functioning within theory sketches lack epistemic and constitutive significance, they do have epistemic and constitutive connections. Accordingly, such concepts may be afforded potential significance because they satisfy certain minimal criteria of scientific adequacy, e.g., being part of testable propositions.

It is further stipulated, however, that isolated abstract concepts in sociology cannot be evaluated on this basis, even though their abstractions may have their bases in some underlying implicit theory, because they are not part of a formal theory, i.e., theory sketch or explicit theory. It was suggested that certain isolated abstract concepts could be advanced as candidates for the theoretical language in either a theory sketch or explicit theory via the process of explication.

A proposed program of explication, consisting of the interdependent phases of meaning analysis and empirical analysis, and appropriate to the current stages of theoretical and empirical development in sociology, was advanced. It was argued that whereas the meaning analysis phase is concerned with culling out the most fundamental assumptions which are either implicit or explicit in the customary usage of the term in question, empirical analysis involves a direct test of these assumptions. In addition, the notion of "social status" was employed to illustrate how such a program might be realized. Finally, it was suggested that an explicated concept serves, not only as a basis for evaluating isolated abstract concepts on methodological grounds, but it may also be a useful instrument in theory construction by helping to make implicit theories and theory sketches more explicit.