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Levels of Analysis in Social Psychology and Related Social Sciences

ABSTRACT

This paper seeks to explicate the widely used but largely unworked concept of levels of analysis in social psychology by examining its origin, need, and place in the discipline. Following Schneirla's distinction between levels of organization and levels of analysis, it outlines the problem of varied relationships between the two kinds of levels and discovers among social psychologists distinctly reductive, anti-reductive, and interdisciplinary attitudes toward the idea of levels. The presentation culminates in a paradigm of levels which generates not only the ideal typical approaches, but also clarifies the actual patterns of interdisciplinary relations, in social sciences.

INTRODUCTION

Since the late forties, there has been a fairly sustained interest in the concept of levels of analysis in social psychology. Schneirla, a comparative psychologist, articulated the concept of levels in a series of papers (1946, 1951, 1953), pointing out that the psycho-social character of human behavior represents a higher level of organization compared to the bio-social level of infra-human behavior, and thus needs to be studied at its own appropriate level of analysis. Schneirla further argued that a group represents a qualitatively superior system in adaptive capacities, and its functioning is, therefore, not intelligible in terms of a purely individual level of analysis. The bio-social versus psycho-social variant of levels was mostly assimilated into the symbolic interactionist tradition (Lindesmith & Strauss, 1949), calling for the study of man on his ideational level of functioning. However, the individual-group strain of the levels concept was variously adopted by the psychologically affiliated social psychologists (Krech & Crutchfield, 1948; Sherif &

Sherif, 1953, 1956; Proshansky & Seidenberg, 1965; Hollander, 1971). Coming at a time when the burial of the group fiction (Allport, 1924, 1933) had to be reconciled with the attempts to reinstate sociocultural realities (Sherif, 1936; Lewin *et al.*, 1939), this concept of levels struck the right chord in the psychological Zeitgeist. This paper seeks to explicate the concept of levels by examining its need, place, and varied usage in social psychology and by implicating it in the larger context of some recurrent themes in social sciences.

As a first step toward appreciation of the levels notion, we need to distinguish the different universes of discourse in which the concept of levels is employed. It is customary to regard the world of phenomena as distinct from the realm of our conceptual schemes about it. When the term 'levels' pertains to the world of phenomena, it is designated as *levels of organization*. It then applies to substantive gradients of phenomena. A set of phenomena is regarded to have acquired a distinct level of organization when its characteristic functioning cannot be predicted from any knowledge of the independent properties of its components.

Levels of analysis, on the other hand, refer to our conceptual frameworks dealing with phenomena. They can be viewed as overall orientations with distinct foci and sets of concepts, usually associated with different sciences. Sherif & Sherif, for instance, have noted

... that psychological and sociological signify two different levels of approach necessitating their appropriate units of treatment and consequently their appropriate conceptual tools. If we are working on the psychological level, our unit of study is the individual and hence our treatment must be in terms of his psychological functioning — in such concepts as his motives, perceiving, learning, remembering, imagining, etc. (1953, p. 7).

Likewise, Proshansky & Seidenberg observe that in social sciences

... the primary unit of analysis is not the individual but groups of individuals, social organizations, and even larger, institutional structures. In contrast to the psychological properties of the person . . . , the analysis of collectivities of all kinds and sizes (for example, the family or socio-economic classes) involves such properties as cultural traditions, group atmosphere, role systems (1965, pp. 4-5).

However, the characteristic association between a discipline and its level of analysis is complicated by the fact that social sciences in their practiced form are multi-level affairs. It is often hard to decide on the basis of conventional usage of a concept about its level. Considering the concept of stimulus, it could be asked whether it has to be allocated to physiological or psychological level? If usage in a discipline is the criterion, then 'stimulus' belongs to the two levels concurrently. If, however, we adopt the criterion of *plane of abstraction*, a stimulus as energy is a physical level concept, as a pattern of excitations in receptors (proximal stimulus) is a neurophysiological level concept, and as a perceived object, a psychological level concept. In other words, concepts do not necessarily belong to a level because they frequently occur in a discipline associated with a particular level of analysis.

We may, therefore, prefer to understand a level of analysis as *a set of more or less related concepts at a certain plane of abstraction, employed to view, describe, and explain phenomena with a distinct organizational level.*

The concepts belonging to a given level of analysis tend to cohere more readily among themselves than with concepts of another level. The relationship between attitude and perception is somewhat more direct and predictable than the one between social norm and individual perception.

The conceptualization also suggests that a level of analysis is most suited to deal with phenomena of a corresponding level of organization. In practice, however, phenomena of diverse organizational order have been studied by the same level or different levels of analysis applied to the same phenomenon. The results have been highly varied and range all the way from biological and psychological reductionism, sociocultural determinism, multidisciplinary eclecticism and extrapolations, to systematic integration of two or more levels of analysis. The basic problem in interdisciplinary work has been one of various relationships between levels of organization and levels of analysis.

One point of view conceives the levels . . . to be a matter of methodology only, i.e., to refer to the kinds of procedures employed by the various sciences, the size of their units of analysis, etc. The other point of view considers the levels to refer to substantive differences in the events or phenomena dealt with by various sciences . . . A third possibility is that these two positions are correlated rather than mutually exclusive; namely,

that substantively different events require particularly appropriate methodological procedure for useful analysis (Jessor, 1958, p. 176).

The first point of view regards levels to be methodological perspectives, each suited to study more than one kind of phenomena from a certain vantage point. Allied to such an attitude is the view that a single phenomenon can be meaningfully studied at different levels associated with various sciences. Adolescence could be considered as an endocrinological upheaval, a life-space restructuration, a marginality of status, or a culturally ordained drama, and then explained in characteristic terms of biology, psychology, sociology, or anthropology. But, a conception of levels of analysis as *mere* methodological perspectives, unmindful of gradients of organization in phenomena, inclines social scientists to embark on a reductive course or to venture on a sort of explanatory imperialism.

The second point of view toward levels is cognizant of substantive differences in events and phenomena. Though substantive differences between the inorganic and the organic are readily conceded, the situation is sadly different when one proceeds from the biological to the psychological to the sociocultural. The periodic challenges to the sociocultural to validate its level of organization as distinct from the psychological are not yet a closed chapter (Allport, 1924; Homans, 1964). On the other hand, there are repeated claims for the independent and extra-somatic existence of sociocultural facts (Durkheim, 1938; White, 1949; Warriner, 1956).

The third point of view that phenomena of different organizational order require particularly appropriate levels of analysis of their own is mostly represented by those who recognize the substantive gradients in the first place. Psychological reductionism has always been a seductive possibility and a dreadful finale in social sciences. The fear of an ever encroaching reductionism has prompted a generation of sociologists and anthropologists to call for the proper study of sociocultural facts at their own level of analysis.

Reductionism is explaining phenomena of a given level of organization in terms of a lower level of analysis. It involves a reference to a 'basic', and not a simply different, level of analysis. Explaining the functioning of social systems in terms of psychological data and principles is reductive, but explaining psychological activities by means of sociocultural facts and theories can hardly be considered reductive in its technical

sense. Jessor (1958, p. 171) offers a very comprehensive account of reductionism:

The essence of reductionism would seem to include four related general propositions: (a) the several disciplines or sciences may be considered as hierarchically ordered from, e.g., physics at the base through chemistry, biology, and psychology, to the social and historical disciplines at the top. (b) the second essential aspect of reductionism is the proposition that the terms or concepts and the relations or laws of one discipline may fully and without loss of meaning be translated into or deduced from those of another discipline. (c) Such deduction or derivability proceeds only in one direction, from lower to higher levels on the hierarchical ordering, and hence the term 'reductionism'; terms and laws of the higher discipline are 'reduced' to those of the lower one. (d) the final aspect is the implicit or explicit proposition that the lower the level of terms employed to explain a given phenomenon, the more causal or fundamental or basic the explanation. These four propositions together would seem to constitute the essential meaning of reductionism as a general doctrine.

It was against such a doctrine that there appeared puritanical movements like psychological psychology, sociological sociology, and last but not the least, culturological anthropology. The social psychological response to reductionism set in motion by F. H. Allport's (1924) strictures against the group fallacy was crystallized in the notion of levels.

While the 'levels' approach has been rightly viewed as non-reductive in outlook, there remain among the adherents of the 'levels' approach in social psychology varying attitudes toward reductionism. One could divide the practitioners of 'levels' into reductive levelists, anti-reduction levelists, and interdisciplinarian levelists.

Some social psychologists believe that a given level of analysis affords a convenient framework for studying a set of phenomena until it is truly explained in terms of a more fundamental level of analysis. They do not deny faith in reductionism, but choose to study phenomena at their respective levels of analysis for considerations of efficiency. Krech & Crutchfield (1948) hold that group processes are reducible to psychological level, though it would be an enormous task to specify individual members' psychological fields and to deduce therefrom properties of a group. In the words of Krech & Crutchfield:

Consider a group, such as a committee made up of nine people. Assuming that we know all the pertinent characteristics of each of these nine people and that we know all the principles governing individual behavior we

should, theoretically, be able to predict just what the behavior of this group would be under given circumstances. But by proceeding on the level of individual we would be faced with an impossible complex synthesis, requiring the solution of not one but nine equations simultaneously (1948, p. 367).

And, thus, this reluctant conclusion:

All these behaviors of a group depend upon the individually lawful behaviors of the constituents of the members. But the group behavior need not be stated in individual terms. As we have said . . . a scientifically mature approach to group dynamics must seek out new concepts . . . new variables with which to characterize the group as a whole (1948, p. 368).

There is hardly a suggestion of groups having any distinct status of their own. Since the only 'reality' they have is perceptual rather than objective, the suggested approach of characterizing groups as wholes seems to be of expedient description.

On the other end are the anti-reductive levelists who are represented in social psychology by Kurt Lewin and social dynamists in his tradition (Cartwright & Zander, 1968, pp. 11-13). They accord a definite reality to groups *per se*, and concede the feasibility of group facts being understood without reference to individuals.

It is well to recognize that Lewin's first writings in the area of group dynamics . . . occurred at a time when psychologists commonly denied the existence or reality of 'groups'. Only 'individuals' were real, and to refer to characteristics of groups — e.g., 'group atmosphere', 'group goals', etc. — was viewed as being 'nonscientific' or 'mystical'. One of Lewin's major contributions was to help the concept of *group* acceptable to psychologists, that is, to lead psychologists to accept the notion that groups, *per se*, have characteristics . . . (Deutsch, 1954, pp. 213-214).

In general, the critical feature of the antireduction levelists is the Gestaltist assertion that a phenomenon of a certain level of organization is *best* understood at its own level of analysis because of its *sui generis* character.

Between the two ends of reductive and antireductive varieties are the interdisciplinary levelists like the Sherifs (1956). They believe in the concurrent and interactive realities of social wholes and individuals. They plead for coordination between levels rather than inter-level resolution or exclusion.

Inter-level resolution is ruled out when the interdisciplinary levelists recognize the substantial autonomy of phenomena with

distinct levels of organization and believe that such phenomena can be appropriately studied for certain purposes at their own level of analysis. Sherif & Sherif point out that man's 'products (social organization, technology, language, etc.) become subject matters of new disciplines which can be, and are, studied on their own level in a meaningful way without reference to single individuals' (1956, p. 29). Likewise, inter-level exclusion is also not an acceptable alternative to the interdisciplinarian levelist. Since the individual, group and culture are not entirely closed systems, explaining one of them solely at its own level of analysis is not adequate and bringing together of relevant levels becomes a kind of necessity.

Yinger (1965) tells of a farmer in Robert Frost's poem who keeps insisting that 'good fences make good neighbors'. To this Yinger adds that a wall would not, but low fences, perhaps. And, in our three-fold scheme, reductive levelists recognize no fences, anti-reductive levelists ask for walls, and interdisciplinarian levelists would welcome low fences to talk across! The following paradigm, a kind of cross-break in which levels of organization and levels of analysis have been cross-partitioned, is an attempt to locate many of the social science controversies surrounding disciplinary puritanism and interdisciplinary exchange in their logical context.

A preliminary view of the paradigm shows that its corner cells are occupied by four major approaches to the study of social and behavioral phenomena, namely, sociological sociology – culturology, sociologism – cultural determinism, psychologism, and psychological psychology. The median boxes house the interdisciplinary approaches of psycho-sociology and social psychology. Each of the cells and boxes represents a characteristic position on the relative reality of sociocultural wholes and individuals, and a distinct stand on the nature of adequate explanation.

Cell 1, resulting from the correspondence of the sociocultural level of organization with the same level of analysis, represents the orientation that sociocultural phenomena have an objective and independent reality which cannot be decomposed into bits of individual or psychic facts. The sociological sociology or culturological approach seeks *neither* to explain individual facts *nor* to utilize them in making sociocultural facts intelligible. The approach is characterized by the ontological doctrine of sociocultural realism, and by a methodological position stressing constructive, i.e., anti-reductive, mode of explanation.



Diagram 1. A paradigm of levels

According to Adler (1964, p. 666), sociocultural realism is the view that configurations, such as, society, community, group, culture, institutions, norms, have a reality 'other than or above and beyond the individuals acting them out or the behaviors manifesting them'. In the history of sociology, the systematic espousal of such a position is traced to Durkheim. His assertions about the autonomous reality of social facts have been the most cogent attempt to establish an irreducible level of organization for sociocultural phenomena. In anthropology, White (1949) has likewise pleaded for the extrasomatic and self-determining reality of cultural facts.

The ontological posture of Durkheim was not a mere philosophical issue, but the very basis of his rules of sociological method. The vindication of social facts offers him the method-

ological prospect of explaining sociocultural phenomena at their own level of analysis. The mode of interpreting phenomena of a given organizational level in terms of constructs at the same level of analysis is known as constructive explanation (Marx, 1963), and is characteristic of sociocultural realism.

Inkeles (1959) has, however, accused the research carried out in the constructive style of Durkheim as more descriptive than interpretive, more puritanical than optimal. Sociological sociology, in his assessment, follows the search for S – R (state – rate) correlations, disregarding the psychological nexus which converts a structural state into a social rate of incidence.

Cell 2, the intersection of the psychological level of organization and sociocultural level of analysis, is occupied by sociology and its anthropological counterpart, cultural determinism. In their blatant form, the approaches treat the individual as a docile and uniform kind of material to be processed and shaped by sociocultural forces, and try to explain his social behavior by exclusive reference to structural factors. Rhyne (1962) has championed a consistently sociologistic approach to the study of prejudice. In its milder version, most sociologists are prone to a sociologistic bias inasmuch as they accord an *overall* and *invariant* primacy to structural factors over personal factors in the understanding of man's social behavior.

The ontological stance of sociology is basically Hegelian in which 'the personal or individual has no historical value, save as an illustration'. The individual is viewed as a derivative of the causally prior wholes. For Durkheim, 'social facts are not simply the development of psychic facts; the latter are in large part merely the continuation of the former inside people's minds' (quoted by White, 1949, p. 121).

The sociologistic methodology seeks to explain the individual's behavior in terms of the characteristics or products of his collectivities. It has variously been derided as 'social mold theory', 'rubber stamp theory', 'group imperialism', etc. For want of a standardized term, the mode of interpreting the part by subsuming it in the whole, may be characterized as *subsumptive* explanation. It amounts to a categorical application of a higher level of analysis to phenomena of a lower level of organization. A sociological example of subsumptive approach is the normative theory of prejudice described by Westie (1964).

Cultural determinism and the sociologicistic approach tend to view the socialization process as a uniform and thorough operation and to ignore the individual variations in selectivity and acceptance of social influences (Allport, 1968; Wrong, 1961).

Cell 3, resulting from the intersection of sociocultural level of phenomena and psychological level of analysis, represents psychologism – the attempt to explain sociocultural phenomena in terms of data and theories about the make-up and functioning of individuals. The psychologistic approach subscribes to the ontology of sociocultural nominalism and methodology of reductionism.

Adler describes social nominalism as ‘any view which denies the reality of collectivities and other wholes as independent agents and sees the object of study of social sciences in individuals, in the items of behavior of individuals, or in the probabilities which can be inferred from them’ (1964, p. 658). Such an orientation regards sociocultural concepts as mere summaries of individual facts. It cries reification whenever a sociocultural term like group or norm is used to imply more than a mass of specific data.

In general, psychological reductionism has been of two varieties (Inkeles, 1959). The first type has sought to extrapolate institutional phenomena from the working of human psyche. Institutions from religion to law are seen as projections of psychic forces within the individual (Freud, 1918). This kind of psychologizing is hard pressed to explain the absence or variations of a sociocultural phenomenon in different settings. Leslie White baits psychologists to explain the existence of the institution of trial by jury!

The other type of psychologizing seeks to resolve sociological statements into psychological propositions about the behavior of men. Homans’ position (1964, 1967) pre-eminently fits into this style. Although Homans dismisses the argument for the *emergent* character of social wholes and insists on their accountability through principles of individual behavior, Durkheim’s judgment of psychological explanation of social facts as false remains relevant in the empirical context of some *unique* features of norms formed in interaction situations (Sherif, 1936). The Gestalt view that groups qua groups have properties which simply are not the properties of its members provides the same constraint to an unbounded psychologism.

Cell 4, the intersection in which both the levels of organization and analysis are psychological, is the domain of psychological psychology. It includes in its fold orientations like phenomenological psychology, cognitive and field theories, and Freudian psychodynamics. With such an intracellular diversity of approaches, it is hard to find a label for its ontological position. Subjective idealism is too static and cognitive to include psychodynamic urges, and too analytical to accommodate phenomenological naivete. For want of a comprehensive term, we may designate the ontological position of this cell as 'psychism' — which regards psychological events as a self-sufficient system.

Lewin's field theory, Heider's interpersonal psychology, and psychodynamic theories of prejudice are some instances of a purely psychological approach in the explanation of individual's behavior. However, the constructive insistence that psychological facts should be explained psychologically has often aroused a certain dissatisfaction. Some psychologists with a physiological predilection see in the psychological psychology only a descriptive promise and prefer for their explanatory objectives a systematic articulation of psychological constructs with neuro-physiological concepts (Krech, 1950). Others with sociological inclinations have recognized that 'no theoretical system constructed on the psychological level will be adequate until it has been embraced and intermeshed with a cultural-sociological system' (Murray, 1959, p. 45).

Looking at this paradigm again, some interesting patterns of inter-cellular attitudes and relations can be observed. As a general rule, relations between cells along horizontal lines, that is, between sociological sociology and sociologism or between psychologism and psychological psychology, tend to be of mutual support. In contrast, relations between cells along vertical axis are of entrenched opposition; sociological sociology and psychologism are ever in mortal combat, and psychological psychology tends to be contemptuous of sociologistic forays. The diagonal relations between sociological sociology and psychological psychology are of mutual respect on grounds of sharing constructive strategies in their respective domains. The other set of diagonal relations between psychologism and sociologism is one of utter opposition of aims; one seeks to 'bring the man in' as the sole causal locus, and the other is given to 'de-causing' him into a mere socioculturally programmed

machine. They represent an antithetical clash between reductive and subsumptive modes of explanation.

The central boxes house the interdisciplinary approaches, psycho-sociology and social psychology, both of them employing more than one level of analysis, but distinguishable from each other in terms of the level of phenomena they seek to explain. Psycho-sociology attempts to understand the functioning and change of social systems by systematically relating the sociocultural variables with the personal and psychological variables (Inkeles, 1959). Social psychology, on the other hand, is the study of the individual's experience and behavior in relation to sociocultural situations (Sherif & Sherif, 1956). Since the two varieties of 'social psychology' differ in their foci, the choice of different names should be more widely accepted.

Ontologically, both the interdisciplinary approaches are interactionist, believing in the concurrent and functionally reciprocal realities of wholes and parts. Sherif (1963), for instance, regards it valid to consider groups as realities without obliterating the causal status of the individual. Since neither individuals nor groups are completely self-sustaining systems, any attempt to understand the part without its *contextual* factors and the whole without its *compositional* units is not going to be adequate in all circumstances.

Both the fields are carefully non-reductive, but opt for inter-level formulations in order to deal with certain kinds of problems. Inkeles (1964, p. 60) assures:

... the attempt to understand the structure and functioning of social systems — will often require the use of a general theory of personality and knowledge of the distinctive personality characteristics of participants in the system as a whole, in major subsystems, and in particular status positions. To many, this may suggest that I am proposing a reduction of sociological analysis to the presumably more basic level of psychological analysis. I am by no means implying or suggesting this course. What is at issue here is not the reduction of one discipline to another but the articulation of the two for certain specific purposes under certain specific conditions.

Finally, the explanatory emphasis in both psycho-sociology and social psychology is on systematic coordination, and not on eclectic juxtaposition, of sociocultural and psychological variables. If interdisciplinary approaches have to be more than syncretic listings of relevant factors from different disciplines, they are obliged to formulate integrated frameworks. Psycho-

sociology accomplishes the interdisciplinary task by explicitly introducing personality or other psychological mechanisms as intervening variables which process and mediate the impact of a structural factor on another social fact as a dependent variable (Inkeles, 1959). Say, an observed association between socio-economic class and incidence of ethnic prejudice is systematically interpreted in terms of relative distribution of authoritarianism (modal personalities) in the ranks of different classes.

How does social psychology coordinate variables from different levels in its framework? The social psychological approach, according to Sherif (1963), often involves the sequential specification of the range of behavior structurally generated by the sociocultural settings, and of the individual's location (within the structural range) resulting from his personal characteristics, to understand a given behavioral outcome. Such a framework, however, does not accord an invariant primacy to structural factors. Applying this approach to the understanding of individual prejudice, Hood & Sherif (1955, p. 85) observed:

The end result of relations between groups is standardized in terms of the social distance scales of the respective groups. These scales define the limits within which individual variations will take place. An adequate personality theory will, at best, point up factors which contribute to the determination of these individual variations falling within the particular reference scale. But these factors do not determine the existence or non-existence of the scale itself.

It is recognized that there are *intradisciplinary* perspectives in social psychology besides *interdisciplinary* frameworks of various kinds. However, an intradisciplinary social psychology (see McDavid & Harari, 1968, p. 10) cannot strictly adhere to a psychological level of analysis unless it chooses to be outrightly cognitive or psychodynamic. It will remain confined to transformation of relations between intraindividual events or, should it venture to reach out for the external world, it is obliged to use sociocultural concepts with psychological prefixes, i.e. perceived role, subjective class, psychological environment, etc. Interdisciplinarian social psychologists (e.g., Sherif & Sherif, 1956; Proshansky & Seidenberg, 1965) also need to reconsider their somewhat inconsistent view that social psychology's level of analysis is psychological because its unit of analysis is the individual. Hollander (1971) is more accurate when he finds the psychological level as the *primary*, and not the *only*, level of analysis for the discipline.

It is hoped that the explication attempted here has shown how basic is the idea of levels to the very conception of social psychological task and to an integrative appreciation of the reductive, constructive, subsumptive, and interdisciplinary perspectives in social sciences.

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