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THE SOCIAL MEANING OF SOCIAL INDICATORS*

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ABSTRACT. While new modes of data processing have provided reams of data, there has been relatively less effort in seeking to comprehend the social meaning of results of empirical work. A set of previously developed indicators of urban social structure is here examined for its link to theory, and to the social structure of the city itself. The original indicators (size, social class, racial composition and community maturity) were empirically derived. In this paper, each is taken in turn, and explored with respect to several possible social meanings. Size, for example, is considered to be itself an indicator, and an imperfect one, for system complexity; percent non-white is seen to be itself an indicator for a slowdown in the mobility process, or a slower social metabolism. These and other results are suggestions, with illustrations, but not conclusive support, from other than the original data. While it is hoped that the theoretical suggestions may themselves be of interest, it is also hoped that approach itself can indicate the fertility and usefulness of going back to theory once empirical measures have been developed.

1. INTRODUCTION

Research often alternates between empirical assessment on the one hand, and theoretical formulation on the other. Where one begins the process is largely a matter of choice and personal history, as long as one does not remain in that particular phase. Let us begin by considering the empirical development of community indicators, and then move to a discussion of the social context and meaning which each of them may have.

The rather large amount of data developing on the local community throughout the 1950's and 1960's was providing a great source of richness for social investigators. Yet, it was also becoming increasingly difficult to use much of the data because of the processing difficulties, slight differences in definition of units, and so forth. One of the first attempts to address this problem directly came from Professors Hadden and Borgatta (1965) in their volume, *American Cities, Their Social Characteristics*. From a variety of published sources, the authors selected 65 variables thought to be key indicators of various dimensions of community structure. These variables were factor analyzed, and considered by different size classes of city, as well as by 'all cities', and 'central cities'. The results of these analyses were a set of 12

variables which Hadden and Borgatta felt described key dimensions of community structure.

These were as follows:

- Total Population
- Median Income
- Percent Non-White
- Percent Foreign Born
- Density
- Percent Same House, 1955–60
- Percent Population Increase, 1950–60
- Percent Single Dwelling Units
- Median Age
- Percent Migrants
- Index No. 1: Deprivation Index
- Index No. 2: Educational Center

These variables provided a useful point of commencement for the development of an understanding of community structure. As reported in the book, however, they were simply an empirically derived list, and attached to no specific conceptual frame reference. For that reason, it seems appropriate to consider them indicators of community composition, rather than social indicators, or aspects of social structure, because the relationship between the variables themselves and social structure needed to be detailed.

A beginning attempt at this work is reported in an earlier paper entitled 'Critical Dimensions of Community Structure: A Re-Examination of the Hadden-Borgatta Findings'. (Tropman, 1969). Four concepts are employed to account for the original 12 variables. The reorganization is shown in Figure 1. Basically, it seemed that Size, Class, Race, and Maturity/Growth were key concepts which could be used to describe the community. The variables clustered in a way as to suggest that there were several measures of maturity/growth, and a single measure of class.¹

The four variables provided a point of departure. We had some confidence that these dimensions would prove to be salient aspects of community structure. Yet several cautions had to be borne in mind. First, the original work had an empirical, not a conceptual thrust. Despite the 'reexamination', there was work to be done in the area of understanding the social meaning of the variables. Secondly, one must recognize that 65 variables are actually a

Social indicators and their empirical referents

Indicator	Variable
[1] Community size	Total population
[2] Socio-economic class	Median income
[3] Race	Percent nonwhite
[4] Maturity/growth	
(a) Maturity	Percent foreign borne
	Median age
	Density
	Percent same house, 1955-60
(b) Growth	Percent migrants
	Percent population growth, 1950-60
	Percent single dwelling units

Fig. 1.

very few. The decade of the 60's has within the ten-year period, brought a revolution in data processing and information systems. Limitations on computer processing (which probably dictated the number 65 for Hadden and Borgatta) are less pressing now. Hence, one should keep in mind that the inclusion of more variables might produce quite different results. The first priority seemed to be the development of the 'Social' aspects of these indicators.

2. THE SOCIAL MEANING OF SOCIAL INDICATORS

One difficulty with modern social science, particularly given the new modes of data processing, is that we frequently have too much data, too much in the sense that we can comprehend meaningful analysis of them. The process of developing a careful conceptual understanding of variables and their interrelation is often slighted, particularly when it is relatively easy to move to further and more extensive analysis. It seemed appropriate, therefore, to extend the original work done in the paper on 'Critical Dimensions ...' one further theoretical step, and attempt to develop more understanding of the social organizational aspects of the four indicators. Such an approach would

be useful *per se* in illuminating the understanding of the indicators themselves. It serves three additional purposes, however. Firstly, it provides a theoretical base for considering next empirical steps. After all, there is not, at this time much reason to shift from the sixty-five variables of Hadden and Borgatta, and, if a shift is made, we must know in what direction additional variables need to be sought. Secondly, it reinforces generally the necessity for interaction between conceptual and empirical elements in the field of social indicators. As social indicators become part of the basis on which policy is made, they must be both reliable and valid. Thirdly, such conceptual investigation explores the very notion of validity of social measures itself. For example, what does the concept of 'race' denote? How should class be measured? What do size and maturity/growth indicate? These questions are often posed and rarely answered. This paper is a conceptual explanation of some of these problems. The purpose here is not to present a great deal of data — each area can be considered in some detail separately — but rather to present some hypothetical thinking about the variables under consideration.

In so doing we hope to suggest connections between some of the social indicators and mainstream sociological thought, and, secondly, to suggest some of the potential utility of both the approach and the results to sociological practitioners. Sociology, in this respect, might become more like economics, in which theory has direct and important relationships to practice. Indeed, there has for too long been a separation between 'theory and practice', hiatus is most visible is the area of 'social indicators'. Much effort has been expended securing all kinds of indicators. Relatively less effort has been expended in trying to discern what the indicators mean, in social terms, and how they relate to sociological theory.²

3 SOCIAL STRATIFICATION

Of some surprise was the fact that only one measure of 'stratification' ultimately appeared. It was puzzling because the amount of attention given to the stratification area in sociological literature suggests that it is one of the most important single variables of interest to sociologists. Thinking and reading about this variable suggests three hypotheses which could be of some importance. Firstly, there seems to be some reason to think that the stratification system is multidimensional, rather than unidimensional. Secondly, it seemed reasonable and helpful to assume that social units other than persons

– groups, organizations, and communities – have their own stratification system within which they can be assigned a rank. These two points lead to a third – that social stratification is as important in interunit interaction as it is in intraunit (e.g. person to person) interaction.

For a number of years social theorists have debated about what kinds of indicators are appropriate for social stratification. Various measures, like income, education, and status have been used often interchangeably. These arguments have tended to underplay the fact that there were conceptual differences between the measures of social stratification, and the indicators did not relate to each other as well as might be expected if they were simply mutually substitutable. For example, median income and median education correlate +0.58 in the Hadden-Borgatta study ($N = 644$ cities). Hodge and Treiman (1968, p.537) report that

In part, the failure of objective measures of socio-economic status to explain fully patterns of class identification may be traced to relatively low intercorrelations between these indicators. Education, income and occupation do not cumulate in a manner conducive to the formulation of a well-defined objective class structure around which class identifications can be unambiguously formed.

As a guide to further work on indicators of social structure, it seemed reasonable to make the assumption that the American stratification system was multidimensional, rather than unidimensional. That is, instead of there being a single system with different indicators, there was a system of several dimensions which had an unknown degree of intersect. The literature in fact suggests basically five dimensions – the original class, status, and power of Weber, plus occupation (Blau and Duncan, 1976) and information (Svalastoga, 1965). If we assume that social units are stratified on at least these five dimensions, and that the dimensions are different from each other, than social investigators should begin by measuring for five indicators, rather than one. The degree of confluence between any set of two, or more, becomes an empirical question on which some accurate statements can be made, rather than one which simply slips by through default.

The multidimensionality hypothesis can bring into fresh perspective three main streams of stratification research – the structural functional analysis, the conflict theorists, and the emphasis on status crystallization.

For functionalism, the concept of multiple systems suggests multiple functions. Much of the Davis/Moore – Tumin discussion might have been softened if the concept of a 'system' of stratification had been replaced with systems of stratification.

The conflict theorists, Mills and perhaps Darendorfs' concept of 'power class' might tend to see conflict as a property of stratification systems, rather than a basis for distinguishing a system itself. Conflict might exist in some degree in all subsystems of stratification. Whether or not the power system has, empirically, more conflict than the economic or prestige systems is a matter for research.

But perhaps the most interesting implications occur with respect to reinterpreting some of the thinking in the area of status crystallization.

Generally, this work has assumed that inconsistent positions on stratification dimensions was a 'stress' which had to be 'resolved' by action of some sort. While this approach may yet be the correct one, it also seems possible to consider such inconsistency as a central mechanism through which social mobility can occur. In effect, there may be several paths to upward movement, rather than a single one. If in fact there are reasonably independent mobility ladders, then positional inconsistency becomes a hopeful, rather than a stressful situation for the social unit.

It may be for these reasons, then, that the concept of crystallization has not been as helpful as research would have liked. In one study, the authors simply note that stratification variables (education, income, occupation) are better predictors of political attitudes than the measure of status consistency. (Kelly and Chambliss, 1966).

Moreover, researchers have not yet begun to attend to a critical aspect of the 'crystallization' area — the level within the stratification system at which crystallization occurs. It does seem somewhat different if crystallization occurs at the bottom of the hierarchy rather than at the top. Indeed, it is plausible to consider the possibility that status consistency is inverse to rank. Hence, social units at the bottom of the hierarchy may be characterized by the closely related *absence* of money, information, power, status and occupational position. In fact, one appropriate definition of poverty, a definition which encompasses the different dimensions which characterize and confound the discussions of the 'real' nature of poverty is to consider it as stratification deprivation. We are suggesting that there is less social distance between the criteria of stratification, and hence, the position of the stratified unit on the criteria, at the bottom of the scale than in the middle and top. Hence, the conditional probability of having a low income if one has a poor education is greater than the conditional probability of having a good income if one has a good education. There is mild evidence that tendencies exist in this

direction. Using the correlations provided by Hadden and Borgatta, it appears that the median correlation (for all community types) between low income and low education is greater than the relationship between good income and good education 0.715 v. 0.635.³ While these differences are not large, they are in the expected direction, and are for every community in the nation. Two other pieces of evidence can be introduced here, which support the Hadden/Borgatta correlations. Some results of analyzing the relationships between income and education in Denver and Milwaukee are presented in Table I. Again, the results are in the expected direction, though not strong. (Shamai, 1974.)

TABLE I
Intercorrelations between income and education, by economic status, Denver and Milwaukee

Population groups	Milwaukee	Denver
Very poor	0.264	0.195
Poor	0.230	0.200
Near poor	0.152	0.164
Non-poor	0.171	0.189

And finally, the pioneering work done by Nam (1964) and his colleagues at the Census is of interest. Looking at three components of status by overall score, they found that those with the highest range 62% had all three components consistent, while in those with the lowest average score, 73.3%

TABLE II
Status consistency type of family heads, by SES, age and color

Status consistency type age and color	All family heads	GES score			
		98-99	79-50	'49-20	19-0
<i>Total all ages</i>	100%	100%	100%	100%	100%
All components consistent	29.4	62.4	20.0	13.5	73.3
2 components contrast	61.3	37.6	68.1	73.4	26.8
All inconsistent	9.4	-	11.9	13.1	-
<i>Nonwhites</i>					
All components consistent	37.2	81.9	16.3	13.6	73.7
2 components consistent	54.7	18.1	73.4	72.4	26.3
All inconsistent	8.1	-	10.3	14.0	-

(Adapted from Nam *et al.*, 1964, Table 3, p. 18.)

off the components were consistent. Considering the proportions of consistent black male family heads, in the upper statuses, one feature of great interest is noted — that they have a higher proportion of persons with all statuses consistent than is true of whites. This difference may be a sort of racial premium which blacks must pay to be in the upper status. We shall return to this matter in the section on race.

Throughout this discussion, and in many discussions of stratification, the implicit assumption is that it is the individual person who is the relevant social unit to be stratified. Of course, individuals are stratified, but it does not seem that they should be the only units which are stratified. Typically, we think conventionally of groups, communities and organizations as having ranks on the stratification system. We generally refer in common parlance to prestige groups, communities and organizations. In like manner, we refer as well to powerful and wealthy ones. For this reason it seems odd that the stratification literature has only begun to deal with the meaning of group, organization, and community stratification. Indeed, it may well be that 'inconsistency' in inter-system relationships is of more profound effect than within units. For example, what happens when persons of low stratification designation move into a community of high designation; what happens when organizations of middle class orientation serve persons primarily of lower class designation. In one case, we have some evidence. Cloward and Epstein found that social welfare organizations tended to leave poor clients for middle class ones. Could it be that organizations (as well as groups and communities) have mobility aspirations? Cloward and Epstein did not make this interpretation, but it seems plausible. (Cloward and Epstein, 1967). If this is so, there are important implications for both theory and practice.

In summary, the following hypotheses are suggested in the area of social stratification:

- (1) the stratification system in America is multidimensional, rather than unidimensional;
- (2) lack of positional crystallization may have positive, not negative functions in the system, being the looseness which permits mobility to occur;
- (3) crystallization at the bottom of the hierarchy, as represented by the correlated absence of stratification variables, may be defined as 'poverty';
- (4) all social units have a stratification system, including in addition to persons, groups, communities, and formal organizations;
- (5) differences in stratification designation between systems — viz.,

between individuals and organizations – becomes a very salient aspect of inter-organizational relationships;

(6) organizations, like persons, are upwardly mobile, and will attempt to dissociate themselves from elements within their domain which have lower designations in the stratification system.

4. RACE

One of the variables which has frequently come up as empirically fertile is some measure of race – often percent non-white. While there is good reason intuitively for observing this variable, it has been unclear sociologically why it should be so powerful. In this respect, it is like the concept size of the system; each needs to have the social relationships it engenders explicated in some detail. In the case of the race variable, we hope to suggest one of the ways in which its social meaning can be understood.

If stratification is important, then mobility within that system must be important as well. Our myths and ideologies suggest that there is an open system, that anyone may move up or down depending upon his abilities. Horatio Alger stories lend credence and support to the notion that one can start low and rise to the highest peaks. (Wohl, 1955). In the early history of the country, people were assumed to be able easily to do better than their fathers. (Thernstrom 1966). Today, we hear much more discussion about the 'Culture of Poverty'. Implicit in this conceptual assertion is the assumption that one will not, and indeed cannot, do better than his father. There are, then, two competing myths – one suggesting mobility, and the other suggesting coagulation.

Provisionally, we shall argue that both myths are right, and that the explanation of this paradox lies in the differential operation of the system for two key subgroups, blacks and whites. Basically, we hypothesize that the mobility system does not operate well for the black population and blacks specifically and nonwhites generally become both the victim and the indicator of the coagulated part of the mobility system. There is some evidence that this is so. Blau and Duncan, in their massive study on occupational mobility point out that there is great discrepancy between Negro educational achievement and job. (Blau and Duncan, 1976), In fact the better educated the Negro is, the greater the discrepancy between the average status for that educational level and his status. From a community structure

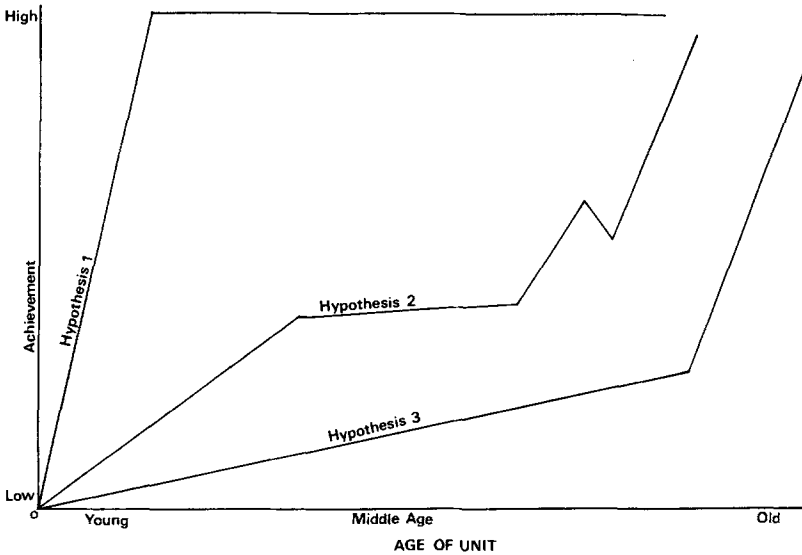


Fig. 2. Mobility patterns by age of unit.

viewpoint, then, the percent non-white, or 'race' variable represents, we think, mobility coagulation. This interpretation is felicitous because it provided a reasonable link between Race and Class variables which is always assumed, and never specified. Is it 'race' or 'class'? If one assumes that the system level meaning of race is mobility coagulation, then it is both.

Coagulation does not mean that the mobility system is inoperative. It can, however, and does mean, we think, that the system works poorly. Some data to illustrate this point are displayed in Table III. These data suggest that while there has been progress in the mobility of Negro sons, as compared with their fathers, contemporary Negro sons are about a generation behind, their own educational distribution being quite similar to that of the White fathers. It is clear that the system is not working as well for them as for others.

A second piece of evidence on this point comes from Table II. If we assume that the mobility potential of a population is measured by its status inconsistency, then the non-white population has a smaller mobility potential (greater consistency) than the total population. Of nonwhites, 37.2% have all components consistent, while, of the total population, 29.4% have all components consistent.

If this assumption is correct, and, in certain communities there is a coagula-

TABLE III

Percent distribution by educational level of men 20 to 64 years old and their fathers, by color: March 1962 (excludes cases with no report on education of the father)

Years of school completed and color	Men (1)	Fathers (2)	Differ- ences	Ratio of (1) to (2) (4)
White	100%	100%		1.0
Less than 8 years	12.6	36.5	-23.9	0.3
Elementary 8 to high school 3 years	32.2	38.8	- 6.6	0.8
High school 4 years or more	55.2	24.7	+30.5	2.2
High school 4 years	29.6	14.4	+15.2	2.1
College 1 or more years	25.6	10.3	+15.3	2.8
Non-White	100%	100%		1.0
Less than 8 years	36.8	63.4	-26.6	0.6
Elementary 8 to high school 3 years	34.6	25.2	+ 9.4	1.4
High school 4 years or more	28.5	11.4	+17.1	2.5
High school 4 years	18.1	7.0	+11.1	2.6
College 1 or more years	10.4	4.4	+ 6.0	2.4

Table E: *Educational Change in a Generation*, Current Population Reports, Series P-20, September 22, 1964, Bureau of the Census.

tion and perhaps strangulation of the mobility process, then one of the important aspects of social metabolism has failed to work, trapping people at the bottom end of the scale with very little hope of rising. Such a situation not only presents the problems attendant to the blockage itself, but problems attendant to the lack of operation of the metabolic processes. (Strictly speaking, the process of coagulation could 'trap' people at any level. One could discuss with some merit a coagulation at the top of the system, among certain elites. Nonetheless, our intent here is to call attention to the people stuck at the bottom of the social structure.)

This line of thinking raises a whole set of questions which have not previously been asked about the mobility process. The concept of 'coagulation' implies that there is some 'normal' process of metabolism, or mobility. Yet the previous suggestion that there are five dimensions suggest an entirely different and additional possibility. Let us accept, for the moment, that the word 'mobility' refers to progress, either inter or intra generationally (or, as suggested before, with organizations and other units) on a single dimension; let us use the phrase metabolism to refer to the rates of conversion from one dimension to another. Thus, we can speak of education, or income, or occupational mobility; when we ask, however, how much education produces

how much income, and under what conditions, we are referring to a related, but different social process, the process of social metabolism.

Two other questions arise from this approach to mobility and metabolism — questions of rate and speed. We have asked before about the rate of mobility, and that question has usually referred to the number of persons who have experienced mobility. We can now be sensitized to ask, as well, how fast (speed) mobility, or metabolism, occurs. Figure 2 suggests some possible relationships here. There must be some obvious differences in the case where high achievement occurs at an early age (Hypothesis 1), and in those cases where high achievement is delayed until middle or older age (Hypotheses 2 and 3). In a sense, the 45° line would be the 'expected' increment of achievement for each increment in age. And while age may be a handy way of measuring the speed of the system, other indicators may well be as appropriate. The purpose here is only to raise as a possibility rate and speed of the processes of social movement in a somewhat different perspective from the usual.

There is an important point here for planners and social ameliorators, as well as sociologists. We seem to spend a lot of time dealing with the fact that in a particular area there may be many low income or poor people or people, in our terms, suffering from stratification deprivation. Programs give them money, clothing, etc. We spend very little time asking why the normal process of metabolism is not working. Our contention is that both sets of problems must be addressed. A similar situation exists, in the area of the participation of the poor on advisory and governing boards. No one asked why special efforts for this group should be necessary in a democracy. This question is no more intended to argue against the participation of the poor than the former one was intended to argue against forms of ameliorative help. However, in each case, had the question been posed, somewhat different types of remedial action might be taken, and they can be taken now. One of the first steps is to identify the impediments to the mobility process, and attempt to remove them.

The opportunity for mobility then is seen as key to the operation of the social system. As the operations of the processes which support and promote mobility, congeal and coagulate, system metabolism increasingly fails, and persons become trapped in low positions. Percent non-white is, perhaps an operational indicator that the process of coagulation is occurring, but not the cause of that process. We must look elsewhere, including into the family

structure, the degree of early marriage, etc. We would also look at the institutions — schools, shops, and agencies — which may discriminate within the mobility process. Similarly, the concept of metabolism has some practical implications. It may well be that the rate of “conversion” of education into income or job is different in some cases than others, or may have hidden processes that we know little about. Increasing education, for example, may not be helpful if the metabolism is sluggish, or coagulation is occurring.

In sum, we are suggesting that the social meaning of the non-white population in an area is the degree to which it represents truncated mobility and/or metabolism. Minorities will say that this is obvious, that they have always experienced lesser opportunity. However, the use of that impression on a general basis, and the fact that the race variable is a fertile one empirically suggest a confluence which has, at the least, some modest theoretical justification.

These considerations lead to the following hypotheses:

(1) that the percent non-white in an area is an indicator of the slowdown of the mobility process; and, or the metabolic processes.

(2) while non-whites themselves are surely affected by the slowdown in mobility processes, lower rates of mobility may well characterize the entire area;

(3) communities will differ in social metabolism rates as well as social mobility rates; the speed of achievement may differ there;

(4) institutions in decreased mobility areas will be characterized as either performing inadequately, or will be making attempts to leave the area, perhaps as an expression of their own mobility.

5. COMMUNITY SIZE

Like race, community size has more intuitive than substantive meaning. ‘Everybody knows’ that size must be important, and certainly as a variable it has made regular appearances in the results of data processing. Yet there remains a lack of clarity about the set of social organizational properties which size measures. One area which seems appropriate, and which has some promise, is to consider the size of the unit as an operational indicator for the degree of complexity of the unit. This relationship needs some elaboration.

One dimension of social affairs which has many conventional referents is the idea of complexity (Blau, 1970; Mayhew *et al.*, 1972). Some persons and

processes are alleged to be very complex, while others are thought to be relatively 'simple'. Often, what seems to be implied is the number of different dimensions of differentiation along which variation occurs. Something which has relatively few dimensions, and limited variation along them, is simple. Something which has many dimensions, or many possibilities for variation or both, is complex. Wars, for example, are sometimes described this way. Where there is a clear line of demarcation, each side has its own distinct uniform, and there is little confusion about who is a 'combatant' and who is not, the war is 'simple'. When there is no clear line, when the soldiers are indistinguishable from the civilian population, and when people flow back and forth between the status of civilian and soldier, then the war is complicated.

The complexity of community systems seems to be an important variable, especially for the people and organizations who live in a particular community (Tudor, 1972). They are the ones who have to deal with and process the complicated series of interactions as regards their own personal life course. Then, at the level of the community or system itself, the question of complexity becomes important from a management viewpoint. Can the system be managed? At the city level, some people are saying that it is simply too complicated, that certain special systems, like New York City, for example, cannot be 'managed', (Sayre and Kaufman, 1964; Caro, 1974) either as a total system, or by the people within it. At the organizational level, complexity often manifests itself in complaints about 'red tape', 'bureaucracy', feelings of powerlessness (Tudor, 1973).

The concept of complexity appears to be a shorthand way of referring to two important social processes, which might or might not occur together — differentiation and integration. A complex system is a differentiated one, which as we noted, has many dimensions and/or many types of variation along the dimensions. Differentiation refers to the spread of the system, to its extensivity and scope, but does not imply that the system necessarily has any unity. That is provided by the integration of the differentiated parts and elements of the system. Without attendant integration, a system can differentiate only so far before it collapses. However, it appears that differentiated systems can function, albeit marginally, with only moderate or even low integration. One illustration of this situation appears in looking at some Wall Street stock brokerage houses. The degree of paper work, and the differentiation of the firm (in the organizational and business literature, it is often called diversification, although this does not mean quite the same thing) has left

some firms actually bankrupt. It was remarked in this regard that several firms of this sort are broke, if they only knew it. The point is that the firm, or other system, can proceed along for quite awhile with marginal integration. It will certainly come to light in the case of a crisis, but may otherwise not come to light at all, or slowly. Many of the complaints about the urban system, the cities, and the municipal institutions are simply that the city, as a system, is very over-differentiated in respect to the amount of integration.

Given that complexity is an important dimension of systems, we should like to pose two questions of importance here. Firstly, how can it be measured, or indicated, and secondly, what effect does it have on its constituent units? This latter question deals with interorganizational relations among units in the system, or between the system itself and units, such as persons and organizations within it.

The measure of system complexity is not easy because of the aspects of differentiation and integration contained within it, but with some qualifications the measure employed is system size. At the community level, it is the total population of the area. System size has been a fertile variable in almost every correlation analysis. It is one of the most common types of control variables used by social analysts, yet the meaning, in social terms, has remained obscure. Why, theoretically, should 'things' be any different just because they are bigger, or smaller? One reason, of course, is the simple mathematics of size itself. Add one additional person to a group of 10, and a minimum of 10 new relationship potentials have been added, to say nothing of the new possibilities for coalition formation, in groups of various size.

There are some limitations and problems which need elucidation in analyzing size. Early treatments of size, by Durkheim, did not assume that size and differentiation were the same (Durkheim, 1951). Size was a precondition for organic solidarity though, as Durkheim referred to it, it was called social density. For Durkheim, though, increments in size did not always result in the development of organic solidarity. Indeed, he specifically mentions the case of the 'horde', a large group in which organic solidarity has not occurred. He is unfortunately less than specific about the conditions under which size increments led to societal reorganization and transformation from mechanical solidarity into organic or led to the development of a horde, which today, might be called mass society. One problem which needs to be considered then, is the extent to which size defines differentiation, or is a necessary but not sufficient condition for differentiation.

A second problem deals with the other component of complexity, integration. It seems less clear that size, as such, measures integration, or integrative efforts, especially when, as we have noted, there can be some wide ranges of integrative effort at rather similar levels of differentiation. Perhaps further investigation will suggest another measure, such as *per capita* public administration, or *per capita* governmental expense, to measure the effort that the system in question is making at integration, rather than letting size stand alone.

A third problem relates to the measurements of size and complexity. Size is not itself complexity, but an indicator for it. Two issues arise here. One is that some large systems may be simple, as in the case of the horde, or in the case of large organizations with relatively simple technology. A large shirt laundry, for example, may be in fact less complex than a small computer consultation firm. Hence, there can be deviant cases. As important is the likelihood that complexity is in fact a step function, and does not occur with even increments but rather, may occur sporadically, and, at certain pivotal points, change dramatically. Such behavior is not at all uncommon in social data. Education, for example, behaves in somewhat this fashion. A person can attend seven years of grade school, three years of high school or college and finish everything but his doctoral dissertation. But that extra year, which brings the degree in each case, makes a difference in life chances. Hence, for education the steps occur at the degree periods, rather than smoothly. In any case, this possibility needs to be carefully considered in using size as a measure of complexity, and becomes an investigation within its own right.

Let us move to the second main area of concern, other than measurement, the problem of the articulation of units, taking into consideration the level of complexity. The point becomes of particular concern when one thinks of the relationship between an organization and its community. Organizations can be complex or simple. Communities can be complex or simple. If an organization is simple, and the environment is complicated, then the organization will probably go out of business, or suffer, and pass away over time. This is the lament of 'small business' in American communities today. There are 'so many rules and forms' that they cannot function. The converse also appears reasonable. If an organization is very complex, and the community is simple, then the organization will tend to dominate the community. Historically, this obtained in the 'company town' situation, but appears in other guises as well. A major industry or business dominates major decisions,

without actually taking over the vital functions. Some university communities are this way as well, with the university virtually dominating municipal life. Thirdly, complexity affects the relationships among variables. Lane (1968) found that there was a 'city effect'. Looking at father/son mobility in six cities, she noted that 'size' seemed to operate as to depress integrational relationships. We might suggest that, in general, the more complex the system the lower the relationship among variables within the system.

There are a host of practical implications here as well. The fact that community systems may have relatively low levels of integration has stimulated specialists in a variety of fields. Social work, for example, has had for years a group of practitioners called 'community organizers'. Implicit in the name itself is the assumption that the community is disorganized. Yet the efforts of these workers, in the large, as well as the plethora of programs in the sixties, have not been notably successful. Perhaps substantial additional study of the conditions under which organic solidarity comes about would be a useful first step in thinking about programs promoting large system integration.

Let us summarize by suggesting propositions about system size:

- (1) Size of the unit is an imperfect indicator of the complexity of the Unit.
- (2) To understand complexity we need to look at both the amount of differentiation and the amount of integration in the system.
- (3) Territorial communities have much differentiation and little integration, leading to a situation of unbalanced complexity.
- (4) The assessment of complexity between communities, as well as within them, become important to understanding the dominant system. For example, subcultures may be high on integration, low on differentiation while organizations may be high on differentiation and moderate on integration.
- (5) In a system of multiple subsystems, the most differentiated subsystem will be dominant.
- (6) The more complex the systems, the lower will be the patterns of intercorrelates among variables within the system.

6. MATURITY/GROWTH

Part of the question just posed — can the urban system be managed? — may depend for an answer on who lives in the community and what position the community occupies in the 'life cycle' of social systems. Larger social systems,

such as communities, may not have a linear life cycle, but, rather, may have a cyclical one (Sorokin, 1960), in which a system grows, becomes mature, and then decays, to grow again, in perhaps the same or a different way. Whatever the actual pattern of larger system growth and change, we have little current investigation on the life cycle as it affects organizations, communities, groups, although Stinchcomb did refer to the critical elements which occur at the organization's founding and the time in history in which they were founded, as did Selznick (Stinchcomb, 1965; Selznick, 1957). But more work needs to be done on the life cycle concept, especially since the maturity/growth dimension emerged as so powerful within these data.

We believe that the variable labeled 'maturity/growth' taps some of this dimension. Basically, it separates communities into those which are older, which have older citizens, which have more foreign born citizens, less geographical mobility, more apartment living, from those communities in which many of the homes are one family, which have younger citizens, which are gaining population, and which are generally expanding as opposed to contracting.

At first, thinking of communities in this way may seem inappropriate. Communities are social units, like persons and organizations, and do, in fact age. It is reasonable to assume that older units have different problem from newer, growing units, but these need not be greater in number or more serious. Unquestionably, each type of unit has difficulties and trials of its own. But it could be important to recognize the different types of problems each unit has.

For example, it is likely that more mature units are suffering from general system deterioration, in terms of housing, roads, and even persons. On the other hand, newer, growing communities have younger people, with problems more attended to and centered around youth, children and the like. This is certainly not to suggest that both types of problems do not exist in each type of community, but rather, that on the community level, the type of problems in this model presentation will be different, and priority and thrust will have to be different. Thus one must identify how that difference is structured in relation to the total system. We are particularly interested here in the special problem of how a mature or a growing community affects the organization, and especially the welfare organizations, within it.

The empirical relationships between the maturity/growth dimensions and some selected social characteristics is presented in Table IV. The data pre-

TABLE IV
The intercorrelation matrix of community composition variables, using selected other variables, 154 communities (1)

	Private welfare		Public welfare		Property tax	Intergovernmental revenue	MOP ratio	Percent voting democratic
	Total raised 1964	Per capita 1964	County per capita 1960					
			(2)	(3)				
(A) Size								1960
(01) Total population	80	-03	17	00	07	-11		39
(B) Socio-economic class								
(12) Median income	03	14	-26	09	22	06		09
(11) Deprivation index	20	-02	-17	-17	-21	-20		-
(C) Racial composition								
(04) % non-white	32	03	-27	-20	-17	-09		09
(D) Maturity/growth								
(09) % foreign born	21	10	39	27	24	-17		40
(08) Median age	21	10	17	15	01	-12		23
(02) Density	37	15	24	03	04	-24		30
(18) % same house 1955-60	02	20	06	07	-06	-33		-
(1) Educational center	-10	-08	06	11	-01	3		-
(19) % migrants	-25	-30	01	08	12	46		-37
(03) % population increase 1950-60	-26	-21	-16	-08	-07	34		-05
(25) % single dwelling units	-28	-18	-26	-11	-02	26		-40

(Source: J. Tropman, *A Comparative Analysis of Welfare Councils*, unpublished Ph. D. dissertation, The University of Michigan, 1967)

- (1) Source: The first 6 columns in this table are the intercorrelations of decile code score and various dependent variables. The last column, % voting Democratic is the intercorrelation between *Actual Values*, tabulated on a County basis, and a dependent variable. Since Percent Same House, 1955-60 is not available on a County basis, it was not included. As index variables, Educational Center and Deprivation Index are not available.
- (2) Source: *Directory, 1965* (New York: United Community Funds and Councils of America, 1965).
- (3) Source: *Local Government Finances and Employment in Relation to Population - 1957, State and Local Government Special Studies No. 145* (Washington, D. C., United States Government Printing Office, 1957).
- (4) Source: This ratio was taken from a study by Mrs. Ann Hudson, a doctoral candidate at The University of Michigan, and was computed by her. It is the measure used by Professor Hawley in his study of 'Community Power and Urban Renewal Success' (*A.J.S. LXIII*, 4 (January, 1963)). It is defined as the ratio of persons employed in the MPO (managers, officials and proprietors) group to all other employed persons (Hawley, *op. cit.*, p. 424). It is interpreted that the lower the ratio, the greater will be the concentration of power. (In other words, the fewer the MOP's, the smaller proportion of the total labor force they will be. So, the ratio is computed by taking: No. MOP/Total Employed Labor Force = MOP Ratio.)

sented in Table IV suggest that generally speaking, as community maturity increases, more money is spent for private welfare (this is the amount raised, for the local Community Chest/United Fund), on a total, or *per capita* basis. A rather similar result occurs if we look at public welfare expenditures. It seems, therefore, that the growing community is not putting its money into social welfare, either public or private. This each may place a serious strain on the ability of the community to offer such services. On the other hand, the younger, more mobile population may have less need for such service, The more mobile population may have less need for such service. The more mature community may have, and may recognize that it does have greater needs, and this fact may be reflected in greater per capita allocations from the available funds. One other hypothesis is that the level of need is the same, but that the ways in which this 'need' is manifested in the two communities is sufficiently different. In the growing community informal and other non-organizational network pick up the deal with the problem, much like neighbors coming in aid to a family in times of disaster.

In point of fact, two types of clarification are needed. First, under some acceptable definition of need, we must establish relative need levels for communities. This will permit a serious assessment of the integrity and appropriateness of community effort. However, the establishment of this criterion must be joined with some machinery for assessing and codifying differential need modalities. We must be able to empirically assess the degree to which, within the same level of need, modal variations result in quite different problem solving styles. Some work in the community power literature, notably the dual communities of *Men at the Top* (Presthus, 1964) and Gamson's work on community rancor (Gamson, 1966). However, the possibility of looking at communities specifically and larger systems in general from the life cycle perspective, and using this perspective as a basis for assessing needs.

Let us conclude by suggesting some perspectives concerning maturity/growth.

(1) Communities may be ranked on a scale of maturational development which could include such points as new, young, mature, and post-mature.

(2) Social Welfare needs will differ importantly depending upon where within the maturational continuum the community is located.

(3) The large system life cycle may be cyclical, rather than linear, in nature.

7. IMPLICATIONS

There are several practical implications of these thoughts which might be mentioned here. Firstly, an attempt has been made, however inadequate it turns out ultimately to be, which attempts to link social meanings to some empirically derived social indicators. It is clear from these efforts that 'things are not as they seem'. Class, race, size, and maturity growth are seen as having possible implications for a complex stratification system, mobility and metabolism, complexity, and large system life cycles. Perhaps part of our difficulty in getting social indicators to 'indicate' is that we treat indicator variables as if they were, themselves, sociological variables. Additional meaning must be teased out of such indicators, these and others, till we are relatively sure that we know what, in fact, 'race', for example, means in the system. The process itself of probing meaning, as well as the set of specific suggestions about meaning, might provide fresh approaches for problem solvers.

Secondly, the establishment of sociological meaning to 'demographic' or 'factor analytic' variables provides the 'missing link' between the empirical world and sociological theory. Most of us are committed to the principle that 'the most useful thing is a good theory', yet we are not able to find many instances of such utility to cite.

Third, we might pull together this analysis in a series of interrelated suggestions, as follows:

- (1) The lower the position of the community in the stratification system, the greater the degree of mobility coagulation;
- (2) The greater the degree of rank crystallization in the stratification system in the community, the greater the degree of mobility coagulation;
- (3) The fewer the dimensions along which system units are stratified, the simpler the system will be;
- (4) The lower the position of the community in the stratification system, the more likely it will be that the community is 'mature' rather than 'growing';
- (5) The greater the mobility coagulation within the community system, the more likely is the system to be complex;
- (6) The greater the degree of mobility coagulation in the system, the more likely it is that the community is mature, rather than growing;
- (7) The more complex the system, the more likely the community is mature rather than growing.

The potentially important point here would be to develop typologies of

systems which have known sets of characteristics understood in the sociological sense we have been discussing. That might simplify and direct any process of intervention. The community, especially the urban community, is an obvious case in point here, because it has been the locus of so much sociological study, and has been so often seen as a source of problems, and because efforts to provide 'community organization' have had such limited success. Perhaps a new approach, starting from a new beginning point, is in order.

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NOTES

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¹ In this reanalysis, we *did not* include their two index variables, Deprivation Index, and Educational Center.

² One effort in this regard is research at Berkeley to measure racial prejudice. (Sheldon and Park. 1975. p. 697).

³ Specifically, 0.715 is the median correlation between percent families with incomes under \$ 3000, 1959 and percent completed less than five years of school. The 0.635 figure is the median correlation between percent earning \$ 10 000 or more and percent college graduates.

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