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Theory of National Development and Societal Stratification

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Abstract

It has long been conjectured, in one form or another, that development tends to de-stratify a nation: that the higher its level of development, the less stratified—less unequal—it is. Recent findings on the factor structure of indicators of National Development (ND) indicate that it consists of two dimensions, Domestic Development (DD) and International Authority (IA), not merely the single one, DD, that ND is commonly believed to be. Building on this finding and on current societal stratification theory, the paper examines the main sociological conjectures concerning the effects of development on the multidimensional structure of stratification, and proposes a set of hypotheses predicting the effects of each ND dimension on each dimension of stratification systems.

Keywords

Societal stratification, national development

Introduction

Despite compelling speculation going back to Marx in the 19th century, Sorokin early in the 20th century (Sorokin, 1927), and more recently Lenski (1966) and Treiman (1970), the relation between a nation's level of development and the forms its stratification structure exhibit remains unknown. This is unfortunate because of the incredibly wide array of behavioral phenomena that are thought to be consequences of individuals' locations in stratification structures and because variations among such structures are thought to be intimately related to national development. Clarifying these relationships— first at the theoretical level, then with appropriate data—promises to illuminate a considerable spectrum of concrete behaviors—from mental illness at the individual level to social unrest at the societal level.

   Mapping stratification phenomena against national development (ND) will be a much more daunting task than has yet been attempted by stratification researchers. It is complicated *theoretically* by the multivariate dimensionality of stratification *and* the need to clarify the dimensionality of national development, and *practically* by the need to measure all of the basic phenomena of stratification among nations at all levels of national development. The practical problem is the most daunting: credible tests of hypotheses linking the two domains require appropriate data on generalizable samples of the populations of all nations. While most of the necessary data are available for many, if not all, rich nations, only a smattering exists for the poor majority. At a purely conceptual level, the theoretical issues are a bit tricky. But they are easier to treat.

   The concept of national development (ND) can be clarified by intercorrelating a full set of theoretically and empirically defensible measures. This appears to have been done (Sharda et al., 1998), as will be discussed below.

   The several hierarchies of societal stratification, built partly on Weber's (1946, 1947) recognition that power is what stratification is all about, were presented vaguely by Sorokin (1927), were worked out in the 1960's (Svalastoga, 1965; Duncan, 1968; Haller, 1970) and later summarized and illustrated by Haller (1992, 2002). The content (power) dimensions are political power, privilege, and prestige (Lenski, 1966; but also Weber 1946, 1947; Sorokin, 1927), as well as informational status (Duncan, 1967; Svalastoga, 1965).

   The variations of each content dimension may be measured by standard statistical devices, including those of central tendency, dispersion, correlation, and skewness, as will be spelled out below.

   The hypotheses that form the core of this paper are intended to show how variations of the structural dimensions of stratification may be related to those of the two empirically-founded dimensions of national development.

   An overview of the specific subject matter of research on stratification phenomena, including *international* comparisons of *internal* stratification variations, indicates that only a few of the several different types of stratification phenomena have received the attention of researchers. Over the past generation or so, studies of national rates of occupational ("social") mobility and occupational status transmission, including comparisons among nations, have dominated the literature. But occupational mobility merely covers the relationship of one of the structural dimensions as it applies to but one of the content dimensions. (In recent years, intra-national analyses of the stratification of persons with the ascribed characteristics of gender, race, color, and ethnicity have risen to prominence. Of great practical importance in specific nations, the hierarchical variations they exhibit are those of the fundamental dimensions of stratification to which we have just referred. Thus analytically they are derivatives of the latter. They are not discussed in this paper.)

   Research comparing the stratification structures and processes of nations across the full range of national development levels has yet to be done. And it would not be easy. This is partly because there are not many less-developed nations that are able or willing to collect the necessary data (Brazil, China, India and Taiwan may be among the exceptions); partly because such analyses involve imposing problems of comparability among national data sets; and partly because the task would be immense.

   But this may not always be the case. At least one international organization, UNESCO, has looked into the possibility of encouraging modern data collection systems for poorer countries or regions; though to date little or nothing concrete seems to have been done. Still, in the years to come, elites of many data-

poor nations will probably learn that effective management of their nations requires dependable knowledge of their populations. Among such data could be those that will be required for much more comprehensive and precise analyses of stratification and national development than are possible now.

1. Purpose

This paper explores implications of the relationships between stratification and national development. Its immediate stimulus was the discovery that factor analysis of the variables proposed as indicators of ND (Sharda, et al., 1998) shows them to be saturated by *two* nearly orthogonal dimensions, not one as previously supposed. But even if this new incentive had not arisen, it has been clear for some time that the logic of the relations between the two sets of phenomena needs to be clarified.

   Granted that conjectures about the relationship between stratification and development can be seen as early as the Marx–Engels Communist Manifesto in the mid-19th century or in Sorokin's work in the early 20th century (1927), the clearest statements of them appear to be fairly recent and were made by Lenski (1966) and Treiman (1970). We examine these so as to set the stage for our own view, a view we offer as more precise than the first and more comprehensive than the second.

2. Theory of Stratification and Development c. 1970

2.1 Lenski

Lenski (1966:437) proposed a curvilinear relation between two variables he called "type of society" and "inequality." The first is a way of conceiving of intersocietal development differences, from hunting and gathering societies to industrial societies. His "inequality" is an amalgam of political domination-subjugation ("power"), economic inequality ("privilege"), and prestige (see Lenski, 1966:80, passim). His conceptual scheme is useful as an approximation to stratification realities among societies over the centuries, especially for societies for which appropriate statistical data do not exist. Restating his hypothesis in our words, as it pertains to the modern world, his view implies that *development tends to destratify society*. Whether it is valid remains to be seen. Besides being untested, it may be flawed.

   First, would be *too simple* if, in the real world, nations differ along two or more orthogonal or near-orthogonal dimensions of development.

   Second, a point of *confusion* concerns his multidimensional conception of stratification structures. There are *two types* of dimensions of stratification, not one—*content* dimensions and *structural* dimensions. Content dimensions are those that define the interactional domain of stratification. Classical theorists, including Lenski, hold to the existence of at least three of these. For example, Weber (1947) saw generic *power*—an ability to gain what one wants even against the will of another—as composed of *class* (economic variations) "*status*" (roughly, prestige) and *party* (political power), and he saw *authority* as a special case: *legitimate* power. Again, Sorokin's (1927) content dimensions are about the same: *political* stratification, *economic* stratification, and *social* stratification. Lenski's content dimensions, of course, are *power*, *privilege*, and *prestige*. At a less abstract level, the content dimensions proposed by all of these writers can be seen as *political influence*, *economic standing* (income or wealth), and *occupational prestige*. In other words, these three appear to be the main content dimensions as seen by classical theorists. Concerning content dimensions, so far, so good. Lenski's three serve well to subsume the content dimensions of both Weber and Sorokin, and if we add informational status as a fourth, they mesh rather well with those of Duncan (1968) and Svalastoga (1965). Lenski's main conceptual problem is his positing of only one structural dimension of stratification, the degree of inequality. As others have pointed out, several different variables are required to adequately describe the differences among persons on measures of *each* content dimension (Sorokin, 1927; Svalastoga, 1965; Duncan, 1968). As one of us (Haller, 1970, 1992, 2000) has summarized these, they consist of six structural dimensions, each of which describes a way each content dimension may vary (see 3.2, below). Taken as a whole, this position has been called the *synthetic theory of stratification.*   .

In general, like Weber's, Lenski's view of the main concepts of societal stratification is strong on content dimensions but weak on structural dimensions and development.[1] A conception that is both more precise and more comprehensive would see the variations in stratification as including a number of independently variable structural dimensions, and (for the present era) would see development, not as a set of types of societies, but as one or more dimensions.

2.2. Treiman

Treiman's influential essay of 1970 was concerned with a much narrower aspect of stratification and its relationship to development. His focus was on the ways processes of occupational status allocation vary with levels of industrialization. Employing a conjecture that goes back at least to Linton (1936), who introduces the idea that status is ascribed in primitive societies but achieved in modern ones, his argument holds that the effect of one's parents' occupational status has less influence on one's own, and one's education counts more in industrialized societies than in societies that are not industrialized. This is tantamount to saying that the process of status allocation is transformed with industrialization: the effect of the status one inherits diminishes and the effect of one's own achievements increases. In our words, it is his hypothesis that *development tends to reduce the effect of status origins and increase the effect of one's own ability.*

Nevertheless, several points need clarification. First, in his view, a *special case* of stratification—status allocation processes—is *named* "stratification" as if it were the only such process. This should be trivial, but it is not. The words "stratification processes" logically apply to all processes by which stratification structures differ. Labeling one such process as if it were the whole set may tend to obscure thinking. Of course, the focus on status allocation processes is fully justified, though the confusion of levels of abstraction may have diverted research attention from other important questions.

A second confusion concerns development and industrialization. First, two or three decades ago both terms were common in the literature and the words were often used interchangeably: development rested on industries of transformation. The picture has changed since then, as industries of transformation have moved to poorer societies, and service activities have come to greater prominence in the more well-to-do. Finally, like Lenski, Treiman assumed that national development ("industrialization") was a single dimension and this may no longer be taken for granted.

A third point is that his conception assumes that there is only one hierarchy of status, the prestige of one's occupation. This assumption is not in agreement with the main line of stratification theory, which, since the mid-1960s has held that there are at least four. But of course we can easily extend his hypothesis to cover all four.

A final point concerns the implication of the Treiman conjecture to inequality. It suggests that the effects of one structural dimension, status inheritance, would in fact decline. This is one aspect of destratification. But at the same time, it implies that the inherited component of one's status would be replaced by another–the status one earns. Thus it does not predict a decline in inequality, just the shift of one cause of it to another. Under this hypothesis, the question of a decline in the degree of stratification remains an open question. Nevertheless, reducing the effect forbears' statuses on that of one's own is one aspect of destratification.

Regardless of the caveats, the Treiman development/status allocation form of the hypothesis that development induces destratification deserves a fair test on appropriate international data. This has not been done to date.

In a few words, in today's world research on processes of stratification would include status allocation but would include others, and the measurement of development would implicitly subsume industrialization as one of its stages, but be more inclusive. Development differences among societies would, of course, take into account the conception of development held by many economists and demographers, among others, that focus on the average material well-being of the citizenry (including such items as GNP/capita and the inverse of infant mortality, etc.), as well as the conception apparently held by more critical sociologists (Wallerstein, 1974, 1980, among others) who see "core" societies as predatory in relation to "peripheral" societies.

3. National Development and Stratification: The Variables

In this section, we describe recent findings mentioned earlier, indicating the existence of two slightly correlated dimensions of national development (ND) (Sharda et al., 1998). We call them *domestic development* (DD) and *international authority (IA)*. We then review the *multivariate conception* of societal stratification mentioned earlier. Finally, we schematize the potential two-way relations generated by cross-classifying national development with stratification and suggest hypotheses as to their consequences for stratification differences and similarities among nations.

3.1 National Development

A few years ago we performed a factor analysis of 10 key variables that have been proposed as measures of the levels of development (Sharda, et al., 1998). It was carried out on the 88 nations for which appropriate data were then available. (An additional five such variables were examined but discarded due to various theoretical and empirical inadequacies.) It yielded a two factor solution, the two being loosely correlated (r=.35). These include IM: infant mortality (reflected, 1988); LB: life expectancy at birth (1988); GNP/capita (natural logarithm, 1988); CAL: daily caloric supply per capita (1986); PGR: population growth rate (average, 1980–1988); ED: education (percent in primary grades, 1987); etc. Two ways of ranking economic position in the world system were included: WSR: Wallerstein's world system rank (1974); and PROM: Rossem's (1996) reworking of WSR. Also included was economic growth. A final variable was TPOP: the natural logarithm of total population (mid-1988). This variable is a reflection of a nation's ability to sustain its people. An obliquely rotated factor analysis yielded two moderately correlated factors (r=.35). The weight (w) of each item defining each factor follows. Factor I is loaded with IM (w = 0.95), LB (w = 0.94), GNP/K (w = 0.89), CAL (w = 0.81), PGR (w = -0.75), and ED (w = 0.72). (The remaining four are all less than 0.50.) This factor quite clearly describes the standard view of the comparative levels of *socioeconomic* development–or 'well being'--of the population of each nation. We call it *domestic development* (*DD*). The second factor is loaded with only three variables of over 0.30: TPOP (w = 0.92), WSR w = 0.84), and PROM (w = 0.81). This factor consists of size of population, core/periphery, and world prominence. We call it *international authority* (*IA*). It is *authority* in several senses. Nations with large total economies, like the United States, France, Japan, United Kingdom and Germany, can make demands on others through economic bargaining. Large population sizes may also imply a sort of moral authority. If each person counts, then the larger a country's population, the more its government's positions on international issues would count. And behind these also may lay an implicit military advantage: size counts, whether demographic or economic.

We distinguish between two types of actors concerned with national development. One can be called the d*evelopmentalists*, the other the *world system thinkers*. It looks to us as if both types have assumed they were looking at the same dimension, but see its relevancy in sharply different ways. The developmentalists would see the nations with the highest levels of domestic development as models others should emulate. The world system thinkers—believing, we suppose, that they are seeing the same dimension—would concern themselves with the presumably predatory behavior of the nations with the highest levels of development. These nations, of course, would constitute the global core, whose prey are the least developed.

Except for the United States, even the more populous nations that are high regarding domestic development do not have particularly large numbers of inhabitants. Japan, Germany, France, the United Kingdom, and Italy are high in domestic development but medium in population. Most of the nations that are high on the scale of domestic development are small—Denmark, Norway, the Netherlands, Sweden, etc. On the other hand, again with the exception of the United States, most of the populous nations are not very high on the domestic development dimension—China, India, Brazil, Indonesia, etc. Of course, the domestically developed nations of medium-level population also rank moderately high on the authority dimension, but they are not at the very top.

More specifically, it is instructive to examine the location of nations on the bivariate distribution of the two dimensions. For this analysis, the original scales of the factor weights were calibrated as standard deviation scores (sd). On a graph of this distribution (not presented here), DD is treated as one axis and IA as the other. For each, DD and IA, the mean is at sd=zero,. Each nation is located on the graph at the standard deviation point that describes its position on both axes. Nations that are in the first quadrant are at or above the means of both DD and IA (DD high, IA high). There are 25 of these. Those that are in the second quadrant are above the mean of DD but below the mean of IA (DD high, IA low). There are 22 such nations. The third quadrant (low DD, low IA) contains 27 nations. The fourth quadrant (low DD, high IA) contains 12 nations.

Consider the nations that lie between sd=1.0 and 1.5 on DD. (There are none over sd=1.5.) These are the ones that are most highly developed in terms of the socioeconomic conditions of life. The include all of the nations of Western Europe; Australia, Canada, New Zealand, and the United States in Oceania; Japan and Hong Kong in the Far East; Austria, Hungary, Poland, and Greece in Eastern Europe; and Israel in the west of Asia. There are few surprises among them. However, their apparent similarities are a bit deceptive. This is because some of the development indicator variables discriminate less well among the more highly developed nations than among those that are less developed. These variables include infant mortality, caloric intake, primary education and population growth. This bias reduces the actual differences between, for example, the Netherlands (sd=1.36) on the one hand, and Greece (sd=1.25) on the other.

Nations that are highest in IA--sd=1.5 and over--are Brazil, China, France, Germany, India, Italy, Japan, the United Kingdom, and the United States. Here again, there are no surprises, though the presence of Brazil, China and India is worth attention because their DD levels are not particularly high. All the others are also high in DD.

One of these, however, stands out from all the other nations–the United States. Its level of IA is astonishing high: sd=3.1, a value that is a statistical rarity. Among the high IA nations, the next nearest to it are France (sd=2.06), Germany (sd=2.21), China (sd=2.03), UK (1.96), and Italy (sd=1.8). That is, the United States' level of IA is slightly more than a full standard deviation higher than the next highest nations. There is a good reason for this. All of the other nations of high IA are at their levels either because they are unusually populous or unusually rich. The United States is the only nation that is both populous and rich. Of course, this seems to confirm what statesmen and journalists have reported for years, that the United States is the only superpower. But they speak of military power. This is interesting because the measurements DD and IA do not include any indicators of military strength. At least until the current military actions, the influence of the United States rested on the immense size of its economy and its large population. (In the Appendix we present the results of an analysis in which we added military strength to the correlation matrix of development indicators and to its factor analysis. It did not change the positions of nations on the two dimensions.)

3.2 The Synthetic View of Stratification

This is the conception sketched earlier, in the discussion of the stratification concepts of Lenski and Treiman. We call it *synthetic* because it is built of concepts already in the literature. It sees a society's stratification pattern as comprised of two types of dimensions that, taken together describe the nature and states of hierarchies of power. They parallel the philosophers' distinction between content and form. The *content* dimensions of stratification, as indicated above, are political power, privilege, prestige, and informational status. The *structural* dimensions describe the forms that variables measuring the content dimensions may take, or in one case, the relationship among such variables. Repeating our earlier statement, they are *general level; flux*; *crystallization*, the degree to which content dimensions are mutually contingent; *inequality* or *dispersion*—either absolute or relative; *mode structure*, the number of distinct concentrations and breaks along the frequency distribution of a content dimension; and *degree of skewness*, the degree of asymmetry of the two tails of the frequency distribution of a content dimension. Four of the above apply to each content dimension or variable. One, *crystallization*, concerns all of the content dimensions taken together.

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At any one point in time, each content dimension (or each content variable describing it) of a stratification structure may be described by its general level, its degree of absolute inequality, its degree of flux or circulation mobility (or obversely, degree of status inheritance), its mode structure (whether one, two, or more), and its degree of skewness. In addition, such a structure will have a particular form of crystallization in that the indicators of any two or more of the content dimensions may be highly or weakly related to each other. (One form of crystallization is singled out for special hypotheses later on: its effect on the other content variables.)

Each structural dimension may be measured with standard statistical devices applied to empirical indicators of each content dimension. General level: mean or median. Inequality: the standard deviation or variance; Degree of flux: 1-Rsquared. Mode structure: the number of discrete 'classes'–clearly marked valleys and clusters at different sectors of a frequency distribution of a content dimension. Skewness: many have been proposed , but for most purposes, observation of the frequency distribution is usually sufficient. Crystallization: the degree of correlation between each pair of the content dimensions.

Because of its overlap with the concept of national development, we do not discuss the general level in the context of international comparisons.[2])

3.3 National Development and Stratification Processes

As we have seen, with regard to current theory it has been assumed by stratification researchers that there exists just one general dimension of national development. Lenski appears to have held that, in today's world, this dimension—whose variations are said to be largely due to variations in technology—impacts negatively on his assumed single structural dimension of stratification, inequality. In other words, the higher the level of national development, the lower the degree of inequality. Treiman has held that national development ("industrialization") reduces the degree of occupational status inheritance and raises the effect of education on occupational status. In the present view, each is too simple. First, stratification systems of nations are more complex than either writer assumed. They include several quite general content and structural dimensions and/or processes, each of which may vary somewhat independently of the others, and each content dimension may be expressed through more than one content variable. Following Lenski's terminology, the general content dimensions would, of course, be power, privilege, and prestige, although we, like others, would add informational status. As manifested in behavior, these would include: 1) political influence (power); 2) income and inherited wealth, etc. (privilege); 3) occupational prestige, occupational socioeconomic level, fame, etc. (prestige); and 4) education (informational status). Structural dimensions, as indicated, apply to each of the content dimensions and variables. As employed herein, they include the degree of inequality, the degree of status inheritance, the mode structure, the degree of skewness, and the degree of crystallization.

Not only are most conceptions of the relations between development and stratification too simple: current empirical research on the subject also fails to cover more than a small number of the essential connections between the two phenomena.

Regarding international comparative empirical research, considerable effort has been put into the study of differences in *social mobility* rates. The result so far, as Wong (1990) has pointed out, is that there is no credible evidence of mobility variations with national development. Of course, even if a weak relationship exists in the real world, it is unlikely to have been detected: practically all the available evidence comes from nations with the highly developed economies (Ganzeboom, Luijkx, and Treiman, 1989). On international development differences regarding *income inequality*, there is considerable evidence that *share* distributions vary curvilinearly with economic development (Jain, 1975). But in our opinion this is not very useful. Rich countries with small or moderate levels of share-distribution inequality can have huge differences in absolute income inequality; *money* buys things, *shares* of a population's total income do not. This paper is concerned with absolute inequality.

Status allocation processes have been studied rather extensively in a few countries, notably the United States and Britain. But hardly any such evidence exists for the poorer nations. To our knowledge, there is as yet no systematic evidence of international development effects on status allocation processes. Neither

is there likely to be until such data can be obtained from an appropriate sample that includes weakly developed nations.

   Regarding other structural dimensions, there appears to be no published definitive research on national development differences in status crystallization, absolute inequality, mode structures, or skewness structures. Data on Brazil, however, show marked regional development differences in some of these (Haller, 2000). At least we can be sure that the structure of stratification does indeed vary with *regional* development, whether or not it varies with *national* development. But even the Brazilian evidence provides no support for the hypothesis that development induces destratification.

   Finally, we must note that whether international or not, research coverage of both content and structural dimensions is spotty. The main content dimensions of classical writers are political power and privilege; those of most empirical writers are educational and occupational status, with privilege sometimes entering in the form of income or, occasionally, wealth.

   Political power difference variables have hardly ever been measured at all, even those such as legitimate political influence variations for which such measurement is feasible (Haller and Saraiva, 1972; also see Pastore, et al 1975, who measured the income effects of authority within manufacturing firms by drawing on the same strategy). And such indicators, if they were to exist, might not be comparable among nations.

   Privilege has been best measured by income---when this can be put into comparable metrics for analyses among nations. Wealth would be better. But it is even harder to measure, especially among nations. Education and occupational status have fared better, the latter mostly in the context of mobility studies.

4. Interrelations of Development and Stratification Dimensions

Thus it appears that neither the concept of national development nor that of societal stratification may be as well understood as may have been thought. The research task is to show how the two relate to each other in the real world: the two dimensions DD and AI of national development, and the various structural dimensions of stratification, taking into account each content dimension and the variables by which each may be expressed. The paper presents a number of preliminary hypotheses to fill this gap. Support for them would have theoretic importance in that it would help to understand the mechanisms explaining why such structures vary. It would also have a wide range of practical consequences, helping to understand causes of a large number of micro level differences, such attitudinal, opinion, and behavioral differences, as well as macro level phenomena such as social unrest and social tranquility.

   In presenting it, however, several qualifications must be recognized. First, classical theory's most important content variable, legitimate political influence, has not yet succumbed to consensually accepted operational definitions. Second, the interrelations between the two sets of concepts are presented as if the components of National Development are the causal factor and those of stratification are consequences of them. One side of this, domestic development, is consistent with Lenski and more or less consistent with Treiman. We presume that, for the most part, it is true. Third, we focus only on direct, bivariate relationships between members of each set, as if there are no interactions with other dimensions, especially those of stratification. This is an extraordinarily demanding assumption—and it may not be true. But, at this stage of the process of mapping the interrelations between the two sets, it is useful to live with it. Fourth, for obvious reasons, we doubt that there are any writings that propose hypotheses linking International Authority and societal stratification. Lacking guidelines, we reason that the leaders of high *IA* nations would be concerned with the maintenance and enhancement of their nation's high levels of authority. This would have two relative consequences. First, it would encourage authoritarian control so as to prevent internal disputes from undermining the nation's cohesiveness and its external *IA*. Second, it would encourage a closing of the elite stratum, distancing it from the rest of the population. More about that later.

4.1 The Degree of Stratification

It is obvious that the lowest imaginable degree of stratification would be absolute equality in every sense of the word. Such a condition has never been known to have existed anywhere and surely never will be. Even the tiniest differences between persons—or any other organisms—provide advantages to some and disadvantages to others, whether or not they are recognized by the participants. The highest imaginable degree is just as impossible. But it is useful to consider what the near-extremes would look like.

   Stratification structures of societies with a very low degree of stratification would have each of the following characteristics on each of the content variables by which the content dimensions are manifested.

   1. A low level of absolute inequality (dispersion).
   2. A low level of intergenerational inheritance of position.
   3. A concentration of individuals on a single mode.
   4. A low level of skewness, approaching zero.
   5. A low level of influence of formal education on every other content dimension.
   6. A low degree of crystallization (interdependence) among all content dimensions.

   Stratification structures with a high degree of stratification would have these characteristics on each content variable of each content dimension.

   1. A high level of inequality (dispersion).
   2. A high degree of intergenerational inheritance of positions.
   3. More than one mode on each, and a marked tendency for the same individuals to occupy the same mode on each content dimension.
   4. A high level of skewness.
   5. A high level of influence of formal education on every other content dimension.
   6. A high degree of crystallization (interdependence) among all content dimensions.

   Stratification structures of societies in the real world are unlikely to approximate either extreme. Indeed, the least stratified might well exhibit some stratification characteristics of the most stratified, conversely the most stratified might show some characteristics of the least stratified.

4.2 Guiding Hypotheses

The cross-classification of the two development dimensions, the four content dimensions, and the six structural dimensions yields a total of 42 cells (see Fig. 1). With two exceptions, each cell locates a testable relationship between a development dimension and a structural dimension of a content dimension. (The two exceptions are null cells pertaining to logically absurd hypotheses.) For all but one of the 40 non-null cells, we present a specific hypothesis (See Figure 2). This exception is a cell for which two competing hypotheses seem plausible, thus making it impossible to anticipate the hypothetical outcome.

4.2.1 Domestic Development (DD) and Stratification. Allowing for certain specific interrelations (to be discussed below), the tendency will be for high *DD* nations to try to reduce their own degrees of stratification. In such nations, the people will be less interested in competition over goods and services than will those of low DD nations. This is because such benefits are easier to obtain. As a result, they will try to enhance social tranquility by reducing the degree of stratification. On the other hand, they will be much concerned with maintaining and enhancing the infrastructures that make such goods and services so easily available. They will tend to see great income and wealth as conducive to infrastructural enhancement, and so will condone inequality of privilege and information. Low *DD* nations will be highly stratified largely because of the greater competition for goods and services, including the basic essentials for life itself. The harder it is to obtain a certain level of goods and services, the greater the competition for them and the greater will be the efforts of the "haves" to monopolize access to them. But

because there will not be very much to supply everyone, the actual levels of privilege and formal education will not vary much among those of differing levels of power and prestige.

In other words, general affluence tends to reduce the pressure toward inequality of political power and prestige, encourages higher levels of education to the point of increasing educational inequality, and encourages tolerance toward inequality of privilege as a driving force for further domestic development of the nation. The degree of internal competition will be higher in low *DD* nations, which will tend to be controlled by authoritarian governments and the closed elite strata they engender. An elite stratum would include the whole body of relatives and friends of the elites who actually hold power. That stratum will tend to promote a greater degree of stratification, especially of political power and prestige. Yet the availability of goods and services will be so meager as to constrain the degree of absolute inequality of privilege. Still, inequality may show itself in a bimodal distribution, with a huge lower mode and a tiny upper mode. In addition, those of the elite stratum in such nations will see little value in promoting formal education, and, indeed, will tend to fear that an educated populace will threaten their own positions.

4.2.2 International Authority (IA). Each nation of high *IA* will tend to be managed by groups interested in maintaining and enhancing their nation's authority vis-à-vis other nations. They will fear internal dissension, believing that it will undermine their credibility in international negotiations and disputes. Such nations will therefore tend toward authoritarianism and will promote internal structures and activities aimed at maintaining their international positions, both by encouraging a relatively high degree of stratification as an internal control mechanism and by encouraging the competencies essential to international position maintenance and enhancement. (For example, they will tend to support excellence, but only in those lines of formal education which threaten their authoritarian tendencies the least.) The elites will close ranks, try to control their populations, and try to hone their international competitiveness.

Thus those nations of high *IA* will tend toward elitism and toward authoritarian polities. On the other hand, those of low *IA* will be divided. Most all low *IA* nations are small. Many of these are also of low *DD*. But many are also of medium or of high *DD*. Those that are low on both will tend toward authoritarianism, and it, in turn, will tend to induce a high degree of stratification. Those of low *IA* and higher *DD* will tend toward a lower degree of stratification. So while the highest IA nations will tend toward authoritarianism and thus a high degree of stratification, the stratification consequences of those of low *IA* will be mixed.

4.3 Specific Hypotheses

To recast, Figure 1 presents a schematic diagram of the specific hypotheses. It provides an overview of the cross-classification of the concepts of national development, stratification content dimensions, and stratification structural dimensions. The hypotheses themselves are presented in Figure 2. Each is intended to be an expression for a given content dimension and structural dimension of the guiding hypotheses pertaining to one of the two national development dimensions. It will be noted that, as the guiding hypotheses have asserted, the specific hypotheses concerning domestic development point in the direction of a lesser degree of stratification, except for those pertaining to income and wealth and to education (privilege and informational status). Conversely, those pertaining to international authority point toward authoritarianism, and from it a pressure toward higher degrees of stratification among high *IA* nations.

5. Summary

This paper was suggested by the finding that national development has been found to be two-dimensional, not one-dimensional as previously supposed. We have named the two *domestic development* (*DD*) and *international authority* (*IA*). *DD* is the variable whose higher levels are extolled by some as models for all nations. It distinguishes those whose conditions provide the means for material well-being of most of their populations from those whose means are meager. *IA* distinguishes nations whose situations are such

that their governments or constituent organizations can successfully make demands on other nations from those who are more vulnerable—a consequence of the size of each nation's population and its economy. (See the Appendix for a further discussion of these variables.)

But important as these distinctions may be, the paper goes beyond them into the dimensions of a synthetic view of stratification phenomena which is comprehensive and precise. It calls attention to the need to distinguish at least four content dimensions and five structural dimensions of stratification, each combination of which has its own relation to national development.

The paper then proposes specific hypotheses concerning the relationship of each dimension of national development to the synthetic view's dimensions of stratification. The hypotheses, tentative though they may be, are suggested for practically all (39) of the 42 combinations of these dimensions. The guiding principles behind the specific hypotheses are themselves hypotheses, one for the stratification consequences of each of the two national development dimensions. For domestic development (DD), the guiding hypothesis holds that the higher the level of DD the lower the degree of stratification (except in the cases of privilege and education, which are believed to influence DD itself.) It assumes that the higher the DD, the lower the internal competition for the material conditions of life. For international authority (IA), the guiding hypothesis is that the higher the IA, the greater the tendency toward a high degree of stratification. It assumes that those of the elite stratum of any given high IA nation will try to control the behavior of its own populations in the attempt to maintain and enhance the nation's IA position and will tend to promote whatever promises to help in this effort, including both closing ranks and providing for their own replacement with competent personnel of similar values.

Each specific hypothesis is presented as an application of its guiding hypothesis to a combination of content and structural dimensions of stratification. Of the 42 cells so generated, three are left without hypotheses. Two of the latter would be absurd and one generates two conflicting, thus unresolvable, hypotheses. In the end, 19 stratification hypotheses are specified for domestic development, 20 for international authority.

6. Discussion

Several issues may require special comment. First, two lines of international stratification research may seem to be missing from this paper. For one, none appears at first sight to cover social mobility. This is deliberate. Social mobility is two concepts, not one. They are structural mobility and circulation mobility. First, structural mobility is the same concept, with different words, as a rise in the overall level of any variable describing a content dimension. Thus it appears to be too close to the concept of national development itself--specifically, DD, to warrant its inclusion among the stratification dimensions. Second, circulation mobility is another way of conceiving of intergenerational inheritance of stratification positions—its obverse. So it is really included among the stratification dimensions, though in another guise.

Next there is the question of absolute versus relative inequality. The position followed herein is that absolute inequality (dispersion) is the form that is relevant to international stratification research. Relative inequality is a way of considering the distributions of *shares* of a total. But, as said earlier, *shares* of money do not buy anything; money buys. For each content variable, it is the distribution of the variable itself that counts, not the share of it that a particular segment holds. Relative, or share, distribution concepts such as percentages, gini coefficients, etc., are omitted from the hypotheses as irrelevant and possibly misleading.

Then there are issues concerning data. For one, as noted earlier, political influence is clearly an important stratification content dimension. But there is as yet no agreed-upon way to measure it for any nation. And if such instruments existed, they might not be comparable from nation to nation. This is why. The way to measure the individual or group variations of this variable within a nation is first to map the nation's hierarchy of legitimate power—authority—and then, by means of interviews, to determine the levels of that authority structure at which the individual or group successfully exerts legitimate influence. This has been done by means of experiments carried out by one of us (Haller) and some of his associates. The strategy worked well for authority in Brazilian factories (Pastore et al., 1975), for political influence

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in an isolated Brazilian region (Haller and Saraiva, 1972), and for the United States in Wisconsin samples (unpublished). But the form of the instruments differed with the form of the hierarchy of each focal organization. In any case, the measurement of political power presents a major challenge to stratification research as a whole, including potential tests of the hypotheses of this paper.

   Then there is a broader question concerning data. As international mobility researchers know well, obtaining comparable data on only two or three stratification variables for each of a half-dozen or so more or less similar countries (Germany, Poland, the United Kingdom, and Australia, for example) is a daunting task. To collect the data needed to test all of this paper's hypotheses on an unbiased sample of the world's nations, appears beyond reach today. But it may not be so remote a possibility in the future.

   For another, the interactions of *DD* and *IA* on the degree of stratification have not been discussed directly. This issue will need to be treated at some time. The issue arises most clearly among nations of low *IA* concerning authoritarianism: between those of high *DD* versus those at the bottom of the *DD* hierarchy. According to the *DD* hypotheses, nations of low *IA* and high *DD* will tend toward a low degree of stratification, which seems to be true empirically. But, clearly, many nations that are low on both *IA* and *DD* have strong tendencies toward authoritarianism and thus for a high degree of stratification. At some point, a guiding hypothesis is needed to explain why not all low *IA* / low *DD* nations have authoritarian systems.

   There is also a question of the interaction among structural dimensions, in which the level of one may affect the level of others. This is worth considering, though our hypotheses say nothing about this possibility.

   Interactions among dimensions are not the only interactional issues involved in these hypotheses. There is also the question of the stratification consequences of interaction among nations, according to their levels of *DD* and *IA*. In this regard, one notes that, today, nations high in both *IA* and *DD*, especially the United States, currently use their authority to try to diminish the role of authoritarianism in other countries. Do nations of high *IA* and low *DD* promote authoritarian systems in other countries?

   On still another issue, might these hypotheses be relevant only for the post-World War II era? Probably not, but this merits thought. For example, the United Kingdom may have been the 19th century's prime *IA* and *DD* nation. Was its *de facto* political system democratic or authoritarian? Or was it both: democratic at home and authoritarian in the colonies? And what about other 19th century monarchies? How authoritarian were they? And how far back in history would these hypotheses be relevant?

   A next question concerns the meaning of the second factor found in the matrix of correlations among national development (ND) indicators. This factor, like the first, we have treated as an empirical referent of one of two theoretic concepts of ND, international authority (IA). Some may argue that IA is really not a development concept; that power, which it seems to reflect, is utterly different from development. We have made a case holding that indeed it is a form of development. But whether it is or is not is irrelevant to the question of its hypothesized effects on the structure of stratification. But whether it is or is not a dimension of national development the hypotheses regarding its effects on stratification stand on their own merits.

   For a final issue, it will be recalled that developmentalists tend to think of nations at high levels of development as models for all others to emulate, while world systems thinkers see such nations as predators whose prey are those that are less developed. Do the two types of thinkers have the same conception of the phenomena of development (as distinct from its causes or consequences), or, do they have different phenomena in mind? Or is it possible that the one sees DD while the other sees IA? And what of the nations that are high on both DD and IA? What policy implications would developmentalists have for them? What would the world system thinkers make of those that are high on both? Might they see them as super predators?

7. Conclusion

The paper has laid out the detail of a panorama of hypotheses aimed at mapping the stratification effects of development differences among nations. National development is widely viewed as a major influence

on the degree of stratification of the people of a nation. Yet there is precious little evidence to support this belief. The present paper proposes a way to provide it.

However, the paper does not go into consequences of various degrees of stratification. This, of course, is the concern of many. Stratification structures have been held to influence a great many factors of life, some as different as individual behavior (as in the case of mental illness) and massive collective behavior (as in the case of social unrest). Differences in the degree of stratification among nations may even affect the relations among them, as we have just seen.

Understanding the consequences of stratification is the undergirding promise of research on stratification phenomena. This paper proposes a theoretic organization for research on stratification and development which, if carried out, could provide a base from which its promise could be fulfilled.

Figure 1.–Stratification and National Development: Coded Inventory of Preliminary Hypotheses.

Stratification Structures and Processes	National Developement							
	Domestic Development (DD)				International Authority (IA)			
	Stratification Content and Structural Dimensions							
	1.1 Power[1] (Political Influence)	1.2 Privilege (Income, Wealth)	1.3 Prestige (Occupational Prestige)	1.4 Information[2] (Education)	2.1 Power[1] (Political Influence)	2.2 Privilege (Income, Wealth)	2.3 Prestige (Occupational Prestige)	2.4 Information[2] (Education)
Q. Degree of Absolute Inequality	H_O 1.1.Q	H_O 1.2.Q	H_O 1.3.Q	H_O 1.4.Q	H_O 2.1.Q	H_O 2.2.Q	H_O 2.3.Q	H_O 2.4.Q
I: Degree of Status Inheritance (the obverse of mobility)	H_O 1.1.I	H_O 1.2.I	H_O 1.3.I	H_O 1.4.I	H_O 2.1.I	H_O 2.2.I	H_O 2.3.I	H_O 2.4.I
M: Mode Structure (number of distinctly separate modes)	H_O 1.1.M	H_O 1.2.M	H_O 1.3.M	H_O 1.4.M	H_O 2.1.M	H_O 2.2.M	H_O 2.3.M	H_O 2.4.M
S: Skewness (asymmetric extension at higher levels)	H_O 1.1.S	Unspecified[5]	H_O 1.3.S	H_O 1.4.S	H_O 2.1.S	H_O 2.2.S	H_O 2.3.S	H_O 2.4.S
P: Status Allocation Processes[3]	H_O 1.1.P	H_O 1.2.P	H_O 1.3.P	null cell[6]	H_O 2.1.P	H_O 2.2.P	H_O 2.3.P	null cell[6]
C: Status Crystallization[4]	H_O 1.C[4]				H_O 2.C[4]			

[1] Power is the content dimension most emphasized by classical theorists. It has never been measured at the individual level by means of consensually accepted means.
[2] Information hardly ever enters the classical literature. But, as education, it is widely used by empirical researchers.
[3] P overlaps with I. As written here for convenience, hypotheses pertaining to P ignore the overlapping portion, and deal only with education.
[4] Crystallization hypotheses involve all content dimensions and the content variables by which they are known.
[5] Hyphothesis left unspecified: no relationship predicted.
[6] Hypotheses for null cells would be absurd.

Figure 2.—Stratification and National Development: Preliminary Hypotheses and Rationales.

Preliminary Hypotheses	Rationales
1. Domestic Development (DD)	
1.1 Political Power	
1.1Q The lower the level of *DD*, the higher the degree of inequality of political influence.	Where competition over scarce benefits is severe, elites will tend to monopolize power.
1.1I The lower the level of *DD*, the higher the degree of political influence inheritance.	To protect their own life chances, a majority will legislate obstacles to political dynasties.
1.1M The higher the level of *DD*, the lower the likelihood of more than one mode of political influence.	Nations of low *DD* will tend toward authoritarian systems with closed elites and nonparticipating masses. Those in high *DD* will be less likely to experience such closure.
1.1S The higher the level of *DD*, the lower the degree of skewness of political influence.	Bifurcation of political influence would skew the distribution among authoritarian nations, most of which would be of low *DD*.
1.1P The higher the level of *DD*, the lower the effect of education on the level of political influence.	The populations of nations of higher *DD* will be educated to a level sufficient for effective political participation, not so those of low *DD*.
1.2 Privilege	
1.2Q The higher the level of *DD*, the higher the degree of absolute inequality of income and wealth.	Greater national wealth, promoted by inequality will tend to maintain the development level of all.
1.2I The higher the level of *DD*, the higher the degree of inheritance of income levels and wealth.	Among nations of higher *DD*, parents will have larger surpluses available to transfer to their children.
1.2M The higher the level of *DD*, the less likely the existence of more than one mode of income and wealth.	Bifurcation is more likely among low *DD* nations, whose wealthy are in a position to monopolize both income and wealth.
1.2S No hypothesis of skewness of income and wealth is proposed.	Nations of low *DD* will be skewed because they are bifurcated. Those of high *DD* will be skewed due to greater inequality of privilege.
1.2P The higher the level of *DD*, the greater the influence of formal education on income and wealth.	This is consistent with both segmented labor market thinking and human capital theory.

Preliminary Hypotheses	Rationales
1. Domestic Development (DD)	
1.3 Prestige	
1.3Q The higher the level of *DD*, the lower the degree of absolute inequality of occupational prestige.	The distribution of prestige will be truncated at the bottom in high *DD* nations, due to replacement of personnel by equipment.
1.3I The higher the level of *DD*, the lower the degree of inheritance of occupational prestige.	This is a form of the hypothesis of Treiman (1970): the effect of inheritance would tend to be replace by ability.
1.3M The higher the level of *DD*, the smaller the number of distinct modes of occupational prestige.	The number of modes of occupational prestige is a function of the proportion of the labor force that is concentrated in specific occupations. The occupational structure of lower *DD* nations has fewer occupations, each concentrated at a specific prestige point.
1.3S The higher the level of *DD*, the lower the degree of skewness of occupational prestige.	Same rationale as for 1.3Q.
1.3P The higher the level of *DD*, the greater the influence of formal education on occupational prestige.	This is explicit in Treiman (1970) and implicit in Lenski (1966); education is more essential for performance in high *DD* nations.
1.4 Information	
1.4Q The higher the level of *DD*, the higher the degree of absolute inequality of formal education.	Developed nations have more educationally diverse occupational structures than do lower *DD* nations whose populations generally tend to be much less educated.
1.4I The higher the level of *DD*, the greater the influence of inheritance of educational attainment level.	In the more diverse educational structure of higher *DD* nations, greater space exists for unequal cultures of educational achievement (CEA). Parents in such nations will transmit the CEAs they know; the higher reaches of such structures will attract and accept students from higher CEA families. Because lower *DD* nations have more restricted educational structures, parental CEA will be low and undiversified. (This might be countered a bit in lower *DD* nations where higher levels of educational attainment are status symbols.)

Preliminary Hypotheses	Rationales
1. Domestic Development (DD)	
1.4M The higher the level of *DD*, the greater the number of distinct modes of educational attainment.	Educational structures inherently yield multimode distributions of years of education because of specific termination points. The more diverse educational structures of higher *DD* nations will yield larger numbers of distinct modes of educational attainment.
1.4S The lower the level of *DD*, the greater the degree of skewness.	Lower *DD* nations have very few people with moderate or higher levels of education. This would be seen as a high level of skewness.
1.4P Null cell.	Null cell.
1.C Crystallization	
The higher the level of *DD*, the lower the degree of crystallization.	The larger number of ways of obtaining higher positions on all stratification dimensions, characteristic of the more higher *DD* nations, will tend to disassociate positions on the different content dimensions, while the smaller number of such ways available in the lower *DD* nations will tend to equilibrate positions on the different content dimensions.

Preliminary Hypotheses	**Rationales**
2. International Authority (IA)	
2.1 Political Power	
2.1Q The higher the level of *IA*, the greater the inequality of political influence.	High *IA* nations' elites are likely to monopolize political influence to protect the nation's international options from internal interference.
2.1I The higher the level of *IA*, the greater the degree of political influence inheritance.	High *IA* nations will have strong tendencies toward authoritarian governments, in which elites will have the motive and means to protect their own positions by promoting other family members.
2.1M The higher the level of *IA*, the more marked the mode structure of political influence.	The political influence of elites will be markedly higher than that of the "masses," with a sharp break between those who have a little such influence and those (elites) who have considerable influence.
2.1S The higher the level of *IA*, the more skewed the distribution of political influence.	Given the tendency of high *IA* nations toward authoritarianism, the proportion of elites will be small and their influence much greater than that of the "masses," especially toward the very top, contrary to the situation of many nations of lower *IA*.
2.1P The higher the level of *IA*, the greater the influence of education on political influence.	Elites in high *IA* nations will demand trained competency for future elites. Lower *IA* nations may or may not.
2.2 Privilege	
2.2Q The higher the level of *IA*, the greater the absolute inequality of income and wealth.	Elites in such countries will tend to use their influence to monopolize special advantages for themselves, their families and other elites, distancing themselves from the rest, thus tending to widen the distribution of privilege.
2.2I The higher the level of *IA*, the greater the degree of inheritance of income and wealth.	Same as 2.2Q.
2.2M The higher the level of *IA*, the greater the tendency of the distribution of income in wealth to bifurcate into two distinct modes.	Same reasoning as 2.2Q.

Preliminary Hypotheses	Rationales
2. International Authority (IA)	
2.2S The higher the level of *IA*, the greater the level of skewness of income and wealth.	Exceptionally powerful elites in high *IA* nations will obtain exceptionally high economic privileges for themselves, elongating the distribution of income and wealth.
2.2P The higher the level of *IA*, the greater the influence of education on income and wealth.	Elites of higher *IA* countries will recruit the best educated to their ranks so as to use trained capacities to maintain their nation's high *IA* position. Low *IA* countries will be divided, some stressing education, some not.
2.3 Prestige	
2.3Q The higher the level of *IA*, the greater the absolute inequality of occupational prestige.	The sharp differences in power between the elites and "masses" in high *IA* societies will encourage the attribution of high prestige to those in the more powerful positions of all sectors of the economy and polity of such societies, while devaluing the positions of everyone else. This factor will not be operating in the many high *DD* nations that are low in *IA*, though it may in some. (There are many poor nations that are authoritarian.)
2.3I The higher the level of *IA*, the greater the degree of inheritance of occupational prestige.	Elite families in high *IA* nations will tend to monopolize high prestige positions for their offspring. Those in low *IA* nations may or may not, depending upon whether the nation is or is not under authoritarian rule.
2.3M The higher the level of *IA*, the greater the tendency of the occupational prestige hierarchy to divide into at least two modes.	This is because elites in such nations will be highly motivated to disassociate their positions from those of the "masses."
2.3S The higher the level of *IA*, the greater the tendency of the occupational prestige hierarchy to be sharply skewed.	At the upper reaches of the elite stratum, the most powerful will have the means and motive to distance themselves from the bulk of the middle and lower elites. (The extremes of this are reached when rulers become defined as gods or as descendants of gods, as seems to have happened in pre-World War II Japan and in Imperial Rome.)

Preliminary Hypotheses	Rationales
2. International Authority (IA)	
2.3P The higher the level of *IA*, the greater the tendency for formal education to influence the attainment of higher occupational prestige.	This is analogous to 2.2P.
2.4 Information	
2.4Q The higher the level of *IA* the greater the absolute inequality of educational attainment.	Advanced education is essential for the elite stratum (characteristic of *IA* nations), but a well-educated population could threaten their positions. So the elites in high *IA* countries will tend to monopolize advanced education, to recruit only the best educated to their ranks, and to deny higher levels of educational attainment to the rest of the population.
2.4I The higher the level of *IA*, the greater the degree of inheritance of educational attainment levels.	Elite families in high *IA* societies will tend to monopolize higher levels of education for their offspring so as to prepare them to take over elite positions in the future. Those in low *IA* societies may or may not.
2.4M The higher the level of *IA*, the greater the tendency of the educational attainment to form into two super modes superimposed one education's usual transition point modes.	The elites of such nations will tend to monopolize higher levels of education for their offspring, producing two modes. Other nations will be divided, the more developed (*DD*) with several modes, the less developed (*DD*) tending toward two.
2.4S The higher the level of *IA*, the greater the degree of skewness of educational attainment.	The higher the positions of elites, the greater will be the demand that they be superbly trained. This will elongate the educational distribution of the elites themselves, adding to the distance separating elites from the "masses." Again, nations of lower *IA* will be mixed.
2.4P Null cell.	Null cell.

Preliminary Hypotheses	Rationales
2. International Authority (IA)	
2.C Crystallization	
The higher the level of *IA*, the higher the degree of crystallization.	In higher *IA* nations, the demand for elites to maintain tight control of the dominance of other nations will encourage tight internal control as well. In the extreme, a docile population is easier to manipulate. This will produce pressure to equilibrate statuses across all content dimensions. (Such pressure will also be felt in authoritarian nations of low *IA* and low *DD* but much less so in nations of low *IA* and higher *DD*.)

8. Notes

1. Weber appears to have no concept at all of structural dimensions. Further, in the real world his notion of power, that is, a zero-sum game, does not apply to economic standing or prestige or even political influence. It is obvious that the citizenry of particular nations may become richer or poorer, their occupational statuses may rise or fall (precisely the meaning of the so-called "structural" mobility), and their capacity to influence their own governance may vary over time. (An increase in one's effective political participation does not necessarily mean that someone else's was diminished, though it may. It may also mean that certain physical or other existential obstacles were reduced as, for example, when numbers of people who share interests join forces to effect desired legislation that none would have gained by acting alone: empowering women does not necessarily imply disempowering men, though it probably happens at times). It is only when the quantity of a good is fixed that a change in its availability to one necessarily produces a change in its availability to another. But the "quantities" of content dimensions are not fixed—least through known history—and their upper limits are unknown.

2. Following Sorokin (1927), Haller (1970, 1992, 2000) has included the general level, or average value, of each content dimension or content variable, as a structural dimension. In our opinion, it should be included in studies of the evolution of the stratification structures of a given nation. But it is not employed in this paper because it is another way of conceiving of development.

9. **Appendix**
In a recent follow-up of Sharda et al. (1998), we have rerun the data on national development, adding to the original matrices the natural logarithms of the nations' military expenditures (1990); size of the armed forces (1989), personnel under arms; and total size of the military budget. The aim was to check and perhaps improve the identification of the national development dimension called "international authority" (IA). The factors were also rotated obliquely to further clarify the relationship between the two dimensions of national development, *IA* and *DD*. In this expanded analysis, *DD*'s contributors weighed in about the same as before (with longevity, low infant mortality, L_n GNP at w. 0.95 but with military expenditures (over 0.90) a close fourth. *IA*'s contributions were found to be essentially unchanged, except that the size of the armed forces joined total population as the weightiest (w = 0.90 each), with world system rank (0.85), size of the economy (w = 0.84), and prominence (w = 0.83) close behind. These are the weights as seen after the oblique rotation, which shows a low degree of correlation between the two dimensions r = 0.35; r^2 = 0.12). (The varimax solution—orthogonal—showed the same pattern, though the exact numbers were a little different.) These new results do not change the conclusion regarding the dimensionality of national development. It is two-dimensional and those two are domestic development and international authority.

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