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GAPS AND GLISSANDOS: INEQUALITY, ECONOMIC DEVELOPMENT, AND SOCIAL MOBILITY IN 24 COUNTRIES*

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Intergenerational mobility has been seen as influenced by both level of economic development and political democracy. Here, with a sample of 24 countries, the first of these relationships is assessed. The observed effect of economic development (GNP/capita) on mobility we conclude to be a spurious consequence of the shape of the stratification system, indicated here by the shape of both reward distributions and occupational distributions. Some discussion precedes this analysis about how the shape of a stratification system should affect mobility. Some discussion follows about how the shape of the system must affect political democracy, and leads us to a partial reinterpretation of the findings of Robinson and Quinlan (1977) on this topic.

BACKGROUND

Social mobility has long been viewed as an integrative mechanism for societies. Exogamous marriage rules (which assure mobility for women) are taken as responses to a need to link potentially conflicting groups through kinship. Toqueville saw opportunities for social mobility in the United States of the nineteenth century as contributing to the stability of political democracy in the country. He also saw the greater openness of the British than the French aristocracy as crucial in understanding the relative political stability of the two countries. A similar position has been more recently stated by Baltzell (1958), who argued that those societies in which ruling groups accept achievement elites into aristocratic membership will suffer less social turmoil than those whose aristocracies do not.

Social mobility has also been taken as the disintegrative consequence of the rationalization of production accompanying industrialization. The gap between social origins and social destinations was taken as an indicator of status inconsistency by any student of the problem who had both variables available, and justifiably so. Students of both the family and immigrant

ethnic minorities detailed the disruptive consequences of the mobility of offspring and their intermarriage with members of outgroups. Changes over time in the structure of opportunities and the conditions under which specific opportunities are available, effectively force social mobility, both upward and downward, as well as laterally between situses. Altered opportunity structures have consequences both for individuals and for societies. What may be integrative for society may be disintegrative for individuals, families, and social networks.

What the two perspectives have in common is a sense that a thorough understanding of a social structure at any time, *t*, is inadequate for an understanding of the behavior or satisfaction of its members. Both individual senses of satisfaction and the integration of the system is a function of actual movement that has occurred between *t* minus something and *t*, as well as movement anticipated between *t* and *t* plus something. Mobility itself has consequences.

This is a difficult position to argue in the current climate of our discipline. Blau and Duncan (1967) persuasively recast the interest in social mobility initiated theoretically by Sorokin in 1927 and, practically, by Rogoff in 1951 into a problem of status attainment in which no mobility variable has reason to appear. They argued that

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mobility correlations are unnecessarily inaccessible combinations of simple associations with origin and destination variables. The process by which mobility occurs could be more easily understood (more easily presented) without these troublesome mobility variables. They were both astute judges of their audience and truthful: If the variance of origin and destination variables is approximately the same (which it usually is) associations involving mobility and attainment are simple transforms of one another. Equations predicting attainment are easier to write sentences about than are those predicting mobility. To choose the path of easier presentation was surely productive: a bibliography of work on status attainment flowing from the original Blau-Duncan volume would fill half of this journal.

Blau and Duncan (1967) made a wise decision for students of the determinants and consequences of the social mobility of individuals. Their decision was an unfortunate one for the study of the determinants and consequences of social mobility for social systems. By focusing on describing the way occupational roles and statuses are allocated within societies, they drew attention away from differential levels of mobility as characteristics of social systems.

We do not wish to convey the impression that cross-national comparisons of social mobility are rare. Quite the contrary. The active support of the International Sociological Association at the beginning of the 1950s (ISA, 1951) promoted mobility studies in a number of European countries. This activity culminated in a comparative report of the cross-national findings by Miller in an entire issue of *Current Sociology* (Miller, 1960). Several others have ventured reanalyses of the original data, as well as adding to them data from the expanding body of occupational mobility studies around the world (Lipset and Bendix, 1959; Fox and Miller, 1965; Blau and Duncan, 1967; Cutright, 1968; Hazelrigg, 1974; Hazelrigg and Garnier, 1976). Recently, almost every study of intergenerational social mobility devotes a chapter or section to the comparison of the nation in question with some other countries. For example Broom and

Jones (1969) compare Australia to the U.S. and Italy; Garnier and Hazelrigg (1974) compare France to the U.S. and Australia; Kahl (1968) and Simmons (1975) compare mobility in different Latin American cities each in a different country; Mellic (1965) and Andorka (1971) try to compare experiences within communist Yugoslavia and Hungary with those in noncommunist countries; Tominga (1970) compares Bangkok to industrialized countries.

Two alternative, though not necessarily contradictory, explanations for variations in levels of social mobility run through these works. The first sees mobility as a function of political democracy, the second sees it as a function of industrialization. Sorokin (1927:160) argued the first, concluding: "Though the so-called democratic societies are often more mobile than the autocratic ones, nevertheless the rule is not general and has many exceptions." The view of American democracy as promoting uniquely high levels of mobility in the United States was accepted by Glass (1954) in his pioneering study of social mobility in Great Britain. Seeing high rates of social mobility as both preserving an existing system of social stratification and promoting the stability of democracy, Blau and Duncan (1967:439-440) acknowledged an association between democracy and mobility, but reversed the direction of causation to that implicit in Toqueville.

The alternative view of industrialization, rather than political democracy or egalitarian ideology, as determining the level of intergenerational occupational mobility, was first specifically taken by Lipset and Bendix (1959). They found little variation in rates of mobility in nine industrialized nations, and concluded that generic conditions of industrialization explained the uniformity of mobility. Despite a general consensus that relying on a variable constant in one's data as an explanation of findings is a poor research strategy, the view of Lipset and Bendix has prevailed.

The importance of industrialization was questioned relatively early in the history we are reporting. Fox and Miller (1965) compared patterns of upward and down-

ward mobility in twelve nations, relating the differences to G.N.P., education, political stability, urbanization, and achievement motivation. They concluded:

The level of economic development does not emerge as important with respect to upward mobility. . . . [E]conomic factors are important but they are not unique determinants of mobility nor do they operate in any simple way. (Fox and Miller, 1965:91)

Technical problems in the data analysis of Fox and Miller led their conclusions to be discounted (see Blau and Duncan, 1967:433). Industrialization quickly regained credibility as a determinant of intergenerational social mobility through Cutright's (1968) cross-national analysis of occupational inheritance (inheritance being what mobility is not).

How industrialization might influence mobility has received less attention than whether or not the two are related. The most thoughtful and detailed exploration of the mechanisms by which industrialization might promote mobility is Treiman's (1970). Yet even here, it is not clear what, about industrialization, loosens the ties of social origins and promotes mobility. Treiman can only suggest that increased industrialization implies expanded education, mass communication, urbanization, and geographical mobility. These in turn influence circulatory mobility.

The role of industrialization as a correlate of mobility recently came under attack by Hazelrigg and Garnier (1976). They rely on a sample of 17 countries that vary in level of economic development a good deal more than had those analyzed by previous students of the subject. Using energy consumption per capita as an index of industrialization and two variants of a measure of circulatory mobility (unfortunately unidentified in the 1976 paper) obtained after alternate Deming adjustments of the 17 mobility matrices, they conclude that "variation in the strictly endogenous process of labor mobility was *not* related to level of productivity" (Hazelrigg and Garnier, 1976:504).

The current position of this field is somewhat confused. The confusion is a consequence of two factors. First, the varying methodologies of the several contributors to the literature have led to vary-

ing findings. Second, other than the possible relationship with industrialization or political democracy, it is not clear why one would care to ask if one country has more mobility than another. The issue has not been cast by anyone as being important for understanding social organization.

The answer one gets to a question is dependent on the operational way the question is posed. Lipset and Bendix (1959) relied on outflow percentages in a trichotomous occupational structure (white-collar, blue-collar, farm). Miller (1960) continued with outflow percentages, but rephrased the question to focus on mobility into the top of social orders. Fox and Miller (1965) used a crude measure of upward mobility; manual to non-manual outflow percentages. Blau and Duncan (1967) attempted to eliminate the effects of shifts in marginals by switching to mobility ratios yet continuing Miller's interest in national differences in short and long distance mobility. Cutright (1968) moved away from the previous concentration on upward mobility by summarizing the mobility revealed in four-fold tables with a series of Yule's Q's. Hazelrigg, who started in 1974 with outflow percentages, moved by his 1976 article with Garnier to Deming adjustments of marginals and a summary measure of the circulatory mobility within the adjusted tables.

In addition to a changing methodology, this literature has had a changing data base. Lipset and Bendix, together with Miller, used samples from 12 western European countries and countries of European settlement plus a sample of Russian emigrés to the United States. Blau and Duncan (1967) reduced the sample to 11 countries. By 1976 Hazelrigg and Garnier could feel fairly confident of expanding this data base to number 17 countries, considerably more variable both economically and culturally than the early samples had been.

Mobility As a Characteristic of a Social System

The explanations offered for cross-national differences in mobility, when such differences have been found, have invariably referred either to the level of

productive capacity or the political organization of nations. Either industrialization is seen to require the allocation of individuals to roles on criteria at least partially inconsistent with ascription, or political democracy has been seen as requiring widely perceived mobility opportunities for its maintenance. Circulatory mobility has not been taken to be influenced by characteristics of systems of social stratification themselves. We do not understand why this has been so.

There has been considerable recognition that short-distance mobility is more common than long-distance mobility. It would follow that in societies in which opportunities for short-distance mobility are limited, the total amount of circulatory mobility also would be limited.

We can think of societies in which social position is defined reasonably clearly along class lines, with two or three discrete classes having fairly uniform economic rewards available within each, but having substantial economic differences between them. The vertically mobile in these nations must leap large socioeconomic gaps in the structure. We can think of other societies where social gradations from the top to the bottom are numerous and small, each one being nearly indistinguishable, yet, when taken together, covering a substantial distance. The stratification system of such societies is a sort of social glissando. Vertical mobility can occur on a wide scale in small steps. Even when long distance upward mobility is attempted, possible outcomes are not limited to success or stagnation; the existing intermediate statuses provide alternative compromise destinations.

Circulatory mobility can be viewed as a zero-sum game. Net of movement forced by changes in the occupational structure over time and differential fertility, one's move up implies another's move down. The prospective cost of circulatory movement to the well born is notably greater in a two-class society than in a social glissando: to fall is to plummet. In such societies the upper class has serious reasons to protect lucrative positions from invasion from below. The power that can be bought with affluence and prestige is likely to be used to this end. In the social

glissando there is less motive for high status groups to attempt to block the upward movement of others, for the cost of downward moves of their own offspring is less. The ability to block others is probably also reduced. A glissando of affluence and status does not promote discontinuities in power.

For both of these reasons we expect the shape of a stratification system to influence the level of mobility occurring within that system. Since the shape of stratification systems, or degree of income inequality, will be seen to be associated with the level of productive capacity (GNP per capita), we shall have to consider the independent effects of both variables on mobility.

DATA AND PROCEDURES

Our data sources differ little from other recent studies of comparative mobility. There is a limited body of mobility studies from which any of us can assemble our samples. The choice of which are acceptable for analysis is partly dependent on the way the problem is phrased and partly dependent on a subjective sense of what is and what is not acceptably reliable. We are able to expand the list of 17 countries used by Hazelrigg and Garnier to 24, largely by restricting our analysis to mobility between white-collar and blue-collar segments of occupational structures. Thus urban samples are more acceptable to us than they were to them. We also have access to national studies of occupational mobility in Israel and Canada that were not available when Hazelrigg and Garnier did their work. We have chosen to be more restrictive than they by limiting ourselves to samples of males. We do not feel confident enough of a congruence within nations of the mobility experiences of men and women to mix single- and two-sex samples.¹

¹ Cell frequencies for West Germany were retrieved from Kleining's (1971) article by a roundabout procedure. Kleining presents only outflow percentages and column totals, but no row totals. Following an observation by Tyree (1973: 579), we used the outflow distributions to compute mobility ratios within Kleining's table, inverted this matrix, and summed the elements of the inverted matrix

Table 1. Countries with Available Data on Occupational Mobility, Year of Data Collection, Sample Size, and Coverage: Nonagricultural Males 25–64 of Nonagricultural Origins

Country	Year of Data Collection	Sample Size*	Coverage	Source
Australia	1965	1358	national	Broom & Jones
Belgium	1968	1331	national	Delruelle
Brazil	1950s	1054	Sao Paolo	Miller
Canada	1973	8950	national	McRoberts et. al.
Chile	1961	518	Santiago	Raczynski
Colombia	1968	875	Bogata	Simmons
Denmark	1954–5	2391	national	Miller
France	1964	...**	national	Garnier & Hazelrigg
Great Britain	1949	3498	England	Miller
Hungary	1962–4	4202	national	Andorka
Israel	1974	4428	national	Matras & Weintraub
Italy	1963–4	703	national	Lopreato
Japan	1955	1866	urban	Miller
Mexico	1963	730	Mexico City	Kahl
Netherlands	1954	2355	national	Miller
Norway	1957	447	national	Miller
Philippines	1968	8892	national	Bacol
Poland	1968	1417	urban	Zogorski
Puerto Rico	1950s	1785	territorial	Miller
Spain	1964	1086	national	FOESSA
Sweden	1950s	6542	national	Carlsson
U.S.A.	1962	23797	national	Blau & Duncan
West Germany	1969	9632	national & West Berlin	Kleining
Yugoslavia	1960	2172	national	Mellic

* Sample size after elimination of farm respondents where applicable.

** Only weighted sample size available. Total sample (all ages, both sexes) = 22,782.

The 24 countries in Table 1 vary considerably in type of government, level of economic development, and geographical location. As we shall see later, they also vary in income inequality. Data from the

across columns to obtain the row totals. There are other carefully executed mobility studies available that we have not included in our analysis, several dating from the 1950s. The reason for rejecting them here vary from case to case, largely being our own uncertainty of sampling procedures or dissatisfaction with the choice of population sampled. Most are from either European or South American cities. Since both of these areas are reasonably represented in Table 1, we do not feel the omissions to be serious. We do regret that we did not feel we could include Singh's (1972) data from Petaling Jaya, Malaysia or Tominga's (1970) from Bangkok. Petaling Jaya is a development town, inhabited almost exclusively by in-migrants. These migrants have experienced considerable spatial and occupational mobility; Singh acknowledges that their experience is not typical of Malaysians. Furthermore, in both samples the majority of fathers were farmers, reducing the sample size available for this analysis severely. In an analysis of farm-nonfarm intergenerational mobility both samples might be included profitably.

various surveys were collected idiosyncratically with investigators in each country resorting to occupational categories of use to them in their own work, but not necessarily of use to one wanting to compare the assembled data sets. This is a familiar problem to students of comparative stratification and mobility. The more detail one retains in a particular table, the less comparable it becomes to other tables. To the end of maximizing comparability, we have reduced the intergenerational mobility data from all countries to a series of four-fold tables: the white-collar/blue-collar status of respondents by the white-collar/blue-collar status of their fathers.

The highly aggregated nature of these resulting matrices eliminates potential problems arising from the small size of some of the samples. Use of 2 by 2 matrices also enables us, in a loglinear context, to obtain a unique estimate of mobility for each country—a possibility not so

readily available with more detailed origin and destination distributions.

Collapsing the original data to comparable blue-collar/white-collar categories on both the origin and destination variables, produces a three dimensional data matrix: 2 by 2 by 24. What we want of this matrix is a vector of estimates of the relative (to the other countries) odds in favor or against intergenerational mobility. Once we have it we shall be able to ask: To what is it related? To do this we must eliminate some known structural determinants of mobility as well as variability in sample size. The frequencies in each of the cells are functions of the size of each sample, the representation across the entire groups of countries of white- and blue-collar respondents, and the representation among their fathers of white- and blue-collar workers. A certain amount of mobility is forced by shifts in occupational distributions over time. This is partially represented by differences in the occupational distributions of father and respondents—all sons.

In addition, cell frequencies are functions of pairwise interactions of fathers' distributions and respondents' distributions, fathers and countries, and respondents and countries. To this point we have seven predictors of the cell frequencies: a grand mean (G); the marginal distribution of fathers (T_i^A), where $i = 1$ for white collar and 2 for blue collar; the marginal distribution of respondents (T_j^B); the 24 countries themselves (T_k^C); the interaction between the occupation of fathers and that of their sons (T_{ij}^{AB}); the interaction between the occupations of respondents and the countries in which they live (T_{jk}^{BC}); and countries in which their sons, the respondents, live (T_{ik}^{AC}).

These effects together predict a matrix of intergenerational mobility which would occur if the mobility processes of all the 24 countries worked the same way. Of course they do not all work the same way; some countries have more mobility than others. We can introduce the three-way interaction between father-respondent-country (T_{ijk}^{ABC}) to represent this greater or lesser experience of occupational mobility. At this point the model is saturated: The frequencies (F_{ijk}) in each of the 96

cells are exactly predicted. The model becomes:

$$F_{ijk} = G T_i^A T_j^B T_k^C T_{ij}^{AB} T_{jk}^{BC} T_{ik}^{AC} T_{ijk}^{ABC} \quad (1)$$

This is a multiplicative model. Expressed in the form of natural logarithms, it becomes additive. Our interest is with the estimates of T_{ijk}^{ABC} , the interaction term representing a particular country's relative propensity to occupational mobility. This term is a linear function of the logged odds ratios for each of the tables, the correlation between the two being 1.0.

The results of this exercise are presented in the first column of Table 2. The countries have been reordered from the alphabetical one in which they were presented in Table 1 to one based on their ranking by T_{ijk}^{ABC} , their relative mobility. Negative values mean greater mobility; positive ones, greater occupational inheritance. It is clear in this first column that nations do differ in the amount of intergenerational occupational mobility occurring in their populations. The most mobile populations are those of Israel, Canada, Australia and the United States. The least are those of Italy, the Philippines, Brazil, and Columbia.

Mobility and Economic Development

Lipset and Bendix, Cutright, Davis, and other past proponents of economic development, as either promoting occupational mobility or requiring it as a precondition, are supported by the mobility rates (lambda coefficients) in Table 2. These values are associated with GNP per capita in 1965 in the second column of Table 2. The correlation between these two variables is $-.601$. A certain interpretative distortion is created by relating observations about productive capacity at one time (1965) to findings about mobility processes at various times. The choice of 1965 GNP per capita does provide a simple way to measure productive capacity in constant dollars. The error entailed by not converting measures from varying dates to 1965 dollars cannot be great. GNP per capita is a fairly stable characteristic of nations across the limited period over

Table 2. Occupational Mobility Effects, Gross National Product Per Capita, Percent of Income Going to the Top Five Percent of Households, and the Percent of the Labor Force in Salaried Professional, Technical, Clerical, and Sales Occupations: 24 Countries

Country	Mobility Index	GNP/ Capita	% Income to Top 5%	% Salaried Prof., Technical, Clerical, and Sales
Israel	-.286	1422	13.0	33.4
Canada	-.184	2473	14.0	33.7
Australia	-.141	2002	14.3	28.5
U.S.A.	-.114	3575	16.0	27.7
Great Britain	-.102	1818	15.0	27.0
Hungary	-.068	1094	14.0*	17.9
France	-.056	1924	25.0	18.6
Sweden	-.045	2549	16.8*	27.5
Netherlands	-.041	1554	21.6*	24.7
Denmark	-.037	2120	16.2*	21.3
Yugoslavia	.003	451	15.0	11.7
Norway	.008	1890	15.0*	19.4
Puerto Rico	.013	1154	22.0	
Belgium	.033	1804		25.9
Chile	.048	565	30.4	13.0
Japan	.048	861	20.0	18.5
Mexico	.051	455	32.1	13.4
Spain	.062	561	20.0	11.8
Poland	.067	978	13.9*	18.5
West Germany	.068	1901	31.2*	31.8
Italy	.081	1104		13.3
Philippines	.103	160	29.0	9.2
Brazil	.133	267	36.0	10.8**
Colombia	.356	282	39.4*	9.7

* The World Bank (Jain, 1974) does not provide household income distributions for these countries. The values for the Netherlands, Denmark, Sweden, Norway, West Germany, and Colombia were estimated from the regression of household measures on measures reported by the Bank for income recipients for all countries in the source with both variables available. The values for Hungary and Poland were estimated from the regression of household measures on those computed over workers in the same way. The Bank provides no data at all on the income distributions of Belgium and Italy.

** Total professional, technical and related workers plus total clerical and sales, as salaried population is not available.

which these mobility data were collected. The correlation between GNP per capita in 1957 and 1965 for the nations in this sample is a substantial .956 (sources: Russett, 1964; Taylor and Hudson, 1972).

The variance in GNP per capita is quite large ($X = \$1,373.50$, $s = \$864.02$), which is largely a consequence of the outlying positions (in 1965) of the United States on the upper end and the Philippines, Brazil, and Colombia on the lower. A logarithmic transformation of these values is associated quite as strongly with the mobility tau coefficients in Table 2 ($-.668$) as are the GNP values in their raw form. Where societies are successful at production, ascription loses force in the allocation of individuals to roles.

We cannot determine here a direction of causation, if there be any. Indeed, the autocorrelation of GNP per capita over time

is so high and the number of years between measured occupational origins and destinations so variable (even within any one sample) as to render the task of establishing direction intractable to us. It may be that economic development requires not only a base of natural resources and investment capital (the first generated either through the land itself or through the training of its inhabitants; the second either by individual investors, governments, or international capital transfers), but also a population conditioned to social mobility, a situation creating Reissman's inner- and other-directed men and women. Social mobility may be a precondition for development (see Davis, 1962).

Instead it may be that economic development creates conditions by which the bonds of social origins are relaxed; opportunities emerge for which no existing so-

cial group is uniquely prepared or toward which none is uniquely oriented. We have no way of choosing between these two possibilities.

It is probably more than accidental that the four most mobile societies in Table 2 (Israel, Canada, Australia and the U.S.) either are or have been in the remembered past home to unusually high proportions of immigrants. All four take some pride in their immigrant history. In the most occupationally mobile population, Israel, more than 60% of the labor force is foreign-born. Most of these immigrants were educated and got their first jobs in other countries.² High rates of immigration imply rapid population growth and, probably, more extensive social change than elsewhere.

The percent of a population native-born provides an inverse indicator of immigration. It is available in various *U.N. Demographic Yearbooks* (1964; 1971; 1973) for 20 of these populations (all but Belgium, Colombia, Italy and Japan). This measure is quite strongly related to the mobility coefficients ($r = .757$). With the extreme case of Israel dropped, over the remaining 19 countries, this remains a substantial $r = .693$.

The omission of Israel from the estimation of the association between GNP per capita and mobility raises that estimate to .700 and the association between log GNP per capita and mobility to .728.

These data provide support for the view of social mobility as related to economic productivity. In addition, the relative size of immigrant populations seems a potent correlate of social mobility. We shall return later to a consideration of the relationships among immigration, productive capacity, and social mobility. Next, however, we should like to direct ourselves to the importance of the shape of stratification systems for mobility.

² An alternative to these GNP values as an indicator of productive capacity is Gross Domestic Product per capita which is available in the *World Tables* (World Bank 1976) in constant 1967-69 dollars for all years since 1960. We were able to compute GDP per capita for the closest possible year to the survey date for 21 of the 24 populations. No appropriate data are available for Hungary, Poland, or Puerto Rico. With this reduced sample, mobility is correlated .664 with GDP per capita and .701 with its logarithm.

Inequality and Mobility

The third column of Table 2 presents the percent of income going to the top 5% of households in 22 of the 24 countries. These values are taken as close to the date of the mobility samples as possible from data supplied by the World Bank (Jain, 1974).³ No data on the income distributions of Belgium or Italy are available in this report. What these income differentials—or what wealth differentials—indicate is stratification; how much space is between those on the top and those on the bottom of a stratification system. The larger the percent of income going to the top 5% of households, the less is left to be divided among everyone else. Considerable care should be exercised in interpreting these numbers. The indexes for countries that have a large proportion of small families—typically wealthy, developed countries—are raised by this demographic fact. Kuznets (1976:87) expresses this effect clearly:

The smaller family or household usually receives a smaller income than the larger units, so that the family or household income for a one- or two-person unit is well below the countrywide mean. The proportion of such smaller units among all families or households is far greater in the developed than in the less developed countries—which contributes a much greater inequality component in the size distribution of family or household income in the developed than in the less developed countries.

Thus, for indicating how equally or unequally income is distributed to individual people, indexes for developed countries overstate inequality, while those for less developed countries understate it. Nevertheless, indicators of the size distribution of income provide a place to start thinking about the role of stratification in the process of development and in social mobility.

The correlation between the lambda coefficients in column 1 and the indexes of income inequality is .764. Where income

³ This working paper has since been published by the World Bank (Jain, 1975) with the same title and authorship as the working paper cited here. There are slight discrepancies in the two sources.

is more equally distributed, circulatory mobility is also greater. Where income differentials are greater, social origins are most powerful in determining social destinations.

Inequality is also related to productive capacity, with GNP per capita and income inequality being related by an $r = -.539$. We can entertain the hypothesis that both of these variables independently influence the rate of circulatory mobility. Here economic development creates a demand for an increasingly rationalized allocation of individuals to occupational roles, and relative equality of rewards creates the social conditions which reduce personal and family disruptions consequent to social mobility.

Unfortunately, the data do not provide strong support for this dual argument. In standard form (values in parentheses are standard errors),

$$\begin{aligned} \text{Mobility} &= -.288 \text{ GNP} \\ & \quad (.163) \\ & + .609 \text{ Inequality}, \text{ with } R = .802. \\ & \quad (.163) \end{aligned}$$

With GNP per capita transformed to its logarithm, this becomes,

$$\begin{aligned} \text{Mobility} &= -.301 \log \text{GNP} \\ & \quad (.180) \\ & + .571 \text{ Inequality}, \text{ with } R = .798. \\ & \quad (.180) \end{aligned}$$

In both of these equations the effect of productive capacity is about one and one-half times its own standard error, while the effect of inequality is both significant and substantively impressive.⁴

⁴ Using the GDP per capita measure reported in fn. 2 as an alternative indicator of productive capacity, we lose five cases; the three missing GDP/capita and the two missing income data. We gain temporal proximity of the measurement of productive capacity and mobility. The effect of inequality is still more substantial.

$$\begin{aligned} \text{Mobility} &= -.360 \text{ GDP} \\ & \quad (.173) \\ & + .562 \text{ Inequality}, R = .821; \text{ and} \\ & \quad (.173) \end{aligned}$$

$$\begin{aligned} \text{Mobility} &= -.372 \log \text{GNP} \\ & \quad (.188) \\ & + .526 \text{ Inequality}, R = .816. \\ & \quad (.188) \end{aligned}$$

What has previously appeared to be an association between mobility and industrialization or productive capacity appears to be a spurious consequence of the association of relative economic equality with both.⁵

Reward Structures and Occupational Structures

We have allowed a certain confusion between occupational structures and reward distributions. We have argued that circulatory occupational mobility is a function of the shape of occupational distributions. The availability of many middle-status jobs renders upward mobility easier. We then argue that mobility is a function of the shape of reward distributions; that the existence of an abundance of positions yielding a continuum of incomes renders potential downward movement less threatening and attempted upward movement more promising of at least some success. We have provided a test of the second argument by relating an index of the shape of income distributions to circulatory mobility.⁶ We have not provided any direct test of the first: we have only assumed that a glissando of positions and a glissando of rewards go together. We are better able to measure

⁵ One of the reviewers of this manuscript suggested our findings might be biased by our inclusion of one-city samples for the measurement of mobility. All four of the Latin countries are represented by only one city, while measures of their productive capacity and income distribution refer to the whole country, with these countries omitted, in standard form,

$$\begin{aligned} \text{Mobility} &= -.395 \text{ GNP} \\ & \quad (.190) \\ & + .489 \text{ Inequality}, R = .698; \\ & \quad (.190) \end{aligned}$$

$$\begin{aligned} \text{Mobility} &= -.367 \log \text{GNP} \\ & \quad (.202) \\ & + .459 \text{ Inequality}, R = .678. \\ & \quad (.202) \end{aligned}$$

⁶ All calculations reported in this article that include income to the top 5% of households were first run using both Gini coefficients and their logarithms. The findings are much the same, sometimes making our case weaker, sometimes making it stronger. Being unable to present all the various (interdependent) tests in one paper, we have chosen the presentation we feel to be more concise and more readily accessible.

the shape of reward distributions than the shape of occupational distributions. While we are not completely without resources for comparing occupational distributions, they are less than ideal.

Braverman (1974) argues that the working class includes, in addition to its usual incumbents, salaried professionals, technicians, clerical and sales workers. These are the middle status occupations that have proliferated to fill the center of the occupational structure in modern developed nations. The *Yearbook of Labor Statistics* (International Labor Office, 1973–1976) has included since 1963 data on major occupational distributions and class of worker. We have combined salaried professional, technical and related workers with salaried clerical and retail sales as a reasonably direct indicator of the size of the kinds of middle-level positions that can link the top to the bottom on an occupational hierarchy. These are expressed as a percent of the total labor force in column 4 of Table 2. Each calculation was made for a year as close to that of the relevant mobility survey as possible. Puerto Rico has been omitted as no appropriate data exist before 1976, which is two decades after the mobility survey.

What we ask of these data is whether the shape of occupational distributions can explain the relationship between industrialization and mobility as the shape of reward distributions has. The answer is an unequivocal, yes. Let us call the occupational variable in column 4, Midocc, in recognition of its intended capturing of the socially bridging middle status occupations. Then

$$\begin{aligned} \text{Mobility} &= -.067 \text{ GNP} \\ &\quad (.251) \\ &\quad -.686 \text{ Midocc} \quad , R = .740, \\ &\quad (.251) \end{aligned}$$

$$\begin{aligned} \text{and Mobility} &= -.169 \log \text{GNP} \\ &\quad (.270) \\ &\quad -.598 \text{ Midocc} \quad , R = .745. \\ &\quad (.270) \end{aligned}$$

Again the numbers under the regression coefficients are their standard errors. Even more decisively than before the evidence points to a social glissando, created

by occupational positions linking an elite at the top of a social order and the rest of the structure, as determining circulatory mobility. The originally observed relationship of mobility and industrialization must be concluded to be spurious.

An Alternative Class Line

Our argument has been largely a theoretical one. The evidence in its support is limited to circulatory mobility across a supposed white-collar/blue-collar line. We have established that this line is weaker where reward and occupational distributions are relatively continuous than where they are discontinuous.

There is reason to suspect a white-collar/blue-collar distinction as the crucial basis of class definition in most societies. We argue that social glissandos are inconsistent with the intergenerational transmission of class. We must be willing to draw hypothetical class lines anywhere in the social hierarchy. We should like to be able to measure circulatory mobility between capitalists and everyone else, for this would be responsive to a conviction within the social sciences of a persistence, even in modern post-industrial societies, of class membership based on ownership and control of the means of production. The data available to us are not adequate to this task.

We can ask whether the shape of the social structure is more important than economic development in explaining mobility between farm and nonfarm sectors of labor forces. There are reasons more persuasive than habit to suggest this as a relatively impenetrable line in occupational structures (Blau and Duncan, 1967: chap. 2). Farmers and nonfarmers tend to be separated in space more than are white- and blue-collar workers.

We can estimate circulatory mobility across this line for a subsample of 13 of the populations in Table 1 the same way the estimates of white-collar/blue-collar mobility were made. Since men in agricultural destinations or from agricultural origins were eliminated from the previous analysis, this measure of mobility is logically independent of the one in Table 2.

The variable mobility now refers to the

3-way interaction term saturating the log-linear model of the 2 by 2 by 13 matrix of men of farm-nonfarm origins and destinations in 13 countries (or the logs of the odds ratios in each 2-dimensional matrix). Estimated for these 13 populations alone,

$$\text{Mobility} = .011 \text{ GNP} + .756 \text{ Inequality,} \\ (.224) \quad (.224)$$

$$\text{and Mobility} = -.123 \log \text{GNP} \\ (.227) \\ + .715 \text{ Inequality.} \\ (.227)$$

Inequality is again the percent of income going to the top 5% of households. It alone determines farm-nonfarm mobility in this sample. The effect of industrialization or productive capacity is far less than its standard error. Though the sample is regrettably small, it appears that what draws men off farms or onto them from nonfarm origins is not the affluence of their countries but the shape of the reward distributions within them.

Mobility and Immigration

Earlier in this paper we noted that the countries with the most mobility were countries with histories of unusual immigration. We reported a correlation of .757 between the mobility coefficients and the percent of populations native-born. We promised to return to consider the importance of immigration for social mobility.

This importance is well documented in the United States, where each new immigrant wave has pushed earlier arrivals up the social structure. Except in the Northeast, persons of native birth have never been preponderant among factory workers (Gutman, 1979). They have been pushed up by immigrants who took the factory jobs. Other societies which have been major recipients of immigrants seem to have functioned in much the same way.

Immigrants enhance measured mobility in recipient countries in two ways. First, separated from their communities of origin, the status of their parents is weakened as a predictor of their destinations. Second, typically entering nearer the bottom than the top of the social orders to which they move, immigrants push natives up by

increasing the size of the population and the productive capacity of the economy.

We all recognize that immigrants are attracted by countries of opportunity. It has not been clear what "opportunity" means to an immigrant—whether it is wealth (as GNP per capita) or the availability of a social ladder with many little rungs, a ladder one might reasonably expect to climb. The evidence in these 24 countries is not that immigrants are drawn to industrialization or high GNP per capita ($r = -.189$) so much as they are drawn to social glissandos. The correlation between percent native-born and the percent of income going to the top 5% of households is .354, its correlation with the Midocc variable is $-.591$.

Assessing the causal structure of these four variables—inequality, industrialization, immigration, and circulatory mobility—is beyond the scope of this paper.

DISCUSSION I: INTER- AND INTRAGENERATIONAL MOBILITY

The cross-national intergenerational mobility data assembled here have supported our expectations. On the theoretical grounds which directed us, we should have to expect inequality to be similarly related to *intragenerational* mobility. There is some reason to think that this prediction might not fare well if confronted with appropriate data.

We know that, across individuals in one society, intergenerational and career mobility are negatively related.⁷ Those who

⁷ Whether the correlation between inter- and intragenerational mobility is negative or positive in a particular society is dependent on the relative magnitude of three zero-order correlations. The mobility correlation can be estimated as follows. Where X = social origins, W = career beginnings, and Y = social destination,

$$r_{(Y-X)(Y-W)} = \frac{1 - r_{YW} - r_{YX} + r_{WX}}{\sqrt{2(1 - r_{YX})(1 - r_{YW})}}.$$

This reduction of the mobility correlation assumes that the variances of the three status variables are equal. To the extent that they are not, this estimate will be in error. As a practical matter, the error is not great. It is clear from this simplification that only in a

move far from their social origins to their career destinations do not tend to be the same persons who move up from their career beginnings. For those assuming the higher status positions in modern society, most enter the occupational structure in high status positions after lengthy education, whatever their social origins. This does not necessarily mean, however, that indicators of levels of inter- and intra-generational mobility for societies need be expected to be negatively related.

There are other reasons that should lead us to expect the negative relationship. Goldthorpe (1966:654) reasoned "to the extent that education becomes a key determinant of occupational achievement . . . an increased rate of *intergenerational* mobility in advanced societies is likely to be associated with some limitation of *intragenerational* or 'career mobility.'" To Goldthorpe it is not that inter- and intragenerational mobility are incompatible, but that an increasing importance of education for role allocation leads the larger part of intergenerational mobility to be accomplished by the point of entry into the labor force. It is efficient for societies to adjust to changing occupational structures with a succession of differentially trained cohorts. It is not so efficient to retrain and promote existing labor, for the return on the training investment is less.

The intergenerational mobility we have addressed here is the sum of two steps; movement from origins to career beginnings and from career beginnings to social destinations. We have found the shape of the structure of rewards to be related to the total movement. We have not established how it is related to either of the two pieces in that movement. If a social glissando promotes mobility through its potential of many little steps, we should expect to find the mobility whether it be measured between parent and child or within an adult career. There are grounds to suspect that, had we appropriate data, we would not find the second.

society with a rather strong association between origins and career beginnings (r_{wx}) and relatively weak intragenerational (r_{yw}) and intergenerational (r_{yx}) associations, could the mobility correlation have a positive sign.

DISCUSSION II: POLITICAL DEMOCRACY

While we did not set off to study political democracy, our data analysis has drawn us to a literature on the relationship between economic inequality and political democracy. We have focused on the relationships among productive capacity (or economic development), inequality, and mobility. We have viewed mobility as a consequence of inequality and productive capacity. Most recent sociological work on cross-national differences in inequality have been uninterested in social mobility, but quite concerned with the effects of political democracy. The concern has been with understanding the structure of relationships (and the direction of causation) among political democracy, economic development, and inequality. By arguing that social mobility is an orderly function of two of these variables, we necessarily raise the question of how it might be related to the third, and how all four might be related to one another.

Lenski (1966) argued that political democracy reduces income inequality. Cutright (1968) addressed this hypothesis with data and was unable to reject it. Even after controlling for the level of economic development, he found political democracy and income inequality to be negatively related. Jackman (1974) did reject Lenski's hypothesis, finding net of economic development, no relationship between democracy and inequality. To Jackman economic development was the driving force; both democracy and equality were consequences.

Rubinson and Quinlan (1977) try to reconcile the differences between Cutright and Jackman. They devote much of this article to issues of scaling, which lead them to concur with Cutright and Lenski: Political democracy is related to personal income inequality even after economic development is controlled. They then attempt to reverse the direction of causation, arguing that democracy does not determine inequality, inequality determines democracy. In this argument they anticipate much of the reasoning that led us to view inequality as the potential determinant of social mobility in the early part of this paper. They see income inequality as

indicative of the class structure of a society and the class structure as determining the political order.

Thus, when we compare countries on inequality, basically we are comparing their class structures and, particularly, the degree to which they are dominated by a middle class. It is interpreting inequality as an indicator of class structure that leads to the hypothesis that social inequality affects democratization. (Rubinson and Quinlan, 1977:616)

We have argued that equality leads to mobility. Rubinson and Quinlan (1977) find relative economic equality leads to political democracy. We all conclude that the influence of economic development on either political democracy or social mobility is weaker than the influence of inequality.

To students of politics, the shape of the social structure has consequences for the way a society governs itself, the ways decisions are made. To us as students of social mobility, the shape of the social structure influences the degree to which ascription governs occupational role attainment. Both the way a society makes its decisions (democratically or otherwise) and the way it transmits roles from one generation to the next are determined by social structure. Social glissandos have both more political democracy and less continuity of status across generations.

There is a basic difference in the way Rubinson and Quinlan and we interpret what we find. To Rubinson and Quinlan the effect of inequality is taken as evidence of the importance of a relatively affluent and politically powerful middle class. They view social orders as structures of classes. We interpret the effect of inequality we find as evidence of the *un*-importance of class or, phrased differently, the importance of having a social structure so continuous that classes are not identifiable.

In one sense the difference in interpretation between us is unimportant; we are both asserting the shape of the social structure to be influential for social processes. In another sense the difference is important in that we see different things about the shape of the social structure as having these consequences.

Rubinson and Quinlan (1977) do not

provide any evidence that where economic inequality is low there exists a middle class which dominates the society politically (see their discussion on p. 616). Our findings do provide some evidence that where inequality is low it is unlikely that coherent classes exist, at least with identifications strong enough that they are reinforced by the kinship system, either intergenerationally, as between parents and children, or intragenerationally, as between siblings. Thus we are inclined to reinterpret the findings of Rubinson and Quinlan: Political democracy is not dependent on a strong middle class, but on weak classes.

In recent years the study of social mobility has progressed rapidly in sociology; the study of social stratification has not. We are not happy at having had to resort to an index of the size distribution of income to measure the shape of social hierarchies, just as both Cutright and Jackman regretted having to use sectoral income inequality as their measure. We do not think—and do not want to imply that we do—that income distributions define social stratification. We are aware that societies also differ in their distributions of wealth, political power, bureaucratic authority, and prestige. Any measure of income inequality (Gini coefficients, Kuznets indexes, income to the top 5%, the third quintile, etc.) can only provide a crude approximation of a social hierarchy. Though the measurement is not conceptually satisfactory, it has been of practical use in this research. The shape of a stratification system has consequences for the level of intergenerational circulatory mobility through the system.

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