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Part IV
Generating Inequality

Social Mobility
Classical Viewpoints
Social Psychological Models
Modern Analyses of Class Mobility
Modern Analyses of Income Mobility and Poverty Spells

Status and Income Attainment
Basic Models
The "New Structuralism"
Social Capital, Networks, and Attainment
Rational Action Approaches to Mobility and Attainment

Social Mobility

Social and Cultural Mobility

PITIRIM A. SOROKIN

Conception of Social Mobility and Its Forms

By social mobility is understood any transition of an individual or social object or value—anything that has been created or modified by human activity—from one social position to another. There are two principal types of social mobility, *horizontal* and *vertical.* By horizontal social mobility or shifting, is meant the transition of an individual or social object from one social group to another situated on the same level. Transitions of individuals, as from the Baptist to the Methodist religious group, from one citizenship to another, from one family (as a husband or wife) to another by divorce and remarriage, from one factory to another in the same occupational status, are all instances of social mobility. So too are transitions of social objects, the radio, automobile, fashion, Communism, Darwin's theory, within the same social stratum, as from Iowa to California, or from any one place to another. In all these cases, "shifting" may take place without any noticeable change of the social position of an individual or social object in the vertical direction. By

vertical social mobility is meant the relations involved in a transition of an individual (or a social object) from one social stratum to another. According to the direction of the transition there are two types of vertical social mobility: *ascending* and *descending*, or *social climbing and social sinking*. According to the nature of the stratification, there are ascending and descending currents of economic, political, and occupational mobility, not to mention other less important types. The ascending currents exist in two principal forms: as an *infiltration* of the individuals of a lower stratum into an existing higher one; and as a *creation of a new group by such individuals, and the insertion of such a group into a higher stratum instead of, or side by side with, the existing groups of this stratum.* Correspondingly, the descending current has also two principal forms: the first consists in a dropping of individuals from a higher social position into an existing lower one, without a degradation or disintegration of the higher group to which they belonged; the second is manifested in a *degradation of a social group as a whole, in an abasement of its rank among other groups, or in its disintegration as a social unit. The first case of "sinking" reminds one of an individual falling from a ship; the second of the sinking of the ship itself with all on board, or of the ship as a wreck breaking itself to pieces....*

Immobile and Mobile Types of Stratified Societies

Theoretically, there may be a stratified society in which the vertical social mobility is nil. This means that within it there is no ascending or descending, no circulation of its members; that every individual is forever attached to the social stratum in which he was born; that the membranes or hymens which separate one stratum from another are absolutely impenetrable, and do not have any "holes" through which, nor any stairs and elevators with which, the dwellers of the different strata may pass from one floor to another. Such a type of stratification may be styled as *absolutely closed, rigid, impenetrable, or immobile.* The opposite theoretical type of the inner structure of the stratification of the same society is that in which the vertical mobility is very intensive and general; here the membranes between the strata are very thin and have the largest holes to pass from one floor to another. Therefore, though the social building is as stratified as the immobile one, nevertheless, the dwellers of its different strata are continually changing; they do not stay a very long time in the same "social story," and with the help of the largest staircases and elevators are *en masse* moving "up and down." *Such a type of social stratification may be styled open, plastic, penetrable, or mobile.* Between these two extreme types there may be many middle or intermediary types of stratification. . . .

General Principles of Vertical Mobility

As far as the corresponding historical and other materials permit seeing, in the field of vertical mobility there seems to be no definite perpetual trend toward either an increase or a decrease of the intensiveness and generality of vertical mobility. This is proposed as valid for the history of a country, for that of a large social body; and, finally, for the history of mankind.

In these dynamic times, with the triumph of the electoral system, with the industrial revolution, and especially a revolution in transportation, this proposition may appear strange and improbable. The dynamism of our epoch stimulates the belief that history has tended and will tend in the future toward a perpetual and "eternal" increase of vertical mobility. There is no need to say that many social thinkers have such an opinion.[1] And yet, if its bases and reasons are investigated it may be seen that they are far from convincing.

In the first place, the partisans of the acceleration and increase of mobility used to point out that in modern societies there are no juridical and religious obstacles to circulation, which existed in a caste—or in a feudal society. Granting for a moment that this statement is true, the answer is: first of all, it is impossible to infer an "eternal historical tendency" on the basis of an experience only of some 130 years; this is too short a period, 130 years, the trend has not been manifested clearly throughout the greater part of mankind. Within the large social aggregates of Asia and Africa, the situation is still indefinite; the caste-system is still alive in India; in Tibet and Mongolia, in Manchuria and China, among the natives of many other countries, there has been either no alteration of the situation or only such as had happened many times before. In the light of these considerations reference to feudalism compared with the "free" modern times loses a great deal of its significance.

Grant that the removal of the juridical and religious obstacles tended to increase mobility. Even this may be questioned. It would have been valid if, in place of the removed obstacles, there were not introduced some other ones. In fact, such new obstacles were introduced. If in a caste-society it is rarely possible to be noble unless born from a noble family, it is possible nevertheless to be noble and privi-

leged without being wealthy; in the present society it is possible to be noble without being born in a prominent family; but, as a general rule, it is necessary to be wealthy.[2] One obstacle gone, another has taken its place. In theory, in the United States of America, every citizen may become the President of the United States. In fact, 99.9 per cent of the citizens have as little chance of doing it as 99.9 per cent of the subjects of a monarchy have of becoming a monarch. One kind of obstacle removed, others have been established. By this is meant that the abolition of obstacles to an intensive vertical circulation, common in a caste-society and feudal society, did not mean an absolute decrease of the obstacles, but only a substitution of one sort of impediment for another. And it is not yet known what kind of obstacles—the old or the new—is more efficient in restraining social circulation. . . .

Occupational Dispersion and Recruitment

In present Western societies different occupational groups are strongly interwoven, and the cleavages between them are considerably obliterated, or, more accurately, are somewhat indefinite and not clearly cut. Indeed, since one son of a family is an unskilled laborer, another a business man, and the third a physician, it is not easy to decide to what group such a family belongs. On the other hand, since the offspring of the same family or of many families of the same occupational status enter the most different occupations, the cleavages between occupations are thereby considerably obliterated, their "strangeness" toward each other is weakened; their social heterogeneity and repulsion diminished. As a result, the precipice between occupational groups becomes less than it is in a society where such dispersion of the children of fathers who belong to the same occupation does not take place, or is a very rare phenomenon. This means that there is a fallacy in the statement of many theorizers of class struggle who

continue to talk about the present social classes as though they were still a kind of caste. They forget completely about the fluid composition of present occupational groups. However, a part of the truth is in their statement. What is it? The answer is given in the next propositions.

In spite of the above-shown dispersion among different occupations, the "hereditary" transmission of occupations still exists, and, on the average, it is still high enough. It is likely also that the fathers' occupation is still entered by the children in a greater proportion than any other. This means that a part of the population, during one or two or more generations, still remains in a regime like a caste-system. Shall we wonder, therefore, that this part has habits, traditions, standards, mores, psychology, and behavior similar to that of a caste-society? Shall we wonder that the cleavages between such "rigid" parts of each occupation are quite clearly cut—economically, socially, mentally, morally, and even biologically? Under specific conditions, such a part of the population may give a real basis for the existence of a class psychology and class antagonisms. To this extent the partisans of the class struggle may have a reason for their theory and aspirations. As an illustration of this, the following fact may be mentioned. Among the German proletariat, the narrow-proletarian psychology and ideology—in the form of social-democratic and communist affiliations—have existed principally among those who have been "hereditary proletarians" or used to remain within this class throughout their life.[3] The same may be said of any "hereditary and non-shifting part" of any occupation.

The next basis for the aspirations of partisans of class theories is given by the fact which may be generalized as follows: *The closer the affinity between occupations, the more intensive among them is mutual interchange of their members; and, vice versa, the greater the difference between occupations the less is the number of individuals who shift from one group to another.* Since such is the

case, it is natural that there are cleavages not so much between occupational groups in the narrow sense of the word, as between bigger social subdivisions going on along the lines of the "affine" and "non-affine" occupational subdivisions. In a class composed totally of the affine occupational groups, e.g., of different groups of unskilled and semiskilled labor, there appears and exists a community of interests, habits, morals, traditions, and ideologies considerably different from those of another class composed totally of other affine occupational groups, e.g., of different professional and business groups. These differences, being reinforced by differences in the economic status of such classes, create a basis for what is styled as the present class differentiation, with its satellites in the form of the class antagonisms and class friction. Thus far the partisans of the class struggle may have a basis for their activity and propaganda. . . .

Mobility Facilitates Atomization and Diffusion of Solidarity and Antagonisms

In an immobile society the social solidarity of its members is concentrated within the social box to which they belong. It rarely surpasses its limits because the social contact of an individual with the members of other different "boxes" is very weak and rare. Under such conditions the members of different boxes are likely to be strangers or to be in quite neutral relations. But within each box the ties of solidarity of its members are most intensive; for the same reason that the solidarity of the members of an old-fashioned family is strong. They have a complete understanding and a complete community of interests, or a complete like-mindedness, elaborated in the closest face-like contacts throughout a life-span. The same may be said of hatred and antagonisms. All these socio-psychical phenomena are "localized" within and "centered" around a definite social box. In a mobile social body a "detotalization," and "atomiza-

tion," and diffusion tend to take place. Since an individual belongs to different social groups and shifts from one box to another, his "area" of solidarity is not limited within one box. It becomes larger. It involves many individuals of different boxes. It ceases to "concentrate" within one box. It becomes "individualized" and selects not "boxes" but persons, or social atoms. The same may be said of the attitudes of hatred and antagonism are likely to lose their intensiveness. They become colder and more moderate. The reason for this is at hand: an individual now is not secluded for life in his box. He stays for a shorter time within each box; his face-to-face contacts with the members of each social group become shorter, the number of persons with whom he "lives together," more numerous; he becomes like a polygamist who is not obliged and does not invest all his love in one wife, but divides it among many women. Under such conditions, the attachment becomes less hot, the intensiveness of feeling, less concentrated.

In the social field this calls forth two important changes. In the first place, the map of solidarity and antagonisms within any mobile society becomes more complex and curved than in an immobile one. It is relatively clear in an immobile society. It goes along the lines separating one caste, order, or clear-cut stratum from another. The vertical and horizontal trenches are in general simple and conspicuous. In periods of social struggle, slaves fight with slaves against masters; serfs against their lords; plebeians, against patricians; peasants, against landlords. Much more complex is the map of solidarity and antagonism in a mobile society. Since the boxes are less clearly cut off from each other, and since each of them is filled by a fluid population from different strata, the lines of solidarity and antagonism become more whimsical, and assume the most fanciful character. During the World War the citizens of the United States showed a considerable difference in their attitudes toward the belligerent countries. Anglo-Saxon, French,

and Slavic citizens sympathized with the Allies; the German-Americans, with the Central Powers. The unity of the citizenship did not prevent this splitting. If, further, is taken into consideration the difference in religion, political aspiration, economic and occupational status, the lines of solidarity and antagonism for and against the War appear to be most fanciful. People of the same nationality, or of the same religion, or occupational status, or economic status, or children of the same family, very often happen to be in opposite factions.

In the second place, the lines of solidarity and antagonism in a mobile society become more flexible and more changeable. A man, who yesterday was an antagonist of a definite measure, today becomes its partisan because his social position has been changed. Shifting from one social position to another calls forth a similar shifting of interests and solidarity. Fluidity of social groups facilitates the same result. Therefore, it is not strange when we see that yesterday's foes are to-day's friends. The group, which last year was an enemy to be exterminated, to-day turns out an ally. In the contemporary interrelations of groups and whole countries, this flexibility of the map of solidarity and antagonism is conspicuous. . . .

Mobility Favors an Increase of Individualism Followed by a Vague Cosmopolitanism and Collectivism

Mobility facilitates an increase of individualism because it destroys this "seclusion for life in one social box." When a man is for life attached to his "box," a knowledge of the box is enough to know the characteristics of the man. On the other hand, the man feels himself not so much as a particular personality, but only as a cell or a component of the group to which he belongs. Under such conditions, the "boxes" are nothing but the social atoms or units. When the "boxes" are less definite and rigid, when their population is fluid, when an individual passes from position to position

and often belongs to several overlapping groups, his attachment to the box becomes less intensive; his characteristics cannot be decided through his temporary position; in order to know him one must take him as an individual and study his personality. This individual and impossibility of identification with any one group makes an individual something separate from a social box; awakens his personality, transforms him from the component of a group to an individual person. As he is shifting from group to group, he now must secure rights and privileges for himself, not for a specific group, because he himself does not know in what group he will be to-morrow. Hence the "Declaration of the Rights of Men" but not that of a group. Hence the demands of liberty of speech, religion, freedom, self-realization for a man, but not for a group. Hence the equality of all individuals before laws; and individual responsibility instead of that of a group, as is the case in an immobile society. A mobile society inevitably must "invest" all rights and responsibilities in an individual but not in a group. . . .

Complete social isolation or loneliness is unbearable for the majority of people. It has been mentioned that mobility facilitates such an isolation. Detached from an intimate oneness with any group, losing even family shelter against loneliness, modern individuals try by every means to attach themselves to some social body to avoid their isolation. And the more the family is disintegrated, the stronger is this need. Some enter labor and occupational unions; some try to fight their isolation through an affiliation with political parties; some, through a participation in different societies, clubs, churches; some through a mad rush from one dancing hall to another. Some try to belong at once to many and often opposite groups. All these "collectivist tendencies" and isolation, created by mobility. They are attempts to substitute for the previous lost "boxes" something similar to them. To some

extent all these unions, clubs, societies, and so forth, serve this purpose. But only to some extent. Shifting does not permit one to attach himself to such groups strongly. Hence arise the trends to go further in this direction. This trend is conspicuously manifested in the social schemes of Communists, revolutionary syndicalists, and guild socialists. They contemplate a complete engulfment of an individual within the commune, or syndicate, or a restored guild. They unintentionally try to reëstablish "the lost paradise" of an immobile society, and to make an individual again only a "finger of the hand" of a social body. The greater is the loneliness, the more urgent the need. I fear, however, that until social mobility is diminished, such attempts, even being realized, cannot give what is expected of them. In the best case they may create a kind of a compulsory "social box" which will be felt to be a prison by its members. In conditions of social mobility such a cell will be destroyed by its prisoners. In order to realize the program it is necessary to diminish the mobility. If we are entering such a period, then in some form these schemes may be realized. Are we entering one? I cannot confidently say. Some symptoms are in favor of such an hypothesis. But they are not quite clear as yet; the topic is too big to be discussed briefly, and the writer too much likes the mobile type of society to prophesy its funeral; therefore, he prefers to finish the discussion right here. Whatever may happen in the future, our mobile period is far from ended. And if our aristocracy would try to be a real aristocracy, strong in its rights and duties, creative in its achievements, less sensual in its proclivities and free from parasitism; if it would raise its fecundity; if the channels of climbing are open to every talent among the lower strata; if the machinery of social testing and selection is properly reorganized; if the lower strata are raised to levels as high as possible; and if we are not permeated by the ideologies of false sentimentality and "humanitarian impotency," then the chances for a long and brilliant existence of present mobile societies are great and high. Let history do what it has to do; and let us do what we ought to do without wavering and hesitation.

Notes

1. See, e.g., Fahlbeck, "Les classes sociales"; "La noblesse de Suède"; "La décadence et la chute des peuples," in *Bull. de l'Inst. Int. de Stat.*, Vols. XII, XV, and XVIII; D'Aeth, F. G., "Present Tendencies of Class Differentiation," *The Sociological Review*, pp. 269–272 et seq., 1910.
2. Such is the condition necessary for a man to be included in the American "Social Register."
3. See Lurie, *Sostav Proletariata*, p. 9; see also the series "Auslese und Anpassung der Arbeiterschaft," *Schriften des Vereins für Sozialpolitik*.
4. Durkheim, E., *La division du travail social*, and Bouglé, Charles, "Revue générale des théories récentes sur la division du travail," *L'Année sociologique*, Vol. VI; Palant, *Les antinomies entre l'individu et société*, passim.

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Social Mobility in Industrial Society

Widespread social mobility has been a concomitant of industrialization and a basic characteristic of modern industrial society. In every industrial country, a large proportion of the population has had to find occupations considerably different from those of their parents. During the nineteenth century, the proportion of the labor force in urban occupations increased rapidly, while the proportion in agriculture decreased.

In the twentieth century the West has been characterized by a rapid growth of trade and of service industries, as well as of bureaucracy in industry and government; more people have become employed in white-collar work, and the comparative size of the rural population has declined even more rapidly than before.[1] These changes in the distribution of occupations from generation to generation meant that no industrial society can be viewed as closed or static.

This apparently simple statement runs counter to widely held impressions concerning the different social structures of American and Western European societies. According to these impressions, America has an "open society" with considerable social mobility, but the countries of Western Europe (specifically England, France, Italy, Germany, the Low Countries, and the Scandinavian nations) have societies that are "closed," in the sense that the children of workers are forced to remain in the social position of their parents. This judgment reflects earlier European beliefs. In the age of the French Revolution, America appeared to be a land free from traditional institutions and historical legacies: the country of the future, Hegel called it, where each man was master of his fate just as American democracy itself was the product of human reason. This notion has been reiterated in many analyses, all contrasting American and European societies.

For the most part these discussions deal with the differences between democratic and autocratic institutions; but they also express assumptions about contrasting patterns of social mobility. Sometimes the political and social aspects of the contrast between America and Europe have been linked as cause and effect: differences in political institutions and values have been cited as evidence for the assertion that the society of America is "open," those of Europe "closed"; and the supposedly greater rate of social mobility in American society has been viewed as a major reason for the success of American democracy. For example, some fifty years ago Werner Sombart referred to the opportunities abundant in America as the major reason why American workers rejected the Marxist view that there is little opportunity under capitalism, while European workers accepted it because their opportunities were more restricted.[2] Such judgments as Sombart's were, however, no more than inferences based on the general contrast between the American tradition

which proclaimed the goal of opportunity for all and the European emphasis upon social stability and class differences.[3] For as a matter of fact, it is not really clear whether the different political orientation of the American and European worker reflects different opportunities for social mobility or only a difference in their ethos.

The questions implicit in these alternative interpretations can be answered today with somewhat more assurance than was possible even two decades ago because of recent research in social mobility. In this chapter we attempt to summarize the findings available for a number of countries. Since our object is to assemble a large amount of empirical evidence, it will be useful to state at the outset that the overall pattern of social mobility appears to be much the same in the industrial societies of various Western countries. This is startling—even if we discount the mistaken efforts to explain differences in political institutions by reference to different degrees of social mobility in the United States and in Western Europe. Further, although it is clear that social mobility is related in many ways to the economic expansion of industrial societies, it is at least doubtful that the rates of mobility and of expansion are correlated. Since a number of the countries for which we have data have had different rates of economic expansion but show comparable rates of social mobility, our tentative interpretation is that the social mobility of societies becomes relatively high once their industrialization, and hence their economic expansion, reaches a certain level.

Occupational Mobility

Before World War II, studies of social mobility were usually limited to investigations of the social origins of different occupational groups, employees of different factories, or inhabitants of single communities. Since World War II there have been at least fifteen different national surveys in eleven different countries which have secured from representative samples of the population information that relates the

occupations of the respondents to the occupations of their fathers. In addition, there have been a number of studies conducted in different cities of various countries. Taken together, these investigations permit the comparison of current variations in occupational mobility, as well as some estimate of differences during the past half century.

To make such comparisons and estimates is difficult. Few of the studies were made with the intention of facilitating the comparison of findings in different countries. Many of them employ systems of classifying occupations which cannot be compared with each other and the questions concerning the occupations of respondents and fathers are seldom similar. In order to use the results for a comparative analysis, we have reduced the occupational categories for most countries to the closest approximation of manual, nonmanual, and farm occupations. In presenting these materials, we make the assumption that a move from manual to nonmanual employment constitutes upward mobility among males. . . .

The lack of comparable classifications in nationwide surveys of social mobility makes it difficult to [reach] more than general impressions. Moreover, we must bear in mind that we deal here exclusively with a single index to complex and quite diverse societies, so that inferences can carry us only part of the way and should be made with caution. Yet, the value of a comparative approach to social mobility becomes apparent when we set side by side for each country the figures which are most clearly indicative of upward, downward, and total mobility across the line between the middle and the working class (table 1). Because of the varying systems of occupational classification the Italian figures cannot be compared with any of the others, and the British and Danish figures can be compared only with each other. The remainder, however, are reasonably comparable.

The figures in the first column give the proportion of all sons of manual workers who now occupy middle-class positions. In the second column the figures indicate the proportion of all sons of middle-class fathers who are now in manual occupations. In order to

get some index of the total mobility in society, the figures in the third column were computed: out of all the sons of fathers in urban occupations who are themselves in urban occupations, those who were mobile in either direction were added together, and this figure was expressed as a percentage of the total.

For example, of those persons in the nonfarm population of the United States who were sons of fathers in nonfarm occupations, 30 per cent had either fallen into a manual position from their fathers' nonmanual position, or had risen from their fathers' working-class occupation into a middle-class one. Though

TABLE I
Comparative Indices of Upward and Downward Mobility (percentages)

NONFARM POPULATIONS

Country	Upward mobility (Nonmanual sons of manual fathers)	Downward mobility (Manual sons of nonmanual fathers)	Total vertical mobility (Nonfarm population mobile across the line between working and middle class)
United States[a]	33	26	30
Germany[b]	29	32	31
Sweden	31	24	29
Japan	36	22	27
France	39	20	27
Switzerland	45	13	23

POPULATIONS WITH RURAL AND URBAN OCCUPATIONS CLASSIFIED TOGETHER[c]

Country	High prestige occupation sons of fathers in low prestige occupations	Low prestige occupation sons of fathers in high prestige occupations	Proportion mobile across high- and low-prestige lines
Denmark	22	44	31
Great Britain	20	49	29
Italy	8	34	16

SOURCES.—UNITED STATES: Average of three studies [Natalie Rogoff, "Jobs and Occupations," *Opinion News*, September 1 (1947): 3-33; Survey Research Center, University of Michigan, 1952 Presidential Election Survey; R. Centers, "Occupational Mobility of Urban Occupational Strata," *American Sociological Review*, 13 (1948): 197-203]. GERMANY: Average of three studies [Erich Reigrotzki, *Soziale Verflechtungen in der Bundesrepublik* (Tübingen: Mohr-Siebeck, 1956); Institut für Demoskopie, Allensbach, Germany; DIVO, Frankfurt A.M.]. SWEDEN: Data collected by H.L. Zetterberg, partly reported in "Sveriges fem rangruller," *Vecko-Journalen*, 18 (1957): 40. JAPAN: Research Committee on Stratification and Social Mobility of The Japanese Sociological Association, *Social Stratification and Mobility* (Tokyo: 1956, mimeographed), p. 13. FRANCE: M. Bresard, "Mobilité sociale et dimensions de la famille." *Population*, 5 (1950): 533-566. SWITZERLAND: Recalculated from information supplied by Professor Roger Girod, Denmark: Computed from data furnished by Professor K. Svalastoga, Copenhagen, Denmark. GREAT BRITAIN: Calculated from David V. Glass, *Social Mobility in Britain* (London: Routledge and Kegan Paul, 1954). ITALY: L. Livi, "Sui la mesure de la mobilité sociale." *Population*, 3 (1950): 65-76.

[c] "Occupations of high prestige are high levels of nonmanual occupations and farm owners, except in the high-prestige data for Italy, which include all nonmanual occupations and well-to-do peasants. Occupations of low prestige include routine nonmanual occupations, manual occupations, and farm occupations, except the low-prestige data for Italy, which include only manual occupations (including farm workers) and poor peasants.

this is, to be sure, a very crude index, it should give a rough indication of the fluidity of the urban occupational structure. It expresses the proportion of the native urban population which has, in one way or another, "changed class."

The first impression one gains from table 1 is that all the countries studied are characterized by a high degree of mobility. From one generation to another, a quarter to a third of the nonfarm population moves from working class to middle class or vice versa. Second, there is among the first six countries a high degree of similarity in this total mobility rate. The total range is between 23 and 31 per cent, and five of the six countries (United States, Germany, Sweden, Japan, France) range between 27 and 31 per cent. Such narrow differences lead quickly to one interpretation: total mobility rates in these countries are practically the same.

This similarity does not hold, of course, if the relationship between parental occupations and sons' occupations are compared in terms either of upward or of downward mobility, rather than the total amount of mobility. Then it appears that there is considerable variation among countries in the degree to which a father's occupation is an asset or a handicap. Thus, we see that the sons of middle-class fathers are more likely to fall in status in the United States and Germany than they are in Japan, France, or Switzerland. There is less variation in the degree to which a working-class family background handicaps a man in securing a nonmanual position; only Switzerland stands out as permitting higher rates of upward movement than the other countries. Given the variations in the methods of collecting data, it would be premature to place much reliance on these differences. ....

Mobility Trends and Social Structure

Several different processes inherent in all modern social structures have a direct effect on the rate of social mobility, and help account for the similarities in rates in different countries:

(1) changes in the number of available vacancies; (2) different rates of fertility; (3) changes in the rank accorded to occupations; (4) changes in the number of inheritable status positions; and (5) changes in the legal restrictions pertaining to potential opportunities.

By examining the relationship between these features of the social structure and the trends of mobility in different countries, we may be able to account for the similarities and differences among these trends.

1. The number of vacancies in a given stratum is not always, or even usually, constant. For example, in every industrialized or industrializing country, the increase in the proportion of professional, official, managerial, and white-collar positions and the decline in the proportion of unskilled-labor jobs creates a surge of mobility, which is upward—provided these positions retain their relative standing and income. More and more people are needed to manage industry, to distribute goods, to provide personal services, and to run the ever-growing state bureaucracy. A comparison of the ratio of administrative (white-collar) to production (manual) workers in manufacturing industries over the last half-century in the United States, the United Kingdom, and Sweden shows that the correspondence in trends is very great. Thus, in the United States in 1899 there were 8 administrative employees per 100 production workers; in 1947 there were 22 administrative employees per 100 production workers, and in 1957 there were 30 administrative employees per 100 production workers.[4] The corresponding rise in Britain between 1907 and 1948 is from 9 to 20 administrative workers, and in Sweden the number rose from 7 to 21 between 1915 and 1950. In none of these countries did the proportion of those self-employed in urban occupations decline.

2. An important determinant of upward mobility is the difference in rates of fertility. In all industrialized countries for which we have data, fertility tends to vary inversely with income.[5] Although changes in the eco-

nomic structure are increasing the proportion of persons engaged in high-level occupations, given profession such as were effected in the families of men who are now in such occupations are not contributing their proportionate share of the population. Consequently, even if every son of a high-status father were to retain that status, there would still be room for others to rise.

A similar consideration also applies to the process of urbanization. In all industrialized countries the urban centers continue to grow, requiring migrants to fill new positions or to replace urbanites, who characteristically fail to reproduce themselves. Although the urban birth rate is below reproduction level, the proportion of the population living in large cities (100,000 and over) grew in England from 26 per cent in 1871 to 38 per cent in 1951; in Germany from 5 per cent in 1871 to 27 per cent in 1950; in France, from 9 per cent in 1870 to 17 per cent in 1946; and in the United States from 11 per cent in 1870 to 30 per cent in 1950. And, as [shown elsewhere],[6] the process of migration into urban areas permits a large proportion of the sons of workers who grow up in metropolitan centers to fill the newly created or demographically vacated middle-class positions, while the manual jobs left open are filled by migrants from small towns or rural areas.

3. In our rapidly changing world some positions lose, some gain, prestige. Thus, a person can be mobile in the eyes of society without changing his job. Admittedly, most of these losses or gains are barely noticeable within one generation. For example, a rating of twenty-five occupations made in 1925 was compared with a rating made in 1947, and a correlation of .97 was obtained, indicating practically no change.[7] However, another study of the same period has indicated that government positions in the United States have enhanced their prestige since the 'twenties.[8] Moreover, the addition of new occupations may sometimes inadvertently alter the prestige of certain occupation ranks; for example, the emergence of the occupation of airplane pilot during the last generation served to deglamorize such occupations as ship captain and loco-

motive engineer. And significant changes in a given profession such as were effected in those of physicist, mathematician, and others by the atomic research programs during World War II, are also likely to better—or to lower—its prestige. However, we do not have studies with which to test such guesses.

4. In modern social structures there is a relative decline in the number of inheritable positions.[9] Many middle-class fathers in salaried positions have little to give their children except a good education and motivation to obtain a high-status position. If for any reason, such as the early death of the father or family instability, a middle-class child does not complete his higher education, he is obviously in a poorer position, in terms of prospective employment, than the son of a manual worker who completes college. Clearly, some of the children of the middle class are so handicapped, others simply do not have the ability to complete college or to get along in a bureaucratic hierarchy, and many of these fall into a status below that of their fathers. Whatever the reason, persons of middle-class origin who fall in status leave room for others of lower-class background to rise.

The importance of this factor is emphasized by the sharp increase in the educational level among the working classes. No nation approaches the United States in terms of the number of university students who come from the working class. Even sons of working-class Negroes in the United States are more likely to go to college than sons of European workers.[10] The effect of the difference in university attendance among workers on the two continents, of course, is reduced by the fact that higher education is a more certain way of achieving a privileged position in Europe than in the United States.

5. Many earlier legal restrictions upon the right of a person to create a new and higher occupational status for himself have been removed. The abolition of the guild system is the classic example of this. All the countries we have discussed in this chapter have legal guarantees of the freedom of occupational choice. A peculiar consequence of such guar-

antees is the phenomenon of "increased upward mobility" during depressions. In these periods many manual workers are fired and cannot find jobs in their normal occupations. To survive, many of them become small entrepreneurs and, thus, according to the conventional classification, move upward on the social ladder. . . .

The Consequences of Social Mobility

Although it appears, then, that the amount of social mobility is largely determined by the more or less uniform structural changes of industrialized societies and is therefore much the same in all such societies, it should be emphasized that the consequences of that mobility have been most diverse. To take an extreme example: if a Negro in South Africa obtains a nonmanual position, he is a ready candidate for leadership in a movement of radical protest. But if a white American from a working-class family makes the same move, he usually becomes politically and socially conservative. Perhaps the most important key to an explanation of such varying consequences of mobility across the line between manual and nonmanual occupations, is the concept of status discrepancies. Every society may be thought of as comprising a number of separate hierarchies—e.g., social, economic, educational, ethnic, etc.—each of which has its own status structure, its own conditions for the attainment of a position of prestige within that structure. There are likely to be a number of discrepancies among the positions in the different hierarchies that every person occupies simultaneously, for, as Georg Simmel pointed out, every person maintains a unique pattern of group affiliations. Mobility merely adds to these discrepancies by creating or accentuating combinations of a high position in one rank and a low one in another; for example, a high position in an occupation combined with a low ethnic status, or a high position in the social-class hierarchy (based on the status of people with whom one associates) combined with a low income.

The few analyses of the psychological dimension of this problem that have been made indicate that status discrepancies may cause difficulties in personal adjustment because high self-evaluations in one sphere of life conflict with low ones in another. Durkheim, for example, suggested that both upward and downward mobility result in increased suicide rates by increasing the number of persons who find themselves in an anomic situation, one in which they do not know how to react to the norms involved.[11] Studies of mental illness have suggested that people moving up in America are more likely to have mental breakdowns than the nonmobile.[12]

Since it is primary-group relations which give individuals the psychic support which "protects" them against suicide and mental illness, the hypotheses developed by Janowitz and Curtis on the social consequences of occupational mobility may help explain the above findings. They suggest that social mobility is likely to have disruptive consequences on primary group structures, such as family, clique, and friendships, but that the integration of secondary group structures is less likely to be influenced. They further suggest that primary group strains will be greatest for extreme upward-mobile and downward-mobile families and least for stable and moderately upward-mobile families; greater for intra-generational than for inter-generational mobility.[13]

Of greater interest in the present context are studies which focus attention upon structural sources of status discrepancies, rather than upon the psychological adjustment to the experiences which typically result from these discrepancies. For example, in a society in which there is a marked difference between the consumption patterns of the working class and the middle class, status discrepancies are more likely to arise from occupational mobility than in societies in which the consumption patterns of workers and middle-class persons are similar.[14] Unfortunately, only in the field of political values do we have comparative data on the differential consequences of social mobility. The data derived from a number of

TABLE 2
Party Choice of German, Finnish, Swedish, and American Middle-Class Men Related to Their Social Origin

Country and party choice	Father's occupation					
	Manual		Nonmanual		Farm	
	Per cent	Number in sample	Per cent	Number in sample	Per cent	Number in sample
Germany: 1953						
Social Democratic..........	32	200	20	142	22	58
Finland: 1949						
Social Democratic and Communist..........	33	357	6	356	10	183
Sweden: 1950						
Social Democratic..........	47	135	20	315	...	...
Norway: 1957						
Labor and Communist..........	49	61	29	73	24	46
United States: 1952						
Democratic..........	22	67	30	79	34	59

Sources: The German data are from a study made by UNESCO Institute at Cologne, Germany; the Finnish data were supplied by Dr. Erik Allardt and were collected by the Finnish Gallup Poll; the Swedish data are from H. L. Zetterberg, "Overseas Erlander?" Vide-Journalen, 48 (1957) and 46; the Norwegian figures are recomputed from data provided by the Ohio Institute for Social Research; the American data are from material supplied by the Survey Research Center of the University of Michigan.

European and American studies (table 2) indicate that in America the successfully mobile members of the middle class are more conservative (that is, more often Republican) than those class members who are in a social position comparable to that of their parents. In Germany, Finland, Norway, and Sweden, on the other hand, the former group is more radical (that is, more often Social Democratic or Communist).

The data from these five countries suggest that individuals moving up occupationally in Northern Europe where shifts from one class to another typically require major adjustments in living style are more likely than comparably successful Americans to retain links to their class of origin. In the United States there is also presumably less concern with personal background in much of the middle class, and more likelihood that the successful individual need only change his residential neighborhood to bring his economic and his social status into line. These findings seem related to variations in the working-class vote. In Germany and Sweden, the skilled workers are more radical than the semi- and unskilled; in America, the skilled workers are

more conservative.[15] This leads us to the hypothesis that skilled workers experience more status rejection in these North European countries, so that their higher economic status results in frustrations, while the other countries mentioned may give the highly paid skilled worker more real opportunities to aspire to middle-class status. The differences between the working- and middle-class styles of life may also be an important factor, since in America it is presumably easier to take on middle-class consumption patterns. A suggestive indication that the retention of working-class political values by upward-mobile persons is related to other working-class elements in their style of life, is indicated by the following data (see table 3) from Sweden: white-collar workers who have risen from working-class backgrounds will generally continue to vote for the working-class party unless they change their style of consumption (symbolized here by the automobile); on assuming a middle-class consumption pattern, they also adopt the voting pattern of the middle class. This attempt to interpret what little data we have on the consequences of upward mobility in different cultures rests on the unproven as-

TABLE 3
Relationship Between Social Origin, Consumption Patterns, and Voting Behavior Among Men in Sweden (percentages)

Voting	Manual from manual homes		Nonmanual from manual homes		Nonmanual from nonmanual homes	
	Without car	With car	Without car	With car	Without car	With car
Non-Socialist	15	14	38	74	79	83
Socialist	85	86	63	26	21	17
Number in sample	221	72	78	55	170	145

Source: From H. L. Zetterberg, "Overaget Erlander?"

sumption that in Europe men who move up in the economic hierarchy find it difficult to adjust to the life style of higher levels, while in the United States men can more easily fulfill the requirements of the social position that corresponds to their economic success. . . .

Ideological Equalitarianism

The data presented in the preceding [section] raise questions about the validity of the widely-accepted belief that the United States is *the* land of opportunity. Yet how can we account for the persistence of the assumption that in this country the position of an individual's family is less likely to determine his social and economic destiny than in Europe? And how is this image related to patterns of social mobility? . . .

We can only speculate when we attempt to assess the effects of the absence of a feudal past in America. Clearly it has not meant the absence of status distinctions—which have frequently been every bit as invidious, though more surreptitiously introduced, on this side of the Atlantic as on the other. But it has led to, among other things, an ideological equalitarianism, which is not any the less important because it has been contradicted on every side by the existence of status differences. No act is perhaps as symbolic of this ideology as Thomas Jefferson's order to have a round table replace the rectangular one at the White

House because this would relieve him of the necessity of stipulating the order of precedence at official receptions. This act was not a denial of the existing differences in rank and authority; it was rather a testimony to the belief that these were the accidental, not the essential, attributes of man. Among men of equal worth it is not in good taste to insist on the accidental distinctions which divide them.

Such ideological equalitarianism has played, and continues to play, an important role in facilitating social mobility in the United States. It enables the person of humble birth to regard upward mobility as attainable for himself, or for his children. It facilitates his acceptance as a social equal if he succeeds in rising economically. It mitigates the emotional distance between persons of different social rank. And it fosters in any existing elite the persuasion (however mistaken this may be) that its eminence is the result of individual effort, and hence temporary. The point to emphasize is, not that these beliefs are often contradicted by the experience of those who hold them, but that this equalitarian ideology has persisted in the face of facts which contradict it. We would suggest that the absence of hereditary aristocracy has done much to foster this persistence. Americans have rarely been exposed to persons whose conduct displays a belief in an inherited and God-given superiority and also demands that others demonstrate (by deferential behavior) their recognition of this superiority.

The existence of ideological equalitarianism in the United States is generally acknowledged, but interpretations of its significance vary widely. One of these interpretations holds that this ideology is a delusion which must be dispelled by presenting the people with the hard facts of status differences. Accordingly, W. Lloyd Warner has called for systematic, explicit training to combat half-knowledge and confused emotions, in order that the adult student will learn "what he needs to know about our status system, and how he fits into the system, and what he should do to improve his position or what he should do to make his present one more tolerable."[16] Whatever may be said of the usefulness of such studies, we find it difficult to believe that significant numbers of Americans are not aware of the existence of status differences. We doubt that instruction of the kind envisaged by Warner will have any notable effect upon the belief in equal opportunity. All the available evidence points, rather, to the fact that people continue to believe in the "equalitarianism" of American society despite their daily familiarity with economic inequality and status distinctions.

Another interpretation of ideological equalitarianism takes a much more optimistic view. In his great work on the American Negro, Gunnar Myrdal has pictured the dilemma which arises for every white American out of the profound contradiction between the theory of equal rights and the practice of racial segregation.[17] In the actions prompted by this deep moral conflict Myrdal sees the lever that can be used to bring about progressive social change. This too we find difficult to accept. It is our belief that this approach overemphasizes the urgency of a moral conflict. We would not deny that the conflict is present and that it has often led the way from equalitarian theory to equalitarian practice. Indeed, this conflict and its resultant social agitation is a mainspring of the American liberal tradition. Yet the available evidence indicates that the development of both the theory and the practice of "equalitarianism" among the contin-

ued presence of large, ethnically segregated castes. That is, one of the reasons why the belief in this system has been sustained is because opportunities to rise socially and economically have been available to "majority" Americans," and a disproportionate share of poverty, unemployment, sickness and all forms of deprivation have fallen to the lot of minority groups, especially fifteen million Negro Americans.

Our own interpretation of "ideological equalitarianism" differs from these overpessimistic or overoptimistic views. We think that the equalitarianism of manners is not merely a matter of belief, but a reality: differences in status and power have no great effect upon the casual social contacts which set the tone of everyday human relations. This is linked to the fact that these differences have not been elaborated ideologically as they have in Europe. Surely, this has not diminished these differences of status and power, but it has helped to prevent the ideological hardening of class and status-groups, so that the representation of collective interests is a thing apart from the intellectual life of the country.

As a result, Americans frequently think of differences of status and power, not as being what they really are, but rather as differences in the distribution of material goods. This well-known materialism of American society can also be thought of as an ideology—an ideology which purports to measure men by the single yardstick of material success. As such it is unlike the class and status ideologies of Europe; it involves instead quite an idealistic belief in equality, for all the differences in material status which it accentuates.

Such ideological equalitarianism implies an ideal which is best expressed by the familiar phrase, "equality of opportunity." It is conceivable that a people might adhere to such an ideal for some time even in the face of declining opportunities for occupational advancement. Some of the evidence concerning the response to the experience of the Great Depression suggests that the traditional belief in America as the land of opportunity imparted to people a spirit of resilience which

helped to sustain them through great adversity.[18] However, it is our guess that *a sharp and listing decline* in the opportunities for occupational advancement would jeopardize these beliefs and lead to a change in the system of values. Such a decline has not yet occurred.

Notes

1. See Colin Clark, *The Conditions of Economic Progress*, 3d ed. (London: Macmillan, 1957), pp. 490–520.

2. Werner Sombart, *Warum gibt es in den Vereingten Staaten keinen Sozialismus?* (Tuebingen: J. C. B. Mohr, 1906), p. 135.

3. It may be noted, however, that Sombart also emphasized the subjective factor: "Consideration should also be given to the mere awareness of the worker that he could become an independent farmer at any time. This consciousness was bound to give the American worker a feeling of security and peace of mind which the European worker did not know. One can tolerate any coercive situation much more easily if one has at least the illusion that one could escape that situation if worse came to worse." *Ibid.*, p. 140. Such an awareness was, in Sombart's opinion, relatively independent of the actual number of workers who availed themselves of opportunities for upward mobility, though he did not develop this point further.

4. Reinhard Bendix, *Work and Authority in Industry* (New York: Wiley, 1956), pp. 211–226.

5. An exception is the big cities of Sweden in the earlier part of this century. However, data in the 1935 census indicate that differential fertility was at that time a characteristic of the nation as a whole.

6. Seymour M. Lipset and Reinhard Bendix, *Social Mobility in Industrial Society* (Berkeley and Los Angeles: University of California Press, 1964), chapter viii.

7. Martha E. Deeg and Donald G. Paterson, "Changes in the Social Status of Occupations," *Occupations*, 25 (1947): 205–208.

8. M. Janowitz and Dell Wright, "The Prestige of Public Employment: 1929 and 1954," *Public Administration Review*, 16 (1956): 15–21.

9. See S. M. Lipset and R. Bendix, *Social Mobility in Industrial Society*, chapters iii and iv.

10. C. Arnold Anderson, "The Social Status of University Students in Relation to Type of Economy: An International Comparison," in *Transactions of the Third World Congress of Sociology*, Vol. V (London: International Sociological Association, 1956), p. 57.

11. E. Durkheim, *Suicide* (Glencoe: The Free Press, 1951), pp. 246–254.

12. A. B. Hollingshead, R. Ellis, and E. Kirby, "Social Mobility and Mental Illness," *American Sociological Review*, 19 (1954): 577–584. A. B. Hollingshead and F. C. Redlich, "Schizophrenia and Social Structure," *American Journal of Psychiatry*, 110 (1954): 695–701. The possibility that the same factors cause social mobility that cause mental illness is suggested by Evelyn Ellis, "Social Psychological Correlates of Upward Social Mobility among Unmarried Career Women," *American Sociological Review*, 17 (1952): 558–563.

13. Morris Janowitz and Richard Curtis, "Sociological Consequences of Occupational Mobility in a U.S. Metropolitan Community," (Working Paper One submitted to the Fourth Working Conference on Social Stratification and Social Mobility, International Sociological Association, December, 1957).

14. See S. M. Lipset and R. Bendix, *Social Mobility in Industrial Society*, chapter iii.

15. See S. M. Lipset and J. Linz, *The Social Basis of Political Diversity* (Stanford: Center for Advanced Study in the Behavioral Sciences, 1956; mimeographed.) Data from the Swedish Gallup Poll for different Swedish elections, and from a 1953 study of German elections conducted by the UNESCO Institute at Cologne, and the 1957 study conducted by DIVO indicate that the better paid and higher skilled Swedish and German workers are much more likely to vote for the left parties than the lower paid and less skilled.

16. W. Lloyd Warner, *et al.*, *Social Class in America* (Chicago: Science Research Associates, Inc., 1949), p. v. It is perhaps paradoxical that a theory of class which emphasizes reciprocal status evaluations, should, nevertheless, justify itself on these grounds. The very ambiguity of these evaluations is an important part of the evidence, and an approach that deliberately eliminates this ambiguity in the name of scientific accuracy may obscure this part of the evidence.

17. See G. Myrdal, *The American Dilemma* (New York: Harper, 1942).

18. See E. Wight Bakke, *The Unemployed Worker* (New Haven: Yale University Press, 1940), pp. 83–89, and by the same author, *Citizens Without Work* (New Haven: Yale University Press, 1940), pp. 66–68.

RALPH H. TURNER

Sponsored and Contest Mobility and the School System

This paper suggests a framework for relating certain differences between American and English systems of education to the prevailing norms of upward mobility in each country.[2] But preoccupation with the *extent* of mobility has precluded equal attention to the predominant *modes* of mobility. The central assumption underlying this paper is that within a formally open class system that provides for mass education the organizing folk norm which defines the accepted mode of upward mobility is a crucial factor in shaping the school system, and may be even more crucial than the extent of upward mobility. In England and the United States there appear to be different organizing folk norms, here termed *sponsored mobility* and *contest mobility*, respectively. *Contest mobility* is a system in which elite[3] status is taken by

Others have noted the tendency of educational systems to support prevailing schemes of stratification, but this discussion concerns specifically the manner in which the *accepted mode of upward mobility* shapes the school system directly and indirectly through its effects on the values which implement social control.

Two ideal-typical normative patterns of upward mobility are described and their ramifications in the general patterns of stratification and social control are suggested. In addition to showing relationships among a number of differences between American and English schooling, the ideal-types have broader implications than those developed in this paper; they suggest a major dimension of stratification which might be profitably incorporated into a variety of studies in social class; and they readily can be applied in further comparisons between other countries.

The Nature of Organizing Norms

Many investigators have concerned themselves with rates of upward mobility in specific countries or internationally,[1] and with the manner in which school systems facilitate or impede such mobility.[2] But preoccupation with the *extent* of mobility has precluded equal attention to the predominant *modes* of mobility. The central assumption underlying this paper is that within a formally open class system that provides for mass education the organizing folk norm which defines the accepted mode of upward mobility is a crucial factor in shaping the school system, and may be even more crucial than the extent of upward mobility. In England and the United States there appear to be different organizing folk norms, here termed *sponsored mobility* and *contest mobility*, respectively. *Contest mobility* is a system in which elite[3] status is taken by the prize in an open contest and is taken by the aspirants' own efforts. While the "contest" is governed by some rules of fair play, the contestants have wide latitude in the strategies they may employ. Since the "prize" of successful upward mobility is not in the hands of an established elite to give out, the latter can not determine who shall attain it and who shall not. Under *sponsored mobility* elite recruits are chosen by the established elite or their agents, and elite status is *given* on the basis of some criterion of supposed merit and cannot be *taken* by any amount of effort or strategy. Upward mobility is like entry into a private club where each candidate must be "sponsored" by one or more of the members. Ultimately the members grant or deny upward mobility on the basis of whether they judge the candidate to have those qualities they wish to see in fellow members. . . .

Social Control and the Two Norms

Every society must cope with the problem of maintaining loyalty to its social system and values, and does so in part through norms and values, only some of which vary by class position. Norms and values especially prevalent within a given class must direct behavior into channels that support the total system, while those that transcend strata must support the general class differential. The way in which upward mobility takes place determines in part the kinds of norms and values that serve the indicated purposes of social control in each class and throughout the society.

The most conspicuous control problem is that of ensuring loyalty in the disadvantaged classes toward a system in which their members receive less than a proportional share of society's goods. In a system of contest mobility this is accomplished by a combination of futuristic orientation, the norm of ambition, and a general sense of fellowship with the elite. Each individual is encouraged to think of himself as competing for an elite position so that loyalty to the system and conventional attitudes are cultivated in the process of preparation for this possibility. It is essential that this futuristic orientation be kept alive by delaying a sense of final irreparable failure to reach elite status until attitudes are well established. By thinking of himself in the successful future the elite aspirant forms considerable identification with elitists, and evidence that they are merely ordinary human beings like himself helps to reinforce this identification as well as to keep alive the conviction that he himself may someday succeed in like manner. To forestall rebellion among the disadvantaged majority, then, a contest system must avoid absolute points of selection for mobility and immobility and must delay clear recognition of the realities of the situation until the individual is too committed to the system to change radically. A futuristic orientation cannot, of course, be inculcated successfully in all members of lower strata, but sufficient interest in a norm of ambition tends to leave the unambitious as individual deviants and to forestall the latter's formation of a genuine subcultural group able to offer collective threat to the established system. Where this kind of control system operates rather than effectively it is notable that organized or gang deviancy is more likely to take the form of an attack upon the conventional or moral order rather than upon the class system itself. Thus the United States has its "beatniks"[4] who repudiate ambition and most worldly values and its delinquent and criminal gangs who try to evade the limitations imposed by conventional means,[5] but very few active revolutionaries.

These social controls are inappropriate in a system of sponsorship since the elite recruits are chosen from above. The principal threat to the system would lie in the existence of a strong group the members of whom sought to take elite positions themselves. Control under this system is maintained by training the "masses" to regard themselves as relatively incompetent to manage society, by restricting access to the skills and manners of the elite, and by cultivating belief in the superior competence of the elite. The earlier that selection of the elite recruits is made the sooner others can be taught to accept their inferiority and to make "realistic" rather than fantasy plans. Early selection prevents raising the hopes of large numbers of people who might otherwise become the discontented leaders of a class challenging the sovereignty of the established elite. If it is assumed that the difference in competence between masses and elite is seldom so great as to support the usual differences in the advantages accruing to each,[6] then the differences must be artificially augmented by discouraging acquisition of elite skills by the masses. Thus a sense of mystery about the elite is a common device for supporting the illusion of a much greater hiatus of competence than in fact exists.

While elitists are unlikely to reject a system that benefits them, they must still be restrained from taking such advantage of their favorable situation as to jeopardize the entire elite. Under the sponsorship system the elite recruits—who are selected early, freed from the strain of competitive struggle, and kept

under close supervision—may be thoroughly indoctrinated in elite culture. A norm of paternalism toward inferiors may be inculcated, a heightened sensitivity to the good opinion of fellow elitists and elite recruits may be cultivated, and the appreciation of the more complex forms of aesthetic, literary, intellectual, and sporting activities may be taught. Norms of courtesy and altruism easily can be tolerated and others may "cover up" for his deficiencies in order to protect the unified front of the elite to the outer world.

Elite control in the contest system is more difficult since there is no controlled induction and apprenticeship. The principal regulation seems to lie in the insecurity of elite position. In a sense there is no "final arrival" because each person may be displaced by newcomers throughout his life. The limited control of high standing from above prevents the clear delimitation of levels in the class system, so that success itself becomes relative: each success, rather than an accomplishment, serves to qualify the participant for competition at the next higher level.[7] The restraints upon the behavior of a person of high standing, therefore, are principally those applicable to a contestant who must not risk the "ganging up" of other contestants, and who must pay some attention to the masses who are frequently in a position to impose penalties upon him. But any special norm of paternalism is hard to establish since there is no dependable procedure for examining the means by which one achieves elite credentials. While mass esteem is an effective brake upon over-exploitation of position, it rewards scrupulously ethical and altruistic behavior much less than evidence of fellow-feeling with the masses themselves.

Under both systems, unscrupulous or disreputable persons may become or remain members of the elite, but for different reasons. In contest mobility, popular tolerance of a little craftiness in the successful newcomer, together with the fact that he does not have to undergo the close scrutiny of the old elite, leaves considerable leeway for unscrupulous success. In sponsored mobility, the unpromising recruit reflects unfavorably on the judgment of his sponsors and threatens the myth of elite omniscience; consequently he may be

Certain of the general values and norms of any society reflect emulation of elite values by the masses. Under sponsored mobility, a good deal of the protective attitudes toward and interest in classical subjects percolates to the masses. Under contest mobility, however, there is not the same degree of homogeneity of moral, aesthetic, and intellectual values to be emulated, so that the conspicuous attribute of the elite is its high level of material consumption—emulation itself follows this. There is neither effective incentive nor punishment for the elitist who fails to interest himself in promoting the arts or literary excellence, or who continues to maintain the vulgar manners and mode of speech of his class origin. The elite has relatively less power and the masses relatively more power to punish or reward a man for his adoption or disregard of any special elite culture. The great importance of accent and of grammatical excellence in the attainment of high status in England as contrasted with the twangs and drawls and grammatical ineptitude among American elites is the most striking example of this difference. In a contest system, the class order does not function to support the quality of aesthetic, literary, and intellectual activities; only those well versed in such matters are qualified to distinguish authentic products from cheap imitations. Unless those who claim superiority in these areas are forced to submit their credentials to the elite for evaluation, poor quality is often honored equally with high quality and class prestige does not serve to maintain an effective norm of high quality.

This is not to imply that there are no groups in a "contest" society devoted to the

protection and fostering of high standards in art, music, literature, and intellectual pursuits, but that such standards lack the support of the class system which is frequently found when sponsored mobility prevails. In California, the selection by official welcoming committees of a torch singer to entertain a visiting king and queen and "can-can" dancers to entertain Mr. Khrushchev illustrates how American elites can assume that high prestige and popular taste go together.

Formal Education

Returning to the conception of an organizing ideal norm, we assume that to the extent to which one such norm of upward mobility is prevalent in a society there are constant strains to shape the educational system into conformity with that norm. These strains operate in two fashions: directly, by binding people to alternatives and coloring their judgments of successful and unsuccessful solutions to recurring educational problems; indirectly, through the functional interrelationships between school systems and the class structure, systems of social control, and other features of the social structure which are neglected in this paper.

The most obvious application of the distinction between sponsored and contest mobility norms affords a partial explanation for the different policies of student selection in the English and American secondary schools. Although American high school students follow different courses of study and a few attend specialized schools, a major educational preoccupation has been to avoid any sharp social separation between the superior and inferior students and to keep the channels of movement between courses of study as open as possible. Recent criticisms of the way in which superior students may be thereby held back in their development usually are nevertheless qualified by the insistence that these students must not be withdrawn from the mainstream of student life. Such segregation offends the sense of fairness implicit in the

contest norm and also arouses the fear that the elite and future elite will lose their sense of fellowship with the masses. Perhaps the most important point, however, is that schooling is presented as an opportunity, and making use of it depends primarily on the student's own initiative and enterprise.

The English system has undergone a succession of liberalizing changes during this century, but all of them have retained the attempt to sort out early in the educational program the promising from the unpromising so that the former may be segregated and given a special form of training to fit them for higher standing in their adult years. Under the Education Act of 1944, a minority of students has been selected each year by means of a battery of examinations popularly known as "eleven plus," supplemented in varying degrees by grade school records and personal interviews, for admission to grammar schools.[9] The remaining students attend secondary modern or technical schools in which the opportunities to prepare for college or to train for the more prestigeful occupations are minimal. The grammar schools supply what by comparative standards is a high quality of college preparatory education. Of course, such a scheme embodies the logic of sponsorship, with early selection of those destined for middle-class and higher-status occupations, and specialized training to prepare each group for its destined class position. This plan facilitates considerable mobility, and recent research reveals surprisingly little bias against children from manual laboring-class families in the selection for grammar school, when related to measured intelligence.[10] It is altogether possible that adequate comparative study would show a closer correlation of school success with measured intelligence and a lesser correlation between school success and family background in England than in the United States. While selection of superior students for mobility opportunity is probably more efficient under such a system, the obstacles for persons not so selected of "making the grade" on the basis of their own initiative or enterprise are probably correspondingly greater.

Effects of Mobility on Personality

Brief note may be made of the importance of the distinction between sponsored and contest mobility with relation to the supposed effects of upward mobility on personality development. Not a great deal is yet known about the "mobile personality" nor about the specific features of mobility experience to the personality in general. However, today three aspects of this experience are most frequently stressed: first, the stress or tension involved in striving for status higher than that of others under more difficult conditions than they; second, the complication of interpersonal relations introduced by the necessity to abandon lower-level friends in favor of uncertain acceptance into higher-level circles; third, the problem of working out an adequate personal scheme of values in the face of movement between classes marked by somewhat variant or even contradictory value systems.[12] The impact of each of these three mobility problems, it is suggested, differ depending upon whether the pattern is that of the contest or of sponsorship.

Under the sponsorship system, recruits are selected early, segregated from their class peers, grouped with other recruits and with youth from the class to which they are moving, and trained specifically for membership in this class. Since the selection is made early, the mobility experience should be relatively free from the strain that comes with a series of elimination tests and long-extended uncertainty of success. The segregation and the integrated group life of the "public" school or grammar school should help to clarify the mobile person's social ties. (One investigator failed to discover clique formation along lines of social class in a sociometric study of a number of grammar schools.[13]) The problem of a system of values may be largely met when the elite recruit is taken from his parents and peers to be placed in a boarding school, though it may be less well clarified for the grammar school boy who returns each evening to his working-class family. Undoubtedly this latter limitation has something to do

with the observed failure of working-class boys to continue through the last years of grammar school and into the universities.[14] In general, then, the factors stressed as affecting personality formation among the upwardly mobile probably are rather specific to the contest mobility system, or to incompletely functioning sponsorship system.

Notes

1. A comprehensive summary of such studies appears in Seymour M. Lipset and Reinhard Bendix, *Social Mobility in Industrial Society*, Berkeley and Los Angeles: University of California Press, 1959.

2. Cf. C. A. Anderson, "The Social Status of University Students in Relation to Type of Economy: An International Comparison," *Transactions of the Third World Congress of Sociology*, London, 1956, Vol. V, pp. 51–63; J. E. Floud, *Social Class and Educational Opportunity*, London: Heinemann, 1956; W. L. Warner, R. J. Havighurst, and M. B. Loeb, *Who Shall Be Educated?* New York: Harper, 1944.

3. Reference is made throughout the paper to "elite" and "masses." The generalizations, however, are intended to apply throughout the stratification continuum to relations between members of a given class and the class or classes above it. Statements about mobility are intended in general to apply to mobility from manual to middle-class levels, lower-middle to upper-middle class, and so on, as well as into the strictly elite groups. The simplified expressions avoid the repeated use of cumbersome expressions and involved statements which might otherwise be required.

4. See, e.g., Lawrence Lipton, *The Holy Barbarians*, New York: Messner, 1959.

5. Cf. Albert K. Cohen, *Delinquent Boys: The Culture of the Gang*, Glencoe, Ill.: Free Press, 1955.

6. D. V. Glass, editor, *Social Mobility in Britain*, Glencoe, Ill.: Free Press, 1954, pp. 144–145, reports studies showing only small variations in intelligence between occupational levels.

7. Geoffrey Gorer, *The American People*, New York: Norton, 1948, pp. 172–187.

8. See, e.g., Los Angeles Times, May 4, 1959, Part I, p. 24.

9. The nature and operation of the "eleven plus" system are fully reviewed in a report by a committee of the British Psychological Society and in a report of extensive research into the adequacy of selection methods. See P. E. Vernon, editor, Secondary School Selection: A British Psychological Inquiry, London: Methuen, 1957; and Alfred Yates and D. A. Pidgeon, Admission to Grammar Schools, London: Newnes Educational Publishing Co., 1957.

10. J. E. Floud, A. H. Halsey, and F. M. Martin, Social Class and Educational Opportunity, London: Heinemann, 1956;

11. Cf. Lipset and Bendix, op. cit., pp. 250 ff.

12. See, e.g., August B. Hollingshead and Frederick C. Redlich, Social Class and Mental Illness, New York: Wiley, 1958; W. Lloyd Warner and James C. Abegglen, Big Business Leaders in America, New York: Harper, 1955; Warner et al., Who Shall be Educated?; op. cit.; Peter M. Blau, "Social Mobility and Interpersonal Relations," American Sociological Review, 21 (June, 1956), pp. 290–300.

13. A. N. Oppenheim, "Social Status and Clique Formation among Grammar School Boys," British Journal of Sociology, 6 (September, 1955), pp. 228–245. Oppenheim's findings may be compared with A. B. Hollingshead, Elmtown's Youth, New York: Wiley, 1949, pp. 204–242. See also Joseph A. Kahl, The American Class Structure, New York: Rinehart, 1957, pp. 129–138.

14. Floud et al., op. cit., pp. 115 ff.

▶ MODERN ANALYSES OF CLASS MOBILITY

DAVID L. FEATHERMAN AND ROBERT M. HAUSER

A Refined Model of Occupational Mobility

In this [article] we describe and apply a log-linear model of the mobility table. . . . The model permits us to locate groups or clusters of cells in the classification that share similar chances of mobility or immobility, freed of the confounding influences of the relative numbers of men in each origin or destination category and of changes in those relative numbers between origin and destination distributions.

By modeling the mobility table in this way we obtain new insights into the process of mobility, changes in that process, and the interactions of the mobility process with changes in the occupational structure within one mobility classification or between two or more mobility classifications. For example, we take a fresh look at the differing tendencies toward immobility in the several occupational strata, at the existence of "class" boundaries limiting certain types of mobility, at differences in upward and downward exchanges between occupational strata, and at differences among strata in the dispersion of recruitment and supply. In these purposes our analysis parallels Blau and Duncan's treatment of manpower flows (1967:Chap. 2; also, see Blau, 1965).

Several sociologists have recently drawn attention to relationships between occupational mobility and class formation, for example, Giddens (1973), Parkin (1971), and Westergaard and Resler (1975). Goldthorpe and Llewellyn (1977) have critically reviewed these and related works in light of British mobility data collected in 1972. It would be easy to identify our present analytic interests with those of the class theorists, but we think such an inference unwarranted.

Although we are attempting a description of the mobility regime that is free of the distributions of occupational origins and destinations, we believe with Goldthorpe and Llewellyn that the class theorists are attempting to interpret what [might be] termed the gross flows of manpower. For the American case we have already described those flows [see Featherman and Hauser (1978:Chapter 3)], and our interest now centers on the net or underlying patterns of association in the mobility table.

We have approached the mobility table without strong theoretical presuppositions about affinities among occupational strata. Like Blau and Duncan, we have worked inductively, but our more refined analytic tools have led to substantially different conclusions than theirs about the major features of the mobility process in the United States.

Some readers may find the following discussion excessively technical, but we have tried to minimize the presentation of methodological detail. We have tried to avoid describing the methods by which empirical spec-

fications of the mobility table may be explored, although we believe these are interesting in their own right. We have focused on the rationale and interpretation of our model, including comparisons with other ways of looking at the mobility table that seem likely to elucidate the properties of the model.

Mobility Models

The record of sociological mobility studies is paralleled by a history of statistical analysis in which occupational mobility has often served as stimulus, object, or illustration of statistical ideas (for example, see Pearson, 1904; Chessa, 1911; Rogoff, 1953; Glass, 1954; Goodman, 1961, 1968, 1969a, 1972c; Tyree, 1973; White, 1963, 1970a; Singer and Spilerman, 1976). Indeed, it is consistent with the historical pattern that sociologists were introduced to the method of path analysis primarily by way of its successful application in studies of occupational mobility (Duncan and Hodge, 1963; Blau and Duncan, 1967). Devices for the statistical analysis of mobility data range from simple descriptive measures to complex analytic schemes. We make no systematic effort to review these measures and models, for there are several recent and comprehensive reviews (Boudon, 1973; Pullum, 1975; Bibby, 1975). We focus almost exclusively on multiplicative (loglinear) representations of the occupational mobility table. In so doing we do not intend to suggest that other methods and approaches are inferior, but to exploit features of the loglinear model that seem interesting and fruitful.

In a series of papers, Goodman (1963, 1965, 1968, 1969a, 1969b, 1972c) developed and exposited methods for the analysis of contingency tables (including mobility tables) in which the significant interactions were localized in specified cells or sets of cells in the table (also, see Pullum, 1975). For example, in the case of highly aggregated (3 × 3 or 5 × 5) mobility tables Goodman showed that most of the interaction pertained to cells on or near the main diagonal (when the occupa-

tion categories of origin and destination were listed in order of increasing status). White (1963, 1970b) has made essentially the same suggestion, but some aspects of his models and methods are less appealing. Goodman (1965, 1969a) proposed that the analyst ignore or "blank out" those cells where interaction was greatest (where frequencies were thought to be especially dense or especially sparse), and attempt to fit a modified model of statistical independence, termed "quasi-independence," to the remaining frequencies in the table. In the case where only diagonal cells were blanked out in a mobility table, Goodman called the model one of "quasi-perfect mobility," after the term "perfect mobility," which had earlier been applied to the model of statistical independence in a mobility table. For an early application of this model to a large (17 × 17) table see Blau and Duncan (1967:64-67). Goodman (1965, 1968, 1969a) noted that quasi-independence might hold over all cells in a table whose entries were not ignored, or it might hold within, but not between certain subsets of cells whose entries were not ignored....

Models of quasi-independence have provided important insights into the structure of mobility tables. Aside from Goodman's expository papers, they have been applied in cross-national, interurban, and cross-temporal analyses (Iutaka et al., 1975; Featherman et al., 1975; Pullum, 1975; Hauser et al., 1975; Ramsoy, 1977; Goldthorpe et al., 1978). Goodman (1969a) also has shown how related ideas may be supplied to test any specific hypothesis about the pattern of association in a mobility table.

At the same time the application of quasi-independence models in mobility analysis has been less than satisfying in some ways. Even where large numbers of cells are blocked, quasi-independence models do not fit large tables very well (Pullum, 1975; Hauser et al., 1975). That is, when mobility data are not highly aggregated, it appears that association

before a good fit is obtained, the less substantively appealing is the model of quasi-independence. Moreover, by treating departures from quasi-independence in the blocked or ignored cells as parameters or indices of mobility and departures in the unblocked cells as error, the quasi-independence model attaches too much theoretical importance to occupational inheritance (Hope, 1976). Of course, occupational inheritance is always defined by reference to a given classification of occupations, and the problem is exacerbated by the fact that the model of quasi-independence fits best when the mobility table is based on broad occupation groups. The model is of greatest validity in the measurement of immobility in classifications where the concept of occupational inheritance becomes vague.

The focus on fit on or near the main diagonal follows a traditional sociological interest in occupational inheritance, but it also draws our attention away from other aspects of association in the table. For example, one might hypothesize that certain types of mobility or immobility are as prevalent as other types of mobility. More generally, one might wish to construct a parametric model of mobility and immobility for the full table that would recognize the somewhat arbitrary character of occupational inheritance and the possible gradations of association throughout the table.

Goodman's (1972c) general multiplicative model of mobility tables and other cross-classifications substantially advanced the sophistication and precision of mobility analysis. For example, Goodman proposed and applied to the classic British and Danish mobility data a number of alternative specifications, all but two of which—the simple independence model and that of quasi-perfect mobility—assumed ordinality in the occupational categories. The models incorporated combinations of parameters for upward and downward mobility, for the number of boundaries crossed, and for barriers to crossing particular categoric boundaries. Many of these models—as well as problems in comparing their goodness of fit—are reviewed by Bishop et

al. (1975:Chaps. 5, 8, 9), and some of the same models are discussed by Haberman (1974:Chap. 6). Applying Goodman's (1972c) general model we take a slightly different approach in developing models of the mobility table. Elsewhere, Hauser (1978) has applied this approach in an analysis of the classic British mobility table, and Baron (1977) has used it in a reanalysis of Rogoff's (1953) Indianapolis data.

A Refined Multiplicative Model of the Mobility Table[1]

Let x_{ij} be the observed frequency in the ijth cell of the classification of men by their own occupations ($j = 1,...,J$) and their own occupations at an earlier time ($i = 1,...,I$). In the context of mobility analysis the same categories will appear in the rows and columns, and the table will be square with $I = J$. For $k = 1,...,K$, let H_k be a mutually exclusive and exhaustive partition of the pairs (i, l) in which

$$E[x_{ij}] = m_{ij} = \alpha\beta_i\gamma_j\delta_{ij}$$ (1)

where $\delta_{ij} = \delta_k$ for $(i, l) \in H_k$, subject to the normalization $\Pi_i\beta_i = \Pi_j\gamma_j = \Pi_k\delta_k = 1$. The normalization of parameters is a matter of convenience, and we choose the value of so that it will hold. Note that, unlike the usual set-up, the interaction effects are not constrained within rows or columns, although the marginal frequencies are fixed. The model says the expected frequencies are a product of an overall effect (α), a row effect (β), a column effect (γ), and an interaction effect (δ_{ij}). The row and column parameters represent conditions of occupational supply and demand; they reflect demographic replacement processes and past and present technologies and economic conditions. The cells (i, l) are assigned to K mutually exclusive and exhaustive levels, and each of those levels shares a common interaction parameter δ_k. Thus,

mobility or immobility in that cell relative to that in other cells in the table.

The interaction parameters of the model correspond directly to our notions of variations in the density of observations (White, 1963:26). Unlike several models fitted by Goodman (1972c), this model does not assume ordinal measurement of occupations. Of course, the assumption of ordinality may be used to explore the metric properties of our occupational classification. For the model to be informative, the distribution of levels across the cells of the table must form a meaningful pattern, and one in which the parameters are identified (Mason et al., 1973; Haberman, 1974:217). Furthermore, the number of levels (K) should be substantially less than the number of cells in the table. These latter properties are partly matters of substantive and statistical interpretation and judgment, rather than characteristics of the model or of the data. We have found it difficult to interpret models where the number of levels is much greater than the number of categories recognized in the occupational classification. . . .

Mobility to First Jobs: An Illustration

Table 1 gives frequencies in a classification of son's first, full-time civilian occupation by father's (or other family head's) occupation at the son's sixteenth birthday among American men who were ages 20–64 in 1973 and were not currently enrolled in school.[2] Table 2 gives the design matrix of a model for the data of Table 1. Each numerical entry in the body of the table gives the level of H_i to which the corresponding entry in the frequency table was assigned. Formally, the entries are merely labels, but, for convenience in interpretation, the numerical values are inverse to the estimated density of mobility or immobility in the cells to which they refer.

On this understanding the design says that, aside from conditions of supply and demand, immobility is highest in farm occupations (Level 1) and next highest in the upper non-

manual category (Level 2). If we take the occupation groups as ranked from high to low in the order listed, we may say that there are zones of high and almost uniform density bordering the peaks at either end of the status distribution. There is one zone of high density that includes upward or downward movements between the two nonmanual groups and immobility in the lower nonmanual group. Mobility from lower to upper non-manual occupations (Level 3) is more likely than the opposite movement, and the latter is as likely as stability in the lower nonmanual category (Level 4). Moreover, the densities of immobility in the lower nonmanual category and of downward mobility to it are identical to those in the second zone of relatively high density, which occurs at the lower end of the occupational hierarchy. The second zone includes movements from the farm to the lower manual group and back as well as immobility in the lower manual group. Last, there is a broad zone of relatively low density (Level 5) that includes immobility in the upper manual category, upward and downward mobility within the manual stratum, mobility between upper manual and farm groups, and all movements between nonmanual and either manual or farm groups. The design says that an upper manual worker's son is equally likely to be immobile or to move to the bottom or top of the occupational distribution; obversely, it says that an upper manual worker is equally likely to have been recruited from any location in the occupational hierarchy, including his own. Also, it is worth noting that four of the five density levels recognized in the model occur along the main diagonal, and two of these (Levels 4 and 5) are assigned both to diagonal and off-diagonal cells.

With a single exception the design is symmetric. That is, the upward and downward flows between occupations are assigned to the same density levels, except mobility from lower to upper nonmanual strata (Level 3) exceeds that from upper to lower nonmanual strata (Level 4). This asymmetry in the design is striking because it suggests the power of up-per white-collar families to block at least one

type of status loss and because it is the only asymmetry in the design. For example, Blau and Duncan (1967:58–67) suggest that there are semipermeable class boundaries separating white-collar, blue-collar, and farm occupations, which permit upward mobility but inhibit downward mobility. The only asymmetry in the present design occurs within one of the broad classes delineated by Blau and Duncan.

Overall, the design resembles a river valley in which two broad plains are joined by a

narrow strip of land between two great peaks. The contours of the peaks differ in that the one forming one side of the valley is both taller and more nearly symmetric than that forming the other side. This representation appears in Figure 1.

In some respects, this design parallels Levine's (1967:Chap. 4) description of the British mobility table as a saddle-surface of the British mobility table as a saddle (also see Levine, 1972). However, our interpretation is more extreme, since the density reaches an absolute minimum in the center of the table, not merely a minimum among the diagonal cells. In this way our model for the American 5 × 5 table is closer to Goodman's (1969a:38, 1969b:846) conclusion that a British 5 × 5 table shows "status disinheritance" in the middle category. We show elsewhere (Featherman and Hauser, 1978) that Levine's interpretation of the British data is based on a confounding of marginal effects and interactions which parallels that entailed in the use of mobility ratios, even though Levine did not use mobility ratios.

The model of Table 2 provides a complete description of the mobility data in Table 1. Under the model of statistical independence we obtain a likelihood-ratio statistic, $G^2 = 6167.7$, which is asymptotically distributed as χ^2 with 16 df. With the model of Table 2 as null hypothesis we obtain $G^2 = $

TABLE 1
Frequencies in a Classification of Mobility from Father's (or Other Family Head's) Occupation to Son's First Full-Time Civilian Occupation: U.S. Men Aged 20–64 in March 1973

Father's occupation	Son's occupation					
	Upper nonmanual	Lower nonmanual	Upper manual	Lower manual	Farm	Total
Upper nonmanual	1414	521	302	643	40	2920
Lower nonmanual	724	524	254	703	48	2253
Upper manual	798	648	856	1676	108	4086
Lower manual	756	914	771	3325	237	6003
Farm	409	357	441	1611	1832	4650
Total	4101	2964	2624	7958	2265	19,912

NOTE: Frequencies are based on observations weighted to estimate population counts and compensate for departures of the sampling design from simple random sampling (see Featherman and Hauser 1978: Appendix B). Broad occupation groups are upper nonmanual: professional and kindred workers, managers and officials, and non-retail sales workers; lower nonmanual: proprietors, clerical and kindred workers, and retail salesworkers; upper manual: craftsmen, foremen and kindred workers; lower manual: service workers, operatives and kindred workers, and laborers, except farm; farm: farmers and farm managers, farm laborers and foremen.

TABLE 2
Asymmetric 5-Level Model of Mobility from Father's Occupation to First Full-Time Civilian Occupation

Father's occupation	Son's occupation				
	(1)	(2)	(3)	(4)	(5)
1. Upper nonmanual	2	4	5	5	5
2. Lower nonmanual	3	4	5	5	5
3. Upper manual	5	5	5	5	5
4. Lower manual	5	5	5	4	4
5. Farm	5	5	5	4	1

NOTE: Broad occupation groups are upper nonmanual: professional and kindred workers, managers and officials, and non-retail sales workers; lower nonmanual: proprietors, clerical and kindred workers, and retail sales-workers; upper manual: craftsmen, foremen and kindred workers; lower manual: service workers, operatives and kindred workers, and laborers, except farm; farm: farmers and farm managers, farm laborers and foremen.

FIGURE 1

Volume or mobility from father's occupation to first full-time civilian occupation: U.S. men aged 20-64 in March 1973. The base is a unit square, and the total volume under the surface is one. Length and breadth can be read as probabilities, and height is proportionate to probability. The vertical scale has been compressed by a factor of 10.

FATHER'S OCCUPATION — Farm, Lower Manual, Upper Manual, Lower Nonmanual, Upper Nonmanual

SON'S OCCUPATION — Farm, Lower Manual, Upper Manual, Lower Nonmanual, Upper Nonmanual

66.5 with 12 df; since we lose 4 df in creating the five categories of H. Clearly the model does not fit, if we take the test statistic as our only guide. On the other hand the model does account for 98.9% of the association in the data, that is, of the value of G^2 under independence. Given the extraordinarily large sample size we might expect small departures from frequencies predicted by the model to be statistically significant. . . .

The measures of fit we have examined have told us nothing about the several parameters of the model. That is, we have not shown that our suggested interpretation of the design matrix (Table 2) is substantively appealing, or even that the design correctly sorts the cells of the mobility table into zones of high and low density. Certainly, we want to look at the way in which the model fits and interprets the data as well as at deviations from fitted values.

The upper panel of Table 3 shows the row, column, and level parameters estimated under the model of Table 2 for mobility in the 1973 data from father's (or head's) occupation at son's sixteenth birthday to son's first full-time civilian occupation. The parameters are expressed in additive form, that is, they are effects on logs of frequencies under the model of Eq. (1). The row and column parameters clearly show an intergenerational shift out of farming and into white-collar or lower blue-collar occupations. Of course these parameters reflect a number of factors, including temporal shifts in the distribution of the labor force across occupations, differential fertility, and life cycle differences in occupational positions. The level parameters show very large differences in mobility and immobility across the several cells of the classification, and these differences closely follow our interpretation of the design matrix. Differences between level parameters may readily be interpreted as differences in logs of frequencies, net of row and column effects. For example, the estimates say that immobility in farm occupations is $3.40 = 3.044 - (-.356)$ greater (in the metric of logged frequencies) than the estimated mobility or immobility in cells assigned to Level 5 in the design matrix. In multiplicative terms, immobility in farm occupations is $e^{3.40} = 29.96$ times greater than mobility or immobility at Level 5. It would be incorrect to attach too much importance to the signs of the level parameters as reported in Table 3, for they simply reflect our normalization rule that level parameters sum to zero (in the log-frequency metric) across the cells of the table. For example, while the parameters for Levels 4 and 5 each reflect relatively low densities, it is not clear that either parameter indicates "status disinheritance" in the diagonal cells to which it pertains (compare Goodman, 1969a, 1969b).

In any event the parameters do show a sharp density gradient across the levels of the design. The smallest difference, between Levels 3 and 4, indicates a relative density $e^{.549-.243} = e^{.306} = 1.36$ times as great at Level 3 than at Level 4. The heterogeneity of Level 5 is indicated by the fact that the difference in density between Levels 3 and 4 is about as large as the range of residuals within Level 5. Immobility in farm occupations and in nonmanual occupations is quite distinct from densities at other levels, but also immobility in the farm occupations is $e^{3.044-1.234} = e^{1.810} = 6.11$ times as great as in the upper nonmanual occupations.

We can write the sample counterpart of Eq. (1) as

$$\hat{m}_{ij} = \alpha \hat{\beta}_i \hat{\gamma}_j \hat{\delta}_{ij}. \quad (2)$$

Recalling that

$$e_{ij} = x_{ij} / m_{ij}, \quad (3)$$

we substitute Eq. (2) into (3) and rearrange terms to obtain

$$x_{ij} = \alpha \hat{\beta}_i \hat{\gamma}_j \hat{\delta}_{ij} e_{ij}. \quad (4)$$

We divide both sides of Eq. (4) by the first three terms on the right-hand side to obtain

$$R'_{ij} = \frac{x_{ij}}{\alpha \hat{\beta}_i \hat{\gamma}_j} = \hat{\delta}_{ij} e_{ij}. \quad (5)$$

TABLE 3

Parameters and Residuals (in Additive Form) from Main, Row, and Column Effects in the Model of Table 2: Mobility from Father's (or Other Family Head's) Occupation to Son's First Full-Time Civilian Occupation, U.S. Men Aged 20–64 in March 1973

A. Additive parameters

Design factor	Category of row, column, or level				
	(1)	(2)	(3)	(4)	(5)
Rows (father's occupation)	-.466	-.451	.495	.570	.148
Columns (son's occupation)	.209	.190	.240	1.020	-1.660
Levels (density)	3.044	1.234	.549	.243	-.356
Grand mean = 6.277					

B. Level parameter plus residual (log R_{ij})

Father's occupation	Son's occupation				
	(1)	(2)	(3)	(4)	(5)
1. Upper nonmanual	1.23	.25	-.34	-.36	-.45
2. Lower nonmanual	.55	.25	-.53	-.29	-.29
3. Upper manual	-.30	-.49	-.26	-.37	-.43
4. Lower manual	-.43	-.22	-.44	.24	.28
5. Farm	-.32	-.44	-.28	.24	3.04

NOTE: See text for explanation.

We shall call R_{ij}^* the new mobility ratio, or, simply, the mobility ratio. In the case of diagonal cells R_{ij}^* is equivalent to the new immobility ratio proposed by Goodman (1969a,b, 1972c; also, see Pullum, 1975:7–8), but we suggest the ratio be computed for all cells of the table as an aid to substantive interpretation and to the evaluation of model design.

The lower panel of Table 3 gives logs of the new mobility ratios for the model of Table 2 fitted to the classification of mobility to first jobs. While the entries in this panel depend on our specification of the model, neither need that specification rigidly govern our interpretation of the relative densities. Obviously, the pattern of relative densities does conform substantially to our earlier description of the design. The fit is good enough so there is no overlap in densities across levels recognized in the design, and all of the negative entries are neatly segregated in Level 5 of the design. If immobility among skilled workers—in cell (3, 3)—is high relative to mobility in other cells at Level 5, it is still clear that the immo-

bility in that category is substantially less than the immobility in any other occupation group. . . .

Mobility Chances: A New Perspective

As an alternative to the Blau-Duncan interpretation, we think our multiplicative models yield a cogent and parsimonious description of occupational mobility among American men. Unlike its precursor, our description does not reflect the shape of occupational distributions of origin or destination, but only the underlying patterns of immobility and exchange between occupational strata. It may be useful here to review the major features of this description that appear in mobility between generations and within the occupational career. In doing so, of course, we do some injustice to details reported in the preceding analysis.

First, there is great immobility at the top and at the bottom of the occupational hierarchy, here represented by upper nonmanual

and by farm occupations, respectively. This immobility is far more extreme than has heretofore been supposed by most students of the mobility process; it may even be consistent with the beliefs of the more extreme critics of rigidity in the American class structure.

Second, surrounding the extremes of the occupational hierarchy at both top and bottom are transitional zones, within which there are relatively homogeneous chances of immobility and of exchange with adjacent extreme strata.

Third, taken as aggregates the extreme and transitional zones of the occupational hierarchy are relatively closed both to upward and to downward movements. That is, there are sharp breaks between the density of observations within the extreme and transitional zones and the density of mobility beyond those zones. In this sense (but not in others) we may say that the data suggest the existence of barriers to movement across class boundaries.

Fourth, once the boundaries of the transitional zones have been crossed, no social distance gradient seems to unduly variations in long-distance mobility chances. These are surprisingly uniform, and observed variations in them show no consistent pattern.

Fifth, if immobility is very great at the extremes of the occupational hierarchy, it is almost nonexistent in the middle of the hierarchy. Contrary to widespread belief, men of upper blue-collar origin are about as likely to end up anywhere higher or lower in the occupational hierarchy as in their stratum of origin. Obviously, upper blue-collar workers are about as likely to have originated anywhere higher or lower in the occupational hierarchy as in their stratum of destination. Those who would find their beliefs about "class" rigidity confirmed by our estimates of immobility at the extremes of the occupational hierarchy must reconcile these with our finding that between generations immobility in upper manual occupations is no more prevalent than most types of extreme, long-distance mobility. There is no evidence of "class" boundaries limiting the chances of movement to or from the skilled manual occupations.

Sixth, there is a rough equality in the propensities to move in one direction or the other between occupational strata. There are several exceptions to this symmetric mobility pattern, some of which may be quite important, but none suggests a dominant tendency toward upward relative to downward mobility across or within class boundaries.

Last, from a methodological perspective, our description of the mobility regime is extremely simple. In broad outline it might be fitted to a 5 × 5 table with the expenditure of as few as 2 df. None of our analyses of American mobility tables required the expenditure of more than 6 of the 16 df left unused by the model of simple statistical independence.

We reemphasize that the present description of relative mobility chances does not conflict in any way with our earlier description (Featherman and Hauser 1978:Chapter 3) of occupational inflow and outflow patterns. Rather, relative mobility chances are components of inflows and outflows, but the latter are also affected by distributions of occupational origins and destinations. Major features of the inflow and outflow tables, like the pervasiveness of upward mobility between generations and within the occupational career, are absent from the present account because they are functions of changing distributions of occupational origins and destinations.

Notes

1. We assume the familiarity of the reader with loglinear models for frequency data. Fienberg (1970a, 1977) and Goodman (1972a,b) give useful introductions, as does the comprehensive treatise by Bishop et al. (1975). We rely heavily on methods for the analysis of incomplete tables, which have been developed by Goodman (1963, 1965, 1968, 1969a,b, 1971, 1972c), Bishop and Fienberg (1969), Fienberg (1970b, 1972), and Mantel (1970); again, Bishop et al. (1975, especially pp. 206–211, 225–228, 282–309, 320–324) is valuable. Our model is a special case of Goodman's (1972c) general model.

2. The reported frequencies are based on a complex sampling design and have been weighted to es-

timate population counts while compensating for
certain types of survey nonresponse. The estimated
population counts have been scaled down to reflect
underlying sample frequencies, and an additional
downward adjustment was made to compensate
for departures of the sampling design from simple
random sampling (see Featherman and Hauser
[1978:Appendix B]). The frequency estimates in
Table 1 have been rounded to the nearest integer,
but our computations have been based on un-
rounded figures. We treat the adjusted frequencies
as if they had been obtained under simple random
sampling.

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Comparative Social Mobility Revisited: Models of Convergence and Divergence in 16 Countries

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The starting point for most mobility research is the thesis advanced by Lipset and Zetterberg (1959) that observed mobility rates are much the same in all Western industrialized societies. However, more recent and detailed data lend little support for this position (Hauser and Featherman, 1977; Erikson et al., 1979; Hope, 1982), and Featherman et al. (1975) thus suggested that variation in observed mobility rates might derive from historical and cultural differences in occupational structures, but not from differences in exchanges between occupations. This hypothesis, labelled the FJH revision by Erikson et al., leads to the prediction that mobility chances are invariant once variations in origin and destination distributions have been controlled. Although the FJH revision has been supported by pairwise or three-way comparisons (Erikson et al., 1982; McRoberts and Selbee, 1981; Hope, 1982; Portocarero, 1983; Hauser, 1983), research with a larger sample of countries has tended to emphasize cross-national variability (Tyree et al., 1979; Hazelrigg and Garnier, 1976; McClendon, 1980a).¹ There is also some disagreement about the degree to which "structural influences," re-

flected in the margins of the mobility table, can account for national differences in observed mobility rates. The FJH revision implies that variation in observed mobility must be attributed to marginal differences, yet McClendon (1980b) has recently reported a contrary finding for industrialized nations.

Among "second generation" mobility scholars (e.g., Treiman, 1970), the long-standing contention has been that mobility increases with industrialization, even after controls are introduced for changes in class or occupation distributions. This contention, typically labelled the "thesis of industrialism," is to be contrasted with the FJH revision; the latter allows an initial developmental effect on mobility, but it implies there is no further effect once a certain level of industrialization is reached. Unfortunately, evidence on the industrialism thesis is no more conclusive than that addressing the FJH revision. Some studies report a positive relationship between industrialization and mobility (Tyree et al., 1979; Hazelrigg, 1974; Cutright, 1968), but others report no significant association (Hazelrigg and Garnier, 1976; Hardy and Hazelrigg, 1978). In an effort to reconcile these findings, McClendon (1980a) claims that the positive relationship holds only when the sample is restricted to men of nonfarm origins. By virtue of his distinction among intergenerational mobility parameters of different occupational

The data that we shall employ are 3×3 classifications of son's by father's occupation for sixteen countries; each table categorizes occupations as white-collar, blue-collar, or farm. The tables were originally assembled by Hazelrigg and Garnier (1976) from mobility surveys of the 1960s and early 1970s, but they have been reanalyzed extensively (Hardy and Hazelrigg, 1978; McClendon, 1980a, 1980b; Tyree et al., 1979; Heath, 1981; Urton, 1981; Raftery, 1983).² We will not discuss problems of validity and comparability associated with these data because they have been outlined by Hazelrigg and Garnier (1976:500). Suffice it to say that this three-stratum classification captures important barriers to occupational mobility and other significant differences in life chances (e.g., see Blau and Duncan, 1967:59). . . .

Using the quasi-perfect mobility model, we investigate differences between occupational strata in opportunities for mobility or inheritance. We believe that these differences in relative mobility chances arise primarily from variation in the resources and desirability accorded occupations. However, we emphasize variation in economic resources since their transmission is perhaps the most decisive and reliable mechanism of intergenerational inheritance (Goldthorpe, 1980:100). It follows that white-collar immobility should be strong since fathers within this stratum can transmit resources in the form of a business enterprise, professional practice, or privileged education. The desirability of white-collar positions strengthens inheritance further, as white-collar sons wish to retain their fathers' positions. In contrast, sons from the blue-collar stratum do not receive economic resources that bind them to their fathers' stratum, nor do they typically find inheritance as desirable as mobility to the white-collar stratum; the absence of these processes implies considerable mobility for sons of blue-collar origins. The structure of farm inheritance contrasts quite sharply with this blue-collar fluidity. Not only is land a tangible economic good, but there are strong cultural practices and traditions favoring its transfer from generation to genera-

tion.³ Farm inheritance is further strengthened by spatial isolation from urban labor markets (Featherman and Hauser, 1978:188). Given the distinctive skills of farmers, traditions of land tenure, and spatial isolation, one might expect farm inheritance to be even stronger than that of the white-collar stratum.

Two implications follow from these observations about inheritance. First, the relative strengths of stratum-specific inheritance may be uniform across nations simply because there is substantial uniformity in the economic resources and desirability of occupations (Treiman, 1977).⁴ It is commonly argued that the latter uniformities also account for the cross-national regularity in occupational prestige hierarchies (Treiman, 1977; Goldthorpe and Hope, 1974). Thus, invariance in mobility processes may be closely related to other constancies in stratification. Second, rather than deriving from the standardizing logic of industrialism, the common structure of mobility may apply to all societies regardless of their economic development. The FJH hypothesis may be broadened in this manner because occupational resources and desirability are similar in all complex societies, industrialized or not (Treiman, 1977). . . .

The Cross-National Structure of Mobility

There has been no direct test of the Lipset-Zetterberg hypothesis in earlier studies. To carry out this test, we set up a model of global equality between the mobility classifications in the full set of 16 nations and in the 9 most industrialized, nonsocialist nations. Within the more industrialized subsample, this model yields a highly significant likelihood-ratio chi-square test statistic, $L^2 = 3,201$ with 64 degrees of freedom (df), and the ratio of the test statistic to its degrees of freedom, $L^2/df =$ 50.0. In the full sample, $L^2 = 18,390$ with 120 df and $L^2/df = 153.3$. There is no less evidence of heterogeneity among mobility classifications within the industrialized subsample than

There has also been no direct test of ... strata, McClendon's research leads in a fruitful direction. . . .

TABLE 1

Selected Models of Mobility with and Without Cross-National Equality Constraints: Sixteen-Country Sample and Industrialized Subsample[a]

Model	Full Sample			Industrialized Countries		
	L^2	df	L^2_u/L^2_T	L^2	df	L^2_u/L^2_T
A. Unconstrained Models						
1. Independence	42970	64	100.0	1020	36	100.0
2. Quasi-perfect mobility	150	16	0.3	77	9	0.6
3. Uniform inheritance	6222	48	14.5	2233	27	18.6
4. Perfect blue-collar mobility	841	32	2.0	206	18	1.7
5. Symmetry	24636	48	—	6748	27	—
B. Models with Cross-National Constraints						
6. Quasi-perfect mobility	1500	61	3.5	513	33	4.3
7. Uniform inheritance	7069	63	16.5	2429	35	20.2
8. Perfect blue-collar mobility	1640	62	3.8	538	34	4.5
9. All two-way interactions	1339	60	3.1	438	32	3.6
C. Contrasts Between Constrained and Unconstrained Models						
10. 2 vs. 6	1350	45	3.1	436	24	3.6
11. 3 vs. 7	847	15	2.0	196	8	1.6
12. 4 vs. 8	799	30	1.9	332	16	2.8

[a] The full sample includes Australia, Belgium, France, Hungary, Italy, Japan, Philippines, Spain, United States, West Germany, West Malaysia, Yugoslavia, Denmark, Finland, Norway and Sweden. The industrialized subsample includes Australia, Belgium, France, United States, West Germany, Denmark, Finland, Norway and Sweden.

within the full set of 16 countries, for there are 3 times as many observations in the full sample as in the industrialized subsample. Thus, we reject the Lipset-Zetterberg hypothesis. Not only is there highly significant variation in observed mobility rates among industrialized nations, but there is no less variation among these nations than among nations that vary widely in level of industrialization.

The remainder of our analysis focuses on the FJH revision of the Lipset-Zetterberg hypothesis, that is, on the measurement and explanation of intersocietal variation in social fluidity.[5] Table 1 shows the fit of selected models of mobility and immobility. The left-hand side of the table pertains to the full set of countries, while the right-hand side of the table pertains to nine highly industrialized nations. In Panel A, the models do not place any cross country equality constraints on parameters, so the fit statistic for each model is simply the sum or the fit statistics for that model applied to each country separately. Panel B reports the fit of several of the models of Panel

A, each subject to the additional restriction that all of the interaction parameters of that model (but not the marginal effects) are the same in each country. Panel C displays contrasts between corresponding models in Panel A and in Panel B.

Models 1 through 4 in Table 1 are of the form

$$E[X_{ijk}] = \alpha_k \beta_{ik} \beta_{jk} \delta_{ijk} \qquad (1)$$

where $\delta_{ijk} = \delta_{mk}$ for $(i,j) \in H_m$. In this context, X_{ijk} is the observed frequency in the ijkth cell of the classification of father's stratum (i) by country (k), and H_m is a partition of the pairs (i,j), which is mutually exclusive, exhaustive, and cross-nationally invariant. Subject to the usual normalization, this model implies that expected frequencies in the kth country are the product of a grand mean (α_k), a row effect (β_{ik}), a column effect (γ_{jk}), and an interaction effect (β_{ijk}). Models 1 through 4 differ only by partitioning the pairs (i,j) according to various theories of the structure of interaction. These

partitions are displayed in Figure 1; cells sharing a numeric value within a matrix are assigned the same interaction parameter in the corresponding model. Note that we have specialized the model to impose the same partition of cells in each country, but not necessarily to specify the same interaction parameters in each country. Since this general model has been discussed in detail elsewhere (e.g., Hauser, 1978, 1979), we will not elaborate it further.

Model 1 specifies conditional independence of father's and son's stratum, so $\delta_{ijk} = 1$ for all pairs (i,j) in all countries (k); this says there is no intergenerational association in any of the 16 countries. Although the global chi-square statistic, $L^2 = 42,970$, reveals that independence is patently inconsistent with these data, this model provides a baseline statistic representing the association to be explained by subsequent models. Model 2, quasi-perfect mobility, fits a distinct inheritance parameter to each diagonal cell and posits independence among the remaining cells off the diagonal. This model fits extremely well, accounting for 99.7 percent of the association under the baseline model of independence. Indeed, the model cannot be rejected at the .05 level in ten of the sixteen countries, and in all countries it explains at least 97.3 percent of the association. Since this is one of our preferred models, we shall consider its implications in some detail.

First, quasi-perfect mobility implies quasi-symmetry in a 3 × 3 table. In a mobility classification, quasi-symmetry means that upward and downward moves are equally likely, net of differences in the prevalence of occupations. Thus, our results do not support the interpretation of semipermeable class boundaries advanced by Blau and Duncan (1967) for the United States. Featherman and Hauser (1978:184-87) and Hauser (1981) report a similar finding in disaggregated American mobility tables; we extend that finding to a larger set of countries.[6]

Symmetry in exchange mobility is entirely consistent with intergenerational occupational change and consequent differences between

observed inflow and outflow distributions. We can see this by contrasting the model of quasi-perfect mobility (quasi-symmetry) with that of complete symmetry (Model 5), which posits equal frequencies in corresponding cells above and below the main diagonal of each mobility classification, $E[X_{ijk}] = E[X_{jik}]$. The fit of Model 5, $L^2 = 24,636$, shows that observed frequencies are highly asymmetric. However, from the excellent fit of quasi-perfect mobility (quasi-symmetry), we know this observed asymmetry derives from heterogeneity between origin and destination distributions rather than an intrinsic asymmetry of exchange between occupational strata.

Second, the quasi-perfect mobility model says that mobility does not follow a social distance gradient. Those who move off the diagonal are equally likely to reach either of the two remaining strata regardless of distance or direction. The implication is that long-range mobility is no less frequent than short-range mobility after controlling for marginal effects. Featherman and Hauser (1978: Ch. 4) offer a similar interpretation of disaggregated American mobility tables.

FIGURE 1

Parameter displays describing the structure of association for selected models of mobility

Independence

1	1	1
1	1	1
1	1	1

Quasi-Perfect Mobility

2	4	4
4	3	4
4	4	1

Uniform Inheritance

2	1	1
1	2	1
1	1	2

Perfect Blue-Collar Mobility

2	3	3
3	3	3
3	3	1

Third, the parameters of the quasi perfect mobility model reveal wide differences among strata in the strength of inheritance. For purposes of summary, it is instructive to consider Model 6, which constrains parameter estimates to be the same in all sixteen countries. Net of row and column effects, farm inheritance is 12.3 times more likely than mobility off the diagonal, white-collar inheritance is 5.2 times more likely than mobility, and blue-collar inheritance is only 1.2 times more likely than mobility. The picture that emerges is one of severe immobility at the two extremes of the occupational hierarchy and considerable fluidity in the middle (compare Featherman and Hauser, 1978: Ch. 4). Indeed, the United States and Hungary show significant blue-collar disinheritance.[7] A net propensity for mobility out of the blue-collar stratum was first noted by Goodman (1965:575, 1969a) in the classic British and Danish mobility tables of the early postwar period; the results presented here extend his finding to additional countries. Friendly critics have suggested to us that blue collar disinheritance is implausible and, for that reason, should lead us to reject quasi-perfect mobility in favor of other equivalent models (Goodman, 1979; Hauser, 1979: 453–54, 1981; MacDonald, 1981). On the basis of our earlier discussion of mechanisms of stratum inheritance, we do not think it is possible to rule out blue-collar status disinheritance (see Featherman and Hauser 1978:179–89).

The remaining models in Panel A of Table 1 help us to test, elaborate, and qualify these interpretations. The uniform inheritance model (Line 3) posits a single inflation factor for the main diagonal; the model says that occupational strata share a uniform propensity for inheritance. This model fits poorly, confirming our observation of substantial variability among inheritance parameters. The model of perfect blue-collar mobility (Line 4) equates densities of mobility and immobility for men of blue-collar origin or destination (Goodman, 1965:569–71). Net of marginal effects, this model says that blue-collar workers are recruited equally from all three occupational strata and that men of blue-collar origins are selected equally into all three strata. Further, the model says that blue-collar mobility and immobility are as likely as exchange between the white-collar and farm strata. This model does not fit satisfactorily ($L^2 = 841$ with 32 df), yet it does account for 98 percent of the test statistic under conditional independence (compare Lines 1 and 4). Moreover, Model 4 does fit well in 6 countries: Italy, West Malaysia, Yugoslavia, Denmark, Norway, and Sweden. The contrast between Models 2 and 4 tests whether there is significant blue-collar stratum inheritance or disinheritance. Although the global contrast between these models is clearly significant ($L^2 = 691$ with 16 df), the contrast is nonsignificant in Australia and in the other 6 countries where Model 4 fits the data. This provides further evidence for attenuated blue-collar inheritance; it is so weak that densities of mobility and blue-collar immobility can be equated in several of the countries in our data.

These results make it quite clear that the "cross-nationally common element heavily predominates over the cross-national variable one" (Erikson et al., 1982:12). Not only does one simple model, quasi-perfect mobility, fit all of these data satisfactorily, but its coefficients do not vary greatly between countries. These findings of cross-national invariance support the FJH revision of the Lipset-Zetterberg hypothesis.

The results of Table 1 imply convergence among industrialized countries in our sample, but they also suggest that conclusions of invariance apply equally to the full sample. Under each of the models of Table 1, the share of association due to cross-national interaction effects (L^2_{IJT}/L^2_{IJ}) is virtually the same in the full sample as in the industrialized subsample. This suggests an extension of the scope of the FJH hypothesis to state that mobility regimes are much the same in all complex societies, regardless of economic development.[8]

Convergence in Social Fluidity

The cross-national consistency in the fit of quasi-perfect mobility provides some evidence of similarity in processes of mobility, but we have not yet tested the cross-national variation in the parameters estimated under this model. If the same model fits, but its coefficients vary from country to country, then convergence obtains only in a limited sense. The remainder of Table 1 addresses this issue. Whereas each model in Panel A allows interactions between strata to vary across countries, each model in Panel B equates those interactions. The statistics in Panel B reflect lack of fit in the models of Panel A as well as cross-national differences in coefficients, whereas the contrasts between fit statistics in Panels A and B reflect the latter component alone. As shown in Panel C, each of these contrasts is highly significant statistically. At the same time, there is also a great deal of cross-national similarity in parameter estimates; no more than 3.6 percent of the chi-

square statistic under conditional independence is attributable to variation in parameters. A similar conclusion may be drawn from the fit of the model of all two-way interactions, which allows 4 df for interaction between origin and outcome strata (Line 9 of Panel B).

Conclusions

We have gained new insights into the leading issues of comparative social mobility by reanalyzing a standard set of data. Although we know the limitations of these data, we think that our results set a provisional baseline for future comparative research with "second generation" studies. We expect and hope that many of our findings will be elaborated, challenged, and falsified in future work.

The preceding analysis provides considerable support for the FJH revision of the Lipset-Zetterberg hypothesis, which implies that historical and cultural variations affect the shape of the occupational structure but not the interactions between occupational strata; this invariance is perhaps stronger than heretofore supposed. We have also proposed that the FJH revision might be elaborated in two respects. First, we suggested that uniformity in mobility regimes is not limited to highly industrialized societies but may extend across levels of economic development. Industrialized countries share a common pattern of mobility, but the pattern can not derive from the "logic of industrialism" if it applies equally to less-developed societies. This uniformity in mobility patterns may be the analogue to invariance in prestige hierarchies, in the sense that both may result from cross-national regularities in the resources and desirability accorded occupations.

Second, we provided greater substance to the FJH revision by specifying the structure of the shared mobility regime. Since the revision remains agnostic with regard to this structure, we proceeded inductively by fitting a series of mobility models. It is most striking that quasi-symmetry (and equivalent models) provided superior fit in nearly all the countries. This finding implies that Blau and Duncan's (1967) hypothesis of semipermeable class boundaries is not confirmed in the United States, nor in the other countries in our sample. Rather, there is a symmetry of exchanges between occupational strata, once intergenerational shifts in the marginal distributions are controlled.

Under the quasi-perfect mobility model, we find strong white-collar inheritance and even stronger farm inheritance, perhaps consonant with the beliefs of the more extreme critics of rigidity in the class structure. Although the strength of inheritance within these strata might lend the impression of distinct class boundaries, this must be reconciled with extreme fluidity in the blue-collar stratum. Indeed, in several countries there is actually a net propensity for blue-collar disinheritance; this finding extends Goodman's (1965, 1969a, 1969b) results on the classic British and Danish mobility tables.

The need to extend and elaborate our analysis is accentuated by our finding that intersocietal differences in observed mobility are induced principally by variations in the shape of the occupational structure but not the interactions between occupational strata; this invariance is perhaps stronger than

This suggests that future research should explore the effects of economic and political variables on the shape of the social hierarchy. Much the same conclusion was advanced by Hauser et al. (1975) in their longitudinal analysis of American mobility classifications. They argued that further research cannot treat marginal differences as a nuisance factor if they are the driving force behind temporal change in observed mobility rates. We might add that economic and political variables may well have a greater effect on the structure of occupational supply and demand than on social fluidity. Although issues of this nature may be addressed within the general analytic framework presented here, we leave this task for future research.

Notes

An earlier draft of this paper was presented at the 47th Annual Meeting of the Midwest Sociological Society, Kansas City, 1983. Computations were supported by a grant to the Center for Demography and Ecology of the University of Wisconsin-Madison from the National Institute for Child Health and Human Development (HD-5876). During the preparation of this paper Grusky was supported by a predoctoral fellowship from the National Science Foundation, and Hauser was supported by the Graduate School of the University of Wisconsin-Madison. We thank Lawrence Hazelrigg for furnishing the mobility data, and Peter Smith for providing sample counts for the Philippines table. We have benefited greatly from the comments of Michael Hout, O. D. Duncan, Clifford C. Clogg, Walter Mueller, Michael Sobel, Robert D. Mare, McKee J. McClendon, and from unpublished memoranda and correspondence with Leo A. Goodman that O. D. Duncan shared with us. The opinions expressed herein are those of the authors.

1. Of course, there is an element of subjectivity in any evaluation of the FJH revision; it is unclear how much similarity in mobility regimes is necessary to confirm the hypothesis.

2. Following McClendon (1980a, 1980b), Bulgaria was omitted from the data because the sample included both males and females. Some of the cited studies have supplemented these data with mobility classifications from other countries. We have revised the counts for the U.S., France, Hungary, and the Philippines to reflect the sizes and designs of those samples. These data are available from the authors by request.

3. Although there is intergenerational transfer of skills in the blue-collar stratum, we think it is far stronger in the farm sector, where the family is more often the unit of production.

4. This argument for uniformity may need qualification in the case of socialist societies to the degree that they accord greater desirability to blue-collar occupations and prohibit formal ownership of economic resources (Parkin, 1971; Giddens, 1973).

5. Goldthorpe (1980) uses the term social fluidity for mobility and immobility net of marginal effects. We use it to refer globally to interaction effects, rather than using "mobility" as an inclusive term.

6. For an explanation of quasi-symmetry, see Bishop et al. (1975: Ch. 8). Featherman and Hauser (1978:184–87) and Hauser (1981) discuss the relevance of quasi-symmetry to the interpretation of social mobility. Featherman and Hauser did find some asymmetries in their analysis of intergenerational mobility, but the majority of these pertained to mobility within the broad strata of the present analysis.

7. On request the authors will provide estimates of stratum inheritance under quasi-perfect mobility in each of the sixteen countries. References to statistical significance in the text are based on the α = .05 level, two-tailed.

8. Since the data are primarily from Western industrialized nations, this finding is most tentative.

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Trends in Class Mobility: The Post-War European Experience

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Introduction

The issue of trends in class mobility in industrial societies is one characterised by a wide-ranging dissensus which, unfortunately, extends to matters of fact as well as of interpretation. We do not suppose that in this paper we will be able to resolve all the disagreements that are apparent. We do, however, believe that we can address the issue on the basis of comparative mobility data of a distinctively higher quality than those previously utilised, and that the results we report have significant consequences—positive or negative—for most of the rival positions that have been taken up.[1]

From the 1960s onwards, perhaps the dominant view on mobility trends has been that derived from what we will refer to as the 'liberal theory' of industrialism, as developed by various American authors (Kerr et al., 1960; 1973; Kerr, 1969, 1983; Dunlop et al., 1975; cf. also Parsons, 1960: chs. 3 and 4; 1967: chs. 4 and 15; 1971). This theory is a functionalist one which aims at establishing the distinctive properties of industrial societies in terms of the essential prerequisites for, or necessary consequences of, the technical and economic rationality that is seen as their defining characteristic. What is implied so far as social mobility is concerned may be put in the form of the following three-part proposition.

In industrial societies, in comparison with preindustrial ones

(i) absolute rates of social mobility are generally high, and moreover upward mobility—i.e. from less to more advantaged positions—predominates over downward mobility;

(ii) relative rates of mobility—or, that is, mobility opportunities—are more equal, in the sense that individuals of differing social origins compete on more equal terms to attain (or to avoid) particular destinations; and

(iii) both the level of absolute rates of mobility and the degree of equality in relative rates tend to increase over time.

To explain why these contrasts between mobility in pre-industrial and industrial society should arise, a number of arguments are deployed which have, moreover, been elaborated and extended in the specialist literature by authors generally sympathetic to the liberal position (see esp. Blau and Duncan, 1967: ch. 12; Treiman, 1970). While all the arguments in question take on a functionalist form, one may usefully distinguish between those relating to three different kinds of effect—structural, processual and compositional.

First, it is held that within industrial society the dynamism of a rationally developed technology calls for continuous, and often rapid, change in the structure of the social division of labour, which also tends to become increasingly differentiated. High rates of mobility thus follow as from generation to generation, and in the course of individual lifetimes, the redistribution of the active population is required: that is, among economic sectors—first, from agriculture to manufacturing and then from manufacturing to services—and, in turn, among industries and among a growing diversity of occupations. Furthermore, the overall tendency is for advancing technology to *upgrade* levels of employment. Although some skills are rendered obsolete, new ones are created and the *net* effect is a reduction in the number of merely labouring and routine occupations and a rising demand for technically and professionally qualified personnel. At the same time, both the increasing scale of production, dictated by economic rationality, and the expansion of the services sector of the economy promote the growth of large bureaucratic organisations in which managerial and administrative positions also multiply. Industrial societies become increasingly 'middle-class' or at least 'middle-mass' societies. Consequently, upward mobility is more likely than downward in both intergenerational and worklife perspective. Under industrialism, the chances of 'success' are steadily improved for all.

Secondly, it is further claimed that as well as thus reshaping the objective structure of opportunity, industrialism transforms the processes through which particular individuals are allocated to different positions within the division of labour. Most fundamentally, rational procedures of social selection require a shift away from *ascription* and towards *achievement* as the leading criterion: what counts is increasingly what individuals can do, and not who they are. Moreover, the growing demand for highly qualified personnel promotes the expansion of *education and training*, and also the reform of educational institutions so as to increase their accessibility to individuals of all social backgrounds. Human resources cannot be wasted; talent must be fully exploited wherever it is to be found. Thus, as within a society of widening educational provision 'meritocratic' selection comes to predominate, the association between individuals' social origins and their eventual destinations tends steadily to weaken and the society takes on a more 'open' character. And at the same time various other features of industrialism also serve to reduce the influence of social origins on individuals' future lives. For example, urbanisation and greater geographical mobility loosen ties of kinship and community; mass communications spread information, enlarge horizons and raise aspirations; and a greater equality of condition—that is, in incomes and living standards—means that the resources necessary for the realisation of ambition are more widely available.

Thirdly, it is argued that the foregoing effects interact with each other, in that the emphasis on achievement as the basis for social selection will be strongest within the expanding sectors of the economy—that is, the more technologically advanced manufacturing industries and services—and within the increasingly dominant form of large-scale bureaucratic organisation. Conversely, ascriptive tendencies will persist chiefly within declining sectors and organisational forms—for example, within agriculture or small-scale, family-based business enterprise. In other words, compositional effects on mobility occur in that, once a society begins to industrialise, the proportion of its population that is subject to the new 'mobility regime' characteristic of industrialism not only increases as that regime imposes itself, but further as those areas and modes of economic activity that are most resistant to it become in any event ever more marginal.

One reason that may then be suggested for the degree of dominance exerted by the liberal position is the coherent way in which the underlying theory has been developed. Another is the manifest failure of the main attempt so far made directly to controvert it. That is, the re-

vision and extension of the Marxist theory of proletarianisation (cf. Braverman, 1974; Carchedi, 1977; Wright and Singelmann, 1982; Crompton and Jones, 1984) which sought to show the necessity for the system-atic 'degrading', rather than upgrading, of labour under the exigencies of late capital-ism—with the consequence of large-scale *downward* mobility of a collective kind. This undertaking lacked from start any secure em-pirical foundation, and the accumulation of results incompatible with the new theory re-sulted in its eventual abandonment even by those who had been among its most resource-ful supporters (see e.g. Singelmann and Tienda, 1985; Wright and Martin, 1987). However, various other positions can still be identified that to a greater or lesser extent come into conflict with the liberal view and that continue to merit serious attention.

First of all, it should be noted that the the-ory of mobility in industrial society advanced by Lipset and Zetterberg (1956, 1959) and sometimes simply assimilated to the liberal theory (see e.g. Kerr, 1983: 53) does in fact differ from it in crucial respects. For example, Lipset and Zetterberg do not seek to argue that mobility steadily *increases* with industrial development: indeed, they remark that *among* industrial societies no association is apparent between mobility rates and rates of economic growth. What they propose (1959: 13) is, rather, some kind of 'threshold' effect: 'our tentative interpretation is that the social mo-bility of societies becomes relatively high once their industrialization, and hence their eco-nomic expansion, reaches a certain level.' And although Lipset and Zetterberg's claim that (absolute) mobility rates in industrial societies become *uniformly* high would now be gener-ally regarded as empirically untenable, their suggestion that a historic upward shift in such rates tends to occur at some—perhaps quite early—stage in the industrialisation process is not part of Lipset and Zetterberg's case that has not been similarly disconfirmed Again, it the high mobility that they see as characteris-tic of industrial societies is the result of a ten-dency towards greater openness. Rather, they

place the emphasis firmly on the effects of structural change; and in turn they are at pains to point out (1959: 27) that 'the fact that one country contains a greater percen-tage of mobile individuals than another does not mean that that country approximates a model of equal opportunity more closely'.

Secondly, a yet more radical challenge to the liberal view may be derived from the pio-neering work of Sorokin (1927/1959). Taking a synoptic view, as much dependent on histor-ical and ethnographic evidence as on contem-porary social research, Sorokin was led to the conclusion that in modern western societies mobility was at a relatively high level, and he was further ready to acknowledge the possi-bility that, from the eighteenth century on-wards, mobility rates had in general shown a tendency to rise. However, he was at the same time much concerned to reject the idea that what was here manifested was in effect, 'the end of history' and the start of a 'perpetual' and "eternal" increase of vertical mobility.' Rather, Sorokin argued, the present situation represented no more than a specific historical phase; in some societies in some periods mo-bility increased, while in other periods it de-clined. Overall, no 'definite perpetual trend' was to be seen towards either greater or less mobility, but only 'trendless fluctuation'. Those who were impressed by the distinctive-ness of the modern era knew too little about historical societies and their diversity: 'What has been happening is only an alternation ... the waves of greater mobility superseded by the cycles of greater immobility—and that is all' (1959: 152–4).

It might from the foregoing appear that Sorokin's position was merely negative. But, in fact, underlying his denial of developmen-tal trends in mobility and his preference for a cyclical view, at least the elements of a theory can be discerned. In arguing against the sup-position that rates of mobility in the modern period are quite unprecedented, one of the points Sorokin most stresses is that while cer-tain barriers to mobility have been largely re-moved—for example, juridical and religious ones—it is important to recognise that other

barriers have become more severe or have been newly introduced: for example, those represented by systems of educational selec-tion and occupational qualification (1959: 153–4, 169–79). This, moreover, is what must always be expected: the forms of social strati-fication which provide the context for mobil-ity are themselves structures expressing differ-ential power and advantage, and thus possess important self-maintaining properties. Those who hold privileged positions will not readily cede them and, in the nature of the case, can draw on superior resources in their defence. Indeed, Sorokin remarks that if he *had* to be-lieve in the existence of a permanent trend in mobility, it would be in a declining one, since social strata are often observed to become more 'closed' over time as the cumulative re-sult of those in superior positions using their power and advantage to restrict entry from below (1959: 158–60). However, this propen-sity for closure—which we may understand as being *endogenous* to all forms of stratifica-tion—is not the only influence on mobility rates. A further point that Sorokin several times makes (see e.g. 1959: 141–152, 466–72) is that in periods of both political revolution or war or with rapid commercial, industrial and technological change—marked surges in mobility are typically produced as the social structure as a whole, including the previously existing distribution of power and advantage, is disrupted. In other words, in-creased mobility here results from the impact of factors that are *exogenous* to the stratifica-tion order.

Thirdly and finally, one may note a more recently developed position which, however, has evident affinities with that of Sorokin. Featherman, Jones and Hauser (1975) aim at presenting a reformulation of Lipset and Zetterberg's hypothesis that across industrial societies rates of social mobility display a ba-sic similarity. This hypothesis cannot stand if expressed in terms of absolute rates but, they argue, becomes far more plausible if applied, rather, to relative rates. When mobility is con-sidered at the 'phenotypical' level of absolute

rates cross-national similarity can scarcely be expected. This is because these rates are greatly influenced by the structural context of mobility and, in turn, by effects deriving from a range of economic, technological and demo-graphic circumstances which are known to vary widely and which, so far as particular in-dividuals and families are concerned, must be regarded as 'exogenously determined'. When, however, mobility is considered *net* of all such effects, or that is, at the 'genotypical' level of relative rates, the likelihood of cross-national similarity being found is much greater. For at this level only those factors are involved that bear on the relative chances of individuals of differing social origin achieving or avoiding in competition with each other, particular des-tination positions among those that are struc-turally given. And there is reason to suppose that in modern societies the conditions under which such 'endogenous mobility regimes' operate—for example, the degree of differen-tiation in occupational hierarchies and in job rewards and requirements—may not be sub-ject to substantial variation.

For present purposes, then, the chief signifi-cance of the FJH hypothesis lies in the rather comprehensive challenge that it poses to the claims of liberal theorists. On the one hand, so far as absolute mobility rates are con-cerned, it implies a basic scepticism, essen-tially akin to that of Sorokin, about the possi-bility of *any* long-term, developmentally-driven trend; while, on the other hand, it stands directly opposed to the proposition that under industrialism a steady increase oc-curs in the equality of mobility chances. Al-though some initial developmental effect in this direction early in the industrialisation process might be compatible with the hypoth-esis, any continuing change in relative mobil-ity rates is clearly precluded (cf. Grusky and Hauser, 1984: 20). Once societies can be deemed to have become industrial, their mo-bility regimes should stabilise in some ap-proximation to the common pattern that the FJH hypothesis proposes, and should not thereafter reveal any specific or persistent ten-dencies, whether towards convergence on

greater openness or otherwise. No forces are recognised inherent in the functional dynamics of industrialism that work systematically to expand mobility opportunities.

The divergent arguments concerning mobility trends that we have reviewed in this section will then provide the context within which we present our empirical analyses of data for European nations. First, though, we must say something about what we take to be the particular relevance to evaluating these arguments of the European experience over the post-war years.

The Relevance of the European Experience

It is not difficult to detect within the liberal theory of industrialism a degree of American, or, more accurately perhaps, of Anglo-American, ethnocentricity. Historically, the origins of modern industrial society are traced back to late eighteenth- and early nineteenth-century England; and other western nations, including the USA, are then seen as having successively followed England's lead in breaking free of the constraints of a traditional social order and entering the industrial world.[2] Contemporaneously, it is the USA rather than England that is recognised as the vanguard nation; and with industrialisation now on the global agenda, the major differences between industrial and pre-industrial, or modern and traditional, society are seen as best revealed through explicit or implicit USA-Third World comparisons. Within these perspectives, therefore, the experience of industrialisation of the mainland European nations is viewed in only a rather restrictive way. It tends either to be taken for granted, as fitting unproblematically into the trajectories defined by the two paradigm cases, or alternatively as providing interesting instances of 'deviations', over which, however, the logic of industrialism has eventually to prevail.[3]

This schematic background to the liberal theory *must be regarded as excessively* simplified, and possibly misleading, in at least two

respects. On the one hand, while England did indeed industrialise early, the supposition that other western nations then followed along the same path, being differentiated only by the degree of their 'retardation', is one that has no sound historiographic basis. What is chiefly significant about the process of industrialisation in England is that—in part because of England's priority, but for other reasons too—it took on a quite distinctive character which subsequent cases could scarcely reflect (cf. Kemp, 1978: ch. 1 esp.). Rather than having simply followed in England's wake, other European nations do in fact display in their recent economic histories a great diversity of developmental paths; and it is, furthermore, important to recognise that later industrialisation and economic retardation should not always be equated—as, for example, the French case can well illustrate (cf. O'Brien and Keyder, 1978).

On the other hand, it would also be mistaken to suppose that by the end of the nineteenth century the industrialisation of Europe was essentially completed. This would be to neglect the great economic and social importance that agriculture and also artisanal and other 'pre-industrial' forms of production continued to have throughout the nineteenth, and for well into the twentieth, century—and in many of the more advanced European nations as well as in those on the 'periphery'. It was in fact, as Bell has remarked (1980: 233), only in the period *after the second world war* that Europe as a whole became an industrial society. Indeed, various interpretations of the 'long boom' of this period have seen it as reflecting aspects of this culmination—for example, as being driven by the final phase of the supply of surplus rural labour (Kindleberger, 1967) or as marking the ultimate overcoming of the dualism of traditional and modern sectors within European economies (Lutz, 1984).[4]

The fact, then, that we here concentrate on the experience of European nations by no means implies that we will be treating questions of mobility trends within an unduly limited context. To the contrary, we have the ad-

vantage that while these nations can supply us with high quality data (far better, for example, than those usually available from Third World nations), they do also display a remarkably wide range of variation in their levels and patterns of industrial development—and even if we consider only that time-span to which our mobility data have some reference: that is, from the 1970s back to the first two decades of the century, in which the oldest respondents within our national samples were born. (For details of the surveys utilised, see Appendix Table 1)....

It will from the foregoing have become evident that, in seeking to exploit the historical richness of our European data, we are prepared to make a large assumption: namely, that valid inferences about the presence or absence of mobility trends can be drawn from the data of single inquiries. What we are in effect proposing is that age-groups distinguished within our samples from the 1970s can be treated as successive birth-cohorts, and that the mobility experience of their members can then be taken as indicative of whether or not change over time has occurred in mobility rates and patterns. In such an approach certain well-known difficulties arise, above all in treating intergenerational mobility, and in conclusion of this section we should therefore give these some attention.

To begin with, we must recognise that we are not in fact dealing with true birth cohorts within the nations we consider but only with what might better be called 'quasi-cohorts': that is, with the survivors of true cohorts, following on losses due to mortality and emigration, to whom immigrants will then be added. In such cases as those of the FRG, Ireland and Poland, the numbers here involved will obviously be substantial. This, however, is a situation that we can do little to remedy; we can only trust that no serious distortions will be introduced into our data of a kind that might affect our conclusions regarding trends.[5]

Further, there is the so-called 'identification problem'. If for the members of a national sample one compares their present class position (i.e. at time of inquiry) with their class of

origin (i.e. father's class), the mobility experience of the individuals within successive 'quasi-cohorts' will be likely to reflect several different effects: not only those of the historical period through which they have lived but also those of their age and of their cohort membership per se. Thus, the problem is that of how we can assess 'period' effects—trends—separately from effects of the other two kinds. No clear-cut solution is, or can be, available (cf. Glenn, 1977), since birth-cohorts and age-groups are inescapably 'embedded' in historical time. However, several considerations would lead us to believe that in pursuing our present purposes we need not in fact be at so great a disadvantage in this respect as might initially appear.

First, it would seem empirically defensible to regard men of around 30-35 years of age as having reached a stage of 'occupational maturity', beyond which further major changes in their class positions become relatively unlikely (Goldthorpe, 1980, 1987: ch. 3; cf. also Blossfeld, 1986). Thus, we may take results for cohorts of this age or older as giving a reasonably reliable indication of the 'completed' pattern of the collective class mobility of their members.

Secondly, for all of our European nations except one, the Federal Republic of Germany, we have information on individuals' experience of mobility from their class of origin to their class of first employment. For this transition, therefore, age effects at least will obviously be much reduced, since attention is focused on a fairly well defined life-cycle stage. We would not wish to regard data on this transition as a very satisfactory basis for cross-national comparisons of intergenerational mobility, on grounds that we discuss elsewhere (Erikson and Goldthorpe, 1992: ch. 8). None the less, we are thus provided with the possibility of checking whether or not the conclusions that we reach on trends, or their absence, in mobility from class of origin to present class are consistent with ones that pertain to mobility rates of a more age-specific kind.[6]

Thirdly, it is important for us to emphasise that in the analyses that follow our concern will be not so much with the actual empirical *description* of mobility trends as with the *evaluation* of particular claims about such trends. What, therefore, we can always consider is whether, if we were to suppose some confounding of effects in our results, these would be of a kind that would tend unduly to favour or disfavour a given position. Thus, for example, in the case of the liberal claim that within industrial nations mobility and openness tend steadily to increase, it is difficult to see why any confounding of period effects by age effects should produce unfairly *negative* results: that is to say, it would appear unlikely that an actual increase in openness and mobility among the more recent cohorts within our national samples would be concealed by the fact that these cohorts are made up of young persons. If anything, one might expect the contrary, since younger persons will have benefited more widely from the expansion of educational provision which, according to the liberal theory, is one of the major sources of greater mobility and equality of opportunity. Likewise, there would seem no reason why age effects should obscure any trends within our data for the mobility rates of different nations to converge—as would be expected under the liberal theory as differences between nations' levels of industrial development are reduced. For if, as the theory maintains, the determinants and processes of mobility become increasingly standardised through the logic of industrialism, then convergence in mobility rates should, presumably, be *more* apparent among the younger than the older age groups in our samples (for an elaboration of this point, see Erikson, Goldthorpe and Portocarero, 1983: 307–10 and Figure 1).

As Glenn has observed (1977: 17), cohort analysis should never be a mechanical exercise, uninformed by theory and by additional 'external' evidence; and this point obviously applies *a fortiori* in the case of analyses, such as those we shall present, which rest only on 'quasi cohorts'. But since we do have some knowledge about both the historical setting of the mobility that we consider and its life-course phasing, and since we are addressing a number of more or less specific and theoretically grounded hypotheses rather than proceeding quite empirically, our strategy is, we believe, one capable of producing results that can be interpreted in a reasonably reliable and consequential way. It is to these results that we now turn.

Absolute Rates

In seeking to assess the arguments that we have earlier reviewed, we start with evidence on intergenerational class mobility in the form of absolute rates: that is, rates based on differing versions of our class schema (see Appendix Table 2) and expressed in simple percentage terms. So as to avoid marked age effects in considering the transition from class of origin to present class, we restrict our attention to men in our national samples who were over age 30 at the time of inquiry (i.e. at some point in the early or mid-1970s; cf. Appendix Table 1). These men, we suppose, would be approaching, or would have attained, a stage of relative occupational maturity. The maximum age-limit that we apply here—and in all subsequent analyses—is 64.[7]

First of all, we consider *total* mobility rates. That is, the percentage of all men in our national samples found in cells off the main diagonal of the intergenerational mobility table based on the sevenfold version of the class schema: or, in other words, the percentage of all men whose 'present', or destination, class was different to their class of origin—the latter being indexed by the respondent's *father's* class at the time of the respondent's early adolescence.[8] In Figure 1 we seek to plot the course followed by the total mobility rate in each of our nine European nations on the basis of moving weighted averages of this rate for men in *successive birth years*, using a method of graduation that has been developed by Hoem and Linneman (1987).[9]

FIGURE 1

Total mobility rates for men in nine nations by birth year
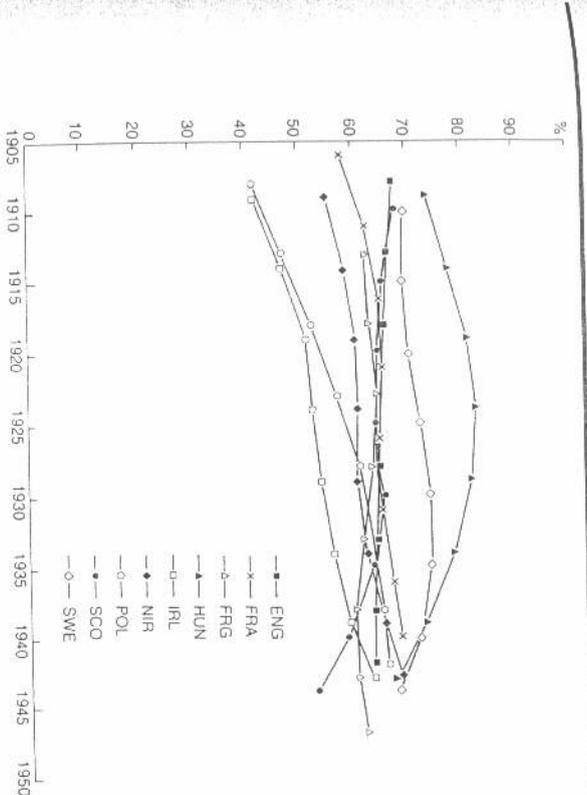
From inspection of Figure 1, the general impression gained must be one of support for the contention that absolute mobility rates display merely trendless change. It would, at all events, be difficult to ally the data here presented with the idea of mobility increasing steadily as industrialism advances. No regular tendency is apparent for the mobility of older respondents—of men born, say, in the first two decades of the century—to be exceeded by that of respondents who were born some twenty years later, and who would have reached occupational maturity during the long boom of the post-war years. And we may add that no essentially different picture emerges if, using the same technique, we plot total mobility rates from class of origin to class of *first* employment.[10] It would thus seem improbable that the failure of the graphs of Figure 1 to move upwards to the right, as would be expected from the liberal theory, can be explained simply in terms of the confounding of period by age effects.

The one possible pattern that might be discerned in Figure 1 is some tendency for total mobility rates to converge—even if not while steadily rising. That is to say, some narrowing down could be claimed in the cross-national range of mobility levels as between those displayed by the oldest and the youngest cohorts in our samples. For the former, as can be seen, the range of total mobility rates is from around 40 to over 70 percent, while for the latter it is from 50 to under 70 per cent—and, one might add, would be some ten percentage points narrower still if the one case of Scotland were to be discounted.

However, it is important to note how this convergence comes about. It is in fact to a large extent the result of an increase in total mobility in two nations, Ireland and Poland, in which the rate among older cohorts, at around the 40 per cent mark, was substantially lower than in other nations. Ireland and Poland are—together with Hungary—those nations in our sample in which, as we have

earlier indicated, industrialisation was most delayed. An alternative interpretation of Figure 1 would therefore be that instead of revealing a general tendency towards convergence in mobility rates, it rather supports a hypothesis of the kind suggested by Lipset and Zetterberg: that is, of a specific upturn in mobility occurring at a stage relatively early in the industrialisation process when the first major impact of structural change is felt.

That Hungary would then appear as deviant, in showing a high total mobility rate even among the oldest men considered, need not be found surprising. This could be seen as the result of the quite exceptional amount of mobility imposed upon the Hungarian agricultural workforce through direct political intervention, and which is thus reflected across the experience of all age-groups alike. In the period immediately following the second world war, the land reforms of the provisional government created over half-a-million new peasant proprietors; but then, under the subsequent state socialist regime, agriculture was within a decade almost entirely collectivised through the establishment of co-operatives or state farms (Kulcsár, 1984: 78-84, 96-100; Brus, 1986a, 1986b). Thus, respondents in our 1973 survey who were the sons of agricultural proprietors—over a quarter of the total—held different class positions to their fathers more or less of necessity, and even in fact where they continued to work the same land.[11]

These findings on total mobility do, we believe, carry significant implications, to which we shall wish to return. It is, however, of further interest here to try to obtain a somewhat more detailed picture of tendencies in absolute rates by considering also intergenerational outflow rates. Unfortunately, the relative smallness of certain of our national samples means that we cannot reliably base our examination of such rates on the seven-class version of our schema but must, for the most part, resort to the three-class version (cf. Appendix Table 2) which simply distinguishes between nonmanual, manual and farm classes.[12]

Figures 2 to 6, which are produced via the same procedures as Figure 1, show the course followed in each of our nations by five different outflow rates calculated from 3 × 3 intergenerational mobility tables (again for men aged 30-64). As is indicated, the rates in question are those for intergenerational immobility within the farm class, for mobility from farm origins to nonmanual destinations, and for mobility from manual origins to nonmanual destinations and vice versa. Of the other transitions possible within the 3 × 3 tables, those from manual and nonmanual origins to farm positions were generally followed by too few individuals as to allow any reliable rates to be established; and the fact that the numbers involved here are more or less negligible means in turn that trends in the remaining rates—that is, rates of immobility within the nonmanual and nonmanual classes—need scarcely be plotted separately, since they will be essentially the complements of those already examined of mobility between these two classes.

Figure 2 displays the changing proportions of men across birth-cohorts in our nine nations who were of farm origins and who were themselves found in farm work. A broad tendency is apparent for such intergenerational immobility to decline, which might be expected in consequence of the general contraction of agricultural employment. The decline in the cases of Ireland and Poland from farm immobility rates of up-

FIGURE 2

Outflow rates from farm origins to farm destinations for men in nine nations by birth year

wards of 70 per cent in the oldest cohorts is of particular interest in view of the interpretation we have suggested of the increases in total mobility in these nations revealed in Figure 1. By resorting to the raw data, we can in fact show that changes within the farm sector here played a crucial part. Thus, the contribution of this sector to the total immobility rate (i.e. the proportion of all cases in the mobility table found in cells on the main diagonal) fell in the Irish case from 69 per cent for men born before 1925 to only 27 per cent for those born after 1940, while in the Polish case the corresponding decline was from 77 to 35 per cent.

In two other nations, France and Hungary, the decline in farm immobility is also more or less continuous over the period to which our data refer. However, the cases of England, Scotland and Northern Ireland and likewise that of the FRG would suggest that, once the decline of agriculture has reached a certain point, rates of farm immobility tend to level out or to become rather variable. And Sweden appears quite distinctive in that farm immobility is shown at a low level—never more than 25 per cent—throughout the decades in which agricultural employment was falling. Here, though, we do have evidence to suggest some distortion in our results. Our corresponding plot for the transition to class of first employment indicates a strong decline in farm immobility; but, on account perhaps of the very rapidity of agricultural contraction in the post-war years, it would seem that many men also left the farm workforce at a quite late age, thus obscuring the downward trend when the transition to present class is considered.

Finally, it may be observed that in Figure 2, as in Figure 1, any impression of converging outflow rates is created essentially by the rather dramatic Irish and Polish graphs. If these are disregarded, the cross-national range in rates of farm immobility merely fluctuates, being, for example, no narrower—at around 15 to 50 per cent—for men born from the mid-1930s onwards than it was for men born around 1920.

Figures 3 and 4 then display the course of outflow rates from farm origins to manual and nonmanual destinations respectively. Figure 3 would suggest that in those cases where declining trends in intergenerational immobility in farming were revealed in Figure 2, their counterpart has been increased outflows from farm origins into manual wage-earning positions in industry. France, Hungary, Ireland and Poland all show such increases of a continuous kind. In the remaining nations, however, trends are less readily discerned. In the cases of the FRG and Sweden, increasing pro-

FIGURE 3

Outflow rates from farm origins to manual destinations for men in nine nations by birth year
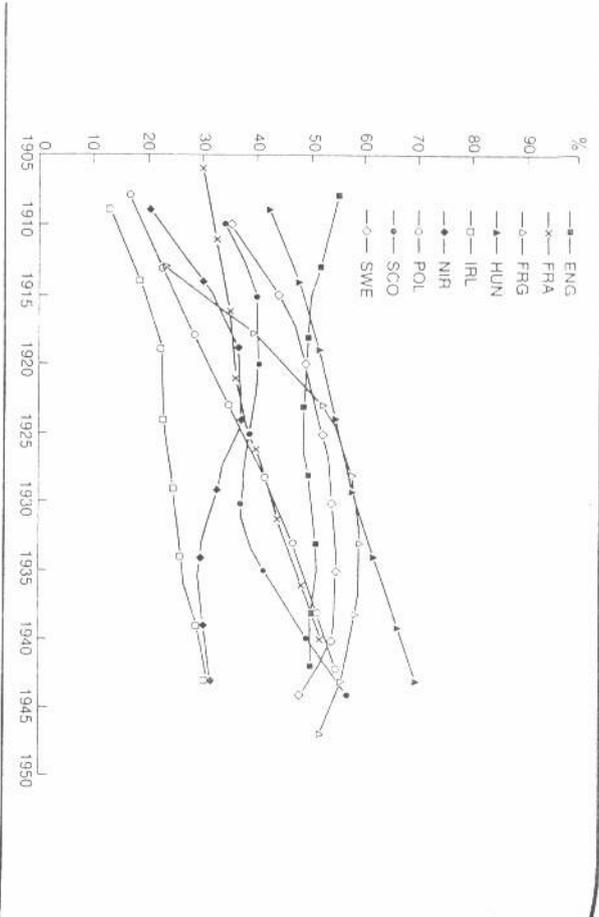
FIGURE 4

Outflow rates from farm origins to non-manual destinations for men in nine nations by birth year
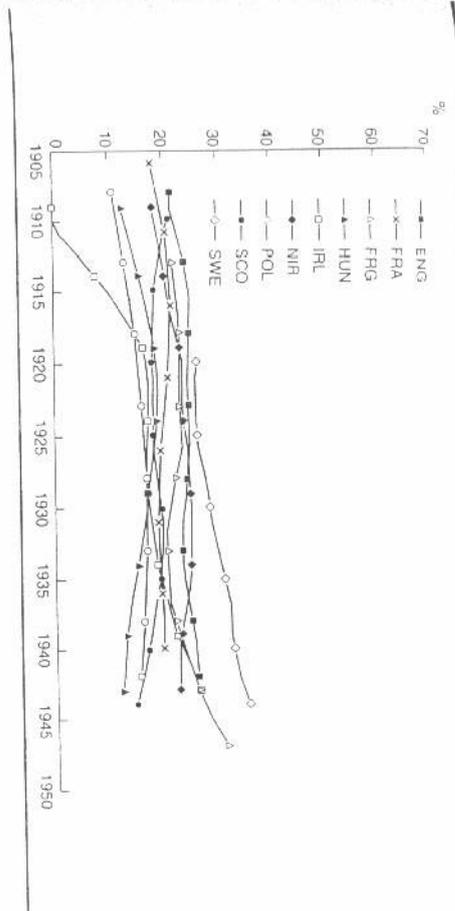
FIGURE 5

Outflow rates from manual origins to non-manual destinations for men in nine nations by birth year
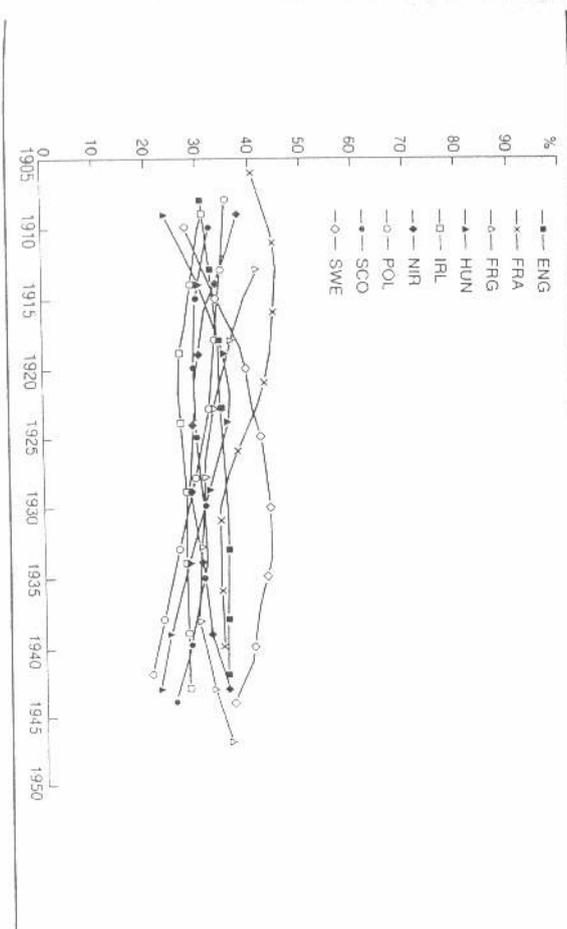
portions of men in the cohorts born up to about 1930 moved from farm origins into manual work—following what might perhaps be taken as a characteristic tendency of the drive to 'mature' industrialism. But in later cohorts this tendency is clearly not sustained, although for Sweden there is probably some underestimation of the rate in question as the converse of the distortion noted in regard to farm immobility. For England, Northern Ireland and Scotland, the graphs undulate in no readily interpretable way. Turning to the outflow rates from farm origins to nonmanual destinations presented in Figure 4, we find that trendless change is here still more manifest. The most remarkable feature of the graphs displayed is indeed their flatness, apart from the early rise from a near-zero level in the Irish case.[13]

The remaining point to be observed from Figures 3 and 4 together is that we find little indication at all of national mobility rates converging. Over the period covered, the cross-national range for farm-to-manual outflows shifts upwards, but with little narrowing, from around 10 to 55 per cent to 30 to 70 per cent; while the rates for farm-to-nonmanual outflows are notable for being almost entirely confined within a range of 10 to 25 per cent.

The last two Figures in the series, 5 and 6, show changes in rates of intergenerational mobility between the broad manual and nonmanual classes that we distinguish. From inspection of the graphs, it would once again seem difficult to avoid the conclusion that no clear trends emerge. Although some impression may perhaps be given that, overall, mobility from manual origins to nonmanual destinations has decreased while that in the reverse direction has increased, it is in fact only in the Polish case that monotonic trends in these directions can be found. In general, fluctuating rates are displayed, and the graphs for different nations frequently cross. Moreover, as earlier remarked, the negligible vol-

Outflow rates from non-manual origins to manual destinations for men in nine nations by birth year
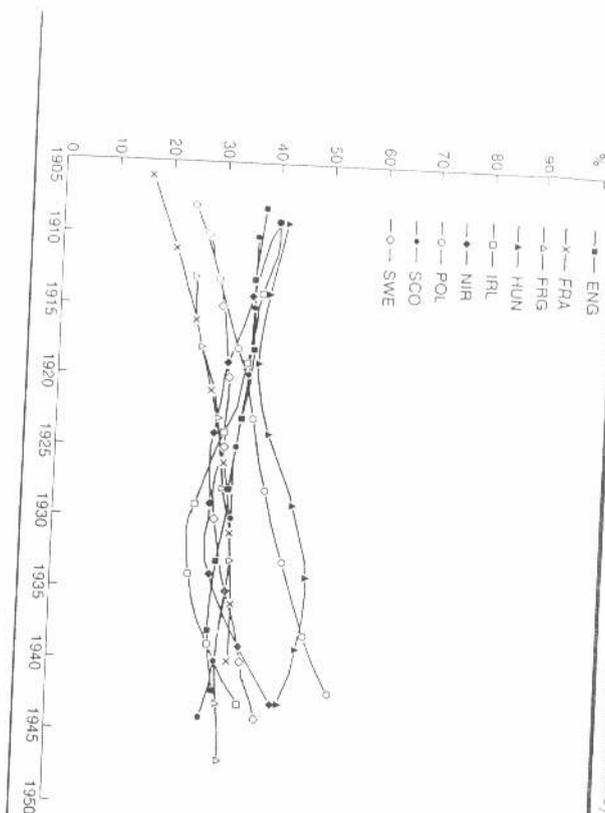
FIGURE 6

ume of outflows from both manual and non-manual origins to farm destinations means that the plots of Figures 5 and 6 can be taken as essentially the obverse of those relating to *immobility* within our manual and nonmanual classes; so in the case of these rates too an absence of trends may be claimed.

Finally, Figures 5 and 6 again fail to provide evidence of cross-national convergence in mobility rates. Over the period covered, the cross-national range for rates of mobility from manual origins to nonmanual destinations narrows only slightly as it falls from around 30 to 55 per cent for the oldest cohorts down to 20 to 40 per cent for the youngest; and the range for mobility in the reverse direction shows no narrowing at all in moving from 20 to 45 up to 30 to 55 per cent.[14]

It is the results contained in these last two Figures—and also in Figure 4—that may occasion most surprise among those presented so far. It would be generally accepted that

nonmanual work tends to grow and manual work to contract as industrial societies reach the more advanced stages of their development—regardless of whether this is seen as contributing to a net degrading or upgrading of the employment structure overall. And thus, within the context of the three-class version of our schema, increasing mobility into nonmanual destinations from farm and manual origins alike should be 'structurally' favoured. Yet, in our data, no consistent indication of such tendencies is to be found, even within the more advanced nations or among the younger cohorts.

However, it must in this connection be noted that our nonmanual class is very widely defined. It includes some groupings, such as routine nonmanual employees in administration, commerce and services, which have grown primarily through the greater workforce participation of women; and others, such as small proprietors and other self-employed workers, which, over the period that

Outflow rates from farm origins to service class destinations for men in nine nations by birth year

FIGURE 7
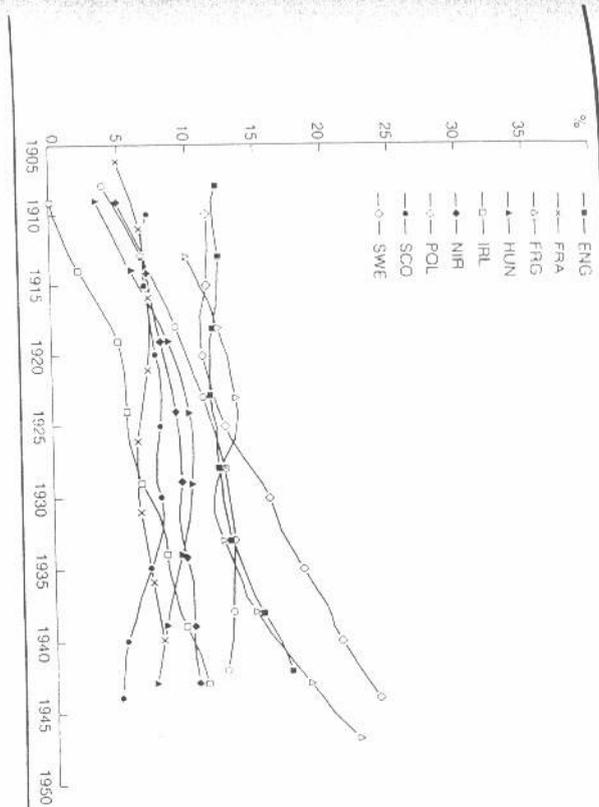
our data cover, were typically in decline. If, then, we wish to consider mobility flows into the nonmanual groupings that *have* most clearly expanded among the male workforce, which are in fact mostly at the higher levels of the white-collar range, we need to draw on data from mobility tables of a more elaborated kind. Although, as we have explained, we cannot go over entirely to the seven-class version of our schema, we can, for present purposes, make a useful compromise: we can construct mobility tables that apply the seven-class version to destinations while retaining the three-class version for origins.

In Figures 7 and 8 we show the course followed by two outflow rates derived from such 3 × 7 tables: that is, outflow rates from farm and from manual origins respectively into Class I+II of the seven-class version—the service class of primarily professional, higher technical, administrative and managerial employees. In other words, we here focus on subsets of the rates presented in Figures 4 and

5 where the mobility in question is into types of employment that *have* been in general expansion. Furthermore, we can also in this way examine changes in mobility flows that, in the light of the hierarchical divisions that we make within our class schema (cf. Appendix Table 3), could be regarded as representing mobility *upwards* from less to more advantaged class positions.[15]

A preliminary point to be noted about Figures 7 and 8 is that, because the rates we are here concerned with are generally lower and less differentiated than those presented in previous figures, we have doubled the vertical scale, thus of course 'enlarging' the changes that are depicted. Even so, they do not appear as highly dramatic.

In Figure 7, some increase in mobility from farm origins into the service class is shown up among younger cohorts in several nations—that is, in England, the FRG and Sweden and, more weakly, in Ireland. But in the remainder any increase that can be detected occurs

FIGURE 8

Outflow rates from manual origins to service class destinations for men in nine nations by birth year

Trends in Class Mobility
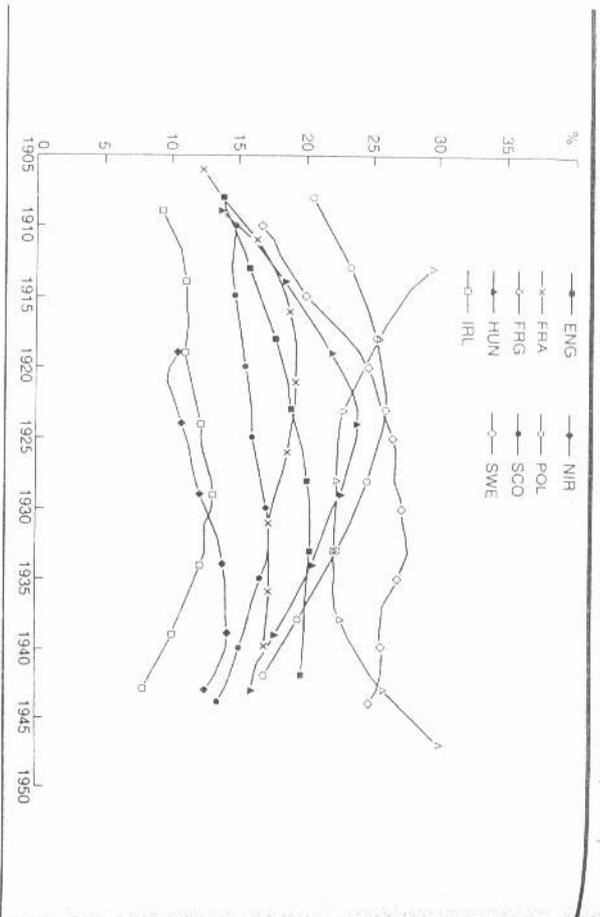
among older cohorts, and the trend then fades out—so that cross-national differences in rates in fact *widen*. In Figure 8, rates of mobility from manual origins into the service class likewise display an increase in the service class which is at least held, and in the FRG they turn sharply upwards among the youngest cohorts. But again, too, the other nations differ, with the most common tendency being for rates first to rise but then at some later point to decline. It is of interest to note that this tendency is most marked in Figure 8, and also appears in Figure 7, in the graphs for our two eastern European nations. Upward mobility into the service class among Hungarian and Polish men born in the early 1920s—who would reach occupational maturity in the period of post-war 'socialist reconstruction'—rose to a level that later cohorts quite fail to match.

Where, among younger cohorts, the graphs of Figures 7 and 8 level out or turn down, we cannot preclude the possibility that this is in some part the result of age effects—so that in fact, as the men in these cohorts become older, a larger proportion will enter into service-class positions. However, what we would doubt is that such effects are likely to an extent that would make the graphs seriously misleading. There are good empirical grounds for supposing—and the liberal theory would certainly predict—that the younger the men in our samples, the more probable it is that they will achieve upward mobility through education, so that this mobility will be apparent at a relatively early stage in their working lives. And in this connection, it is then further relevant to emphasise that the graphs corresponding to those of Figures 7 and 8 which depict mobility to class of first employment similarly fail to reveal consistently rising trends. It emerges rather that even if one considers only men born from the 1920s onwards, a steady increase in mobility into the service class from farm and manual origins alike is found in just one nation—namely, Sweden.

What, we believe, should be emphasised here is that although the service class does show a general tendency to expand within modern societies, it does not do so at a steady pace simply in response to the exigencies of industrial development. Periods of relatively rapid growth and of stasis will alternate under the influence of other factors, not least political ones, thus producing rises and falls in rates of upward mobility into this class of a kind which the Hungarian and Polish cases do no more perhaps than exemplify at their most striking.[16]

How, then, can we best sum up the foregoing findings in regard to trends in absolute rates? To begin with, we can say that our investigation of outflow rates points to certain trends which seem likely to have occurred in most, if not all, of the nations we consider at some stage of their industrial development:

(i) a decline in intergenerational immobility within the farm sector;

(ii) an increase in mobility from farm origins into manual employment in industry; and

(iii) some upturn in mobility from farm and manual origins into service-class positions.

To this extent, therefore, we might stop short of an extreme antinomianism of the kind that Sorokin could be taken to represent, and recognise that industrialism does carry typical implications for the direction of several broad mobility flows—as indeed Carlsson (1963) argued some time ago in a critique of Sorokin's position.

However, we must then also say that the trends that we are able to identify have rarely appeared as continuous over the period to which our data refer; that from nation to nation their phasing within the developmental process evidently differs; and moreover that changes in all other rates that we have examined would appear to be essentially directionless. In turn, therefore, we can produce little evidence that within our European nations mobility rates overall are moving steadily towards some relatively well defined 'industrial' pattern in the way that the liberal theory would suggest—and certainly not towards one that is characterised by steadily rising mobility. The outflow rates that we have considered show no clear tendency to converge; and, whatever course they may follow, they are not associated with any consistent upward trend in total mobility rates. In the light of that evidence presented, and in particular of that of Figure 1, it could not be claimed that men in our national samples whose working lives began, say, after the second world war have generally lived in more mobile societies than those who first entered employment in the 1920s.

The one possible qualification that might here be made is suggested by our findings for Ireland and Poland. These could be taken as meeting the expectation that an upward shift in the level of total mobility will occur in the course of industrialisation where a rapid decline in agricultural employment or, more specifically perhaps, the break-up of a predominantly peasant economy, goes together with a rising demand for industrial labour. But even if, as Lipset and Zetterberg would hold, a shift of this kind can be regarded as a general characteristic of the emergence of industrial societies, at least two further points would still, on our evidence, need to be made. First, the upturn in mobility has to be seen as being of a delimited, once-and-for-all kind; and secondly, it still leaves ample room for subsequent variation in absolute mobility rates and patterns as nations proceed to the further stages of their development.[17]

Relative Rates

We move on now to consider trends in intergenerational class mobility from the standpoint of relative rates, which we shall treat in terms of odds ratios. That is, ratios which show the relative odds of individuals in two different classes of origin being found in one rather than another of two different classes of destination; or, alternatively, one could say, which show the degree of *net* association that exists between the classes of origin and of destination involved. Two further points concerning such ratios may here be noted.

First, the total set of odds ratios that can be calculated within a mobility table may be taken as representing the 'endogenous mobility regime' or 'pattern of social fluidity' that the table embodies. And since odds ratios are 'margin insensitive' measures, it is then possible for this underlying regime or pattern to remain unaltered as between two or more mobility tables even though their marginal distributions differ and, thus, all absolute rates that can be derived from them. Further, we might add, it would be possible for relative rates as expressed by odds ratios to differ from table to table in some systematic way without this being readily apparent from an inspection of absolute rates.

Secondly, odds ratios are the elements of loglinear models; and, thus, where these ratios are taken as the measure of relative mobility rates, hypotheses about the latter can be presented and formally tested through the application of such models. This is the approach that we shall here follow.

In examining relative rates, we shall attempt, in the same way as we did with absolute rates, to make inferences about the extent of changes over time from the mobility experience of successive birth-cohorts within our national samples. However, instead of here working with yearly cohorts, we distinguish four ten-year birth-cohorts, which can then be regarded, given the closeness of the dates of the inquiries from which the samples derive, as having more or less comparable locations within the broad sweep of recent European economic history.

The first—that is, the earliest—of these cohorts comprises men aged 55 to 64, who were thus mostly born in the first two decades of the century, and who entered employment before or during the inter-war depression years. The second is of men aged 45 to 54, the majority of whom were born in the 1920s and entered employment in the later 1930s or the war years. The third is that of men aged 35 to 44, who were born between the late 1920s and the early 1940s, and whose working lives have fallen very largely within the post-war period. And finally the fourth cohort is that of men aged 25 to 34, who were born from the

end of the 1930s onwards and who mostly entered employment while the long boom was in train. This last cohort is clearly made up of respondents who could not be generally assumed to have reached a stage of occupational maturity, and this we must recall where it might be relevant to the interpretation of our results.

When we thus divide our national samples into cohorts, we again have a potential problem of unduly low cell counts in the mobility tables for each cohort. To obviate this, we base our analyses throughout on the five-class version of our schema (cf. Appendix Table 2).

As regards relative rates, there is, as we have noted, an obvious opposition between the expectations that follow from the liberal theory and those that may be derived from the FJH hypothesis. According to the former, a tendency should be found in the course of the development of industrial societies for relative rates to become more equal—or, one could say, for all odds ratios to move closer to the value of 1, which signifies the complete independence of class origins and destinations, or 'perfect mobility'. According to the latter, relative rates will be basically the same across all societies that have market economies and nuclear family systems, whatever stage their level of industrial development may have reached; and thus, when examined over time within particular industrial societies, relative rates should reveal little change at all.

We may then start off from an attempt at evaluating these rival positions, and, to this end, we introduce a rather simple loglinear model which is, however, able to provide a direct representation of expectations under the FJH hypothesis, at least if this is taken *stricto sensu*. This model, which we have earlier labelled the 'constant social fluidity' (CnSF) model (Goldthorpe, 1980, 1987: ch.3; Erikson, Goldthorpe and Portocarero, 1983) may, for present purposes, be written as

$$\log F_{ijk} = \mu + \lambda_i^O + \lambda_j^D + \lambda_k^C$$
$$+ \lambda_{ik}^{OC} + \lambda_{jk}^{DC} + \lambda_{ij}^{OD} \quad (1)$$

where F_{ijk} is the expected frequency in cell ijk of a three-way table comprising class of origin (O), class of destination (D) and cohort (C) and, on the right-hand side of the equation, μ is a scale factor, λ_i^O, λ_j^D and λ_k^C represent the 'main' effects of the distribution of individuals over origins, destinations and cohorts respectively, and the remaining terms represent the effects for the three possible two-way associations in the table.

Thus, the model entails a number of substantive propositions, most of which are unproblematic: for example, that an association exists between class of origin and class of destination; and that further associations exist between class of origin and cohort and between class of destination and cohort—in other words, men in different cohorts have different origin and destination distributions. It is, however, a further proposition that is critical. Since no *three-way* association is provided for in the model (the λ_{ijk}^{ODC} term does not appear), it is also entailed that the level of association between class of origin and of destination is *constant across cohorts* or, one could alternatively say, that over time the mobility tables for successive cohorts all corresponding relative rates, as measured by odds ratios, are identical.

We can then consider our nine nations separately, and in each case just fit the above CnSF model to a three-way table which comprises the five classes of origin, five classes of destination and four cohorts that we propose to distinguish. The results of so doing are presented in Table 1.

In this table we also report the results of applying a model that represents the hypothesis of the (conditional) independence of class origins and destinations; that is, the CnSF model minus the λ_{ij}^{OD} term. We do not expect this independence model to fit the data—and, as can be seen, in no case does it; but it serves as a useful baseline, by reference to which we can assess, through the rG^2 statistic in the fourth column of the table, how much of the total association between class of origin and class of destination the CnSF model is able to account for.[18]

Also in addition to the more usual 'goodness of fit' statistics, we give in the last column of Table 1 values for the statistic $G^2(S)$. This we introduce here to attempt to deal with a difficulty arising from the large variation in the sizes of our national samples. In consequence of this variation, our national mobility tables differ quite widely in their capacity to show up as statistically significant relatively small deviations from models that we fit to them. It is as if we were looking at them through microscopes of greatly differing power: we have the possibility of seeing far more detail in some cases than in others. Thus, there is the evident danger that we do not evaluate a model in an evenhanded way from nation to nation. We could, for example, be led to reject a model in the Polish case on account of deviations which, were they present also in the case of, say, Ireland, we would simply not observe. Thus, we evidently need some measure of goodness of fit that is standardised by sample size. One possibility would be to take G^2/N. However, we prefer, as a more refined measure, Schwarz's suggestion of $G^2(S)$ which is given by $((G^2 - df)/N) \times K + df$, where K is the sample size which is to be taken as standard.[19] We will follow the conservative practice of setting K equal to the size of the *smallest* of the national samples with which we are concerned—and thus, in Table 1, at 1746. To help remind the reader of the hypothetical nature of $G^2(S)$—the G^2 value that we would expect from a sample of size K, all other things being equal—we report it only to the nearest integer.

What, then, can we learn from the content of Table 1? It would in fact appear that the CnSF model performs fairly well. It is true that the p values reported indicate that in only four of the nine nations—England, Ireland, Northern Ireland and Sweden—would one retain this model, taken as the null hypothesis, according to the conventional 0.05 criterion. However, it is also evident that much of the variation in the G^2 values returned is attributable to differences in sample size. When one examines the $G^2(S)$ values in the final column of the table, one finds that these are in

TABLE 1

Results of Fitting the CnSF Model to Intergenerational Class Mobility for Four Birth Cohorts

Model[*]	G^2	df	p	rG^2[†]	Δ^2[‡]	$G^2(S)$ (1,746)
ENG (N = 8,343)						
OC DC	1,695.0	64	0.00	—	16.1	405
OC DC OD (con. ind.) (CnSF)	53.1	48	0.28	96.9	2.6	49
FRA (N = 16,431)						
OC DC	6,370.6	64	0.00	—	24.7	734
OC DC OD	96.7	48	0.00	98.5	2.0	53
FRG (N = 3,570)						
OC DC	1,092.0	64	0.00	—	21.2	567
OC DC OD	81.9	48	0.00	92.5	4.4	65
HUN (N = 10,319)						
OC DC	2,386.0	64	0.00	—	19.2	457
OC DC OD	69.9	48	0.02	97.1	2.4	52
IRL (N = 1,746)						
OC DC	902.3	64	0.00	—	29.2	902
OC DC OD	60.2	48	0.11	93.3	5.2	60
NIR (N = 1,808)						
OC DC	780.6	64	0.00	—	25.5	756
OC DC OD	44.5	48	>0.50	94.3	5.0	45
POL (N = 27,993)						
OC DC	7,357.7	64	0.00	—	19.6	519
OC DC OD	66.7	48	0.04	99.1	1.4	49
SCO (N = 3,985)						
OC DC	1,146.6	64	0.00	—	18.1	538
OC DC OD	66.3	48	0.04	94.2	4.4	56
SWE (N = 1,882)						
OC DC	403.9	64	0.00	—	17.3	379
OC DC OD	45.2	48	>0.50	88.8	5.1	45

Notes.

* O = origin class; D = destination class; C = cohort.

† rG^2 shows the percentage reduction in the G^2 for a model taken as baseline (here the conditional independence model) that is achieved by a more complex model (here the CnSF model). For further discussion of this statistic, see n. 18.

‡ Δ is the dissimilarity index, showing the percentage of all cases in the table analysed that are misclassified—that is, allocated to the wrong cell—by a particular model.

fact contained within a rather narrow range, and moreover that in no case do they exceed the 65 mark, thus implying, with df = 48, P values of above 0.05. In other words, if we were restricted throughout to sample sizes of 1,746, such as that we have for Ireland, we would find it difficult to reject the CnSF model for any nation—although the FRG model would have to be regarded as a borderline case.

What could therefore be claimed on the basis of the foregoing is that while significant deviations from the CnSF model do have to be recognised in some at least of our nations, such deviations would not appear to be at all substantial. In this connection, it is of further relevance to note that in all cases but one the CnSF model accounts for more than 90 per cent of the total association existing between class of origin and of destination—the exception being Sweden, where the independence model fits least badly; and again, that within the different national mobility tables, the CnSF model leads to the misclassification of, at most, only a little over 5 per cent of all cases.[20] . . .

Conclusions

We have sought in this paper to use data from European nations in order to evaluate various arguments concerning mobility trends within industrial societies. The major outcome, it might be said, has been a negative one: that is, considerable doubt has been thrown on claims associated with what we have called the liberal theory of industrialism. We have found no evidence of either higher levels of total mobility or of social fluidity within the nations we have considered; nor evidence that mobility rates, whether absolute or relative, are changing in any other consistent direction; nor again evidence that such rates show a tendency over time to become cross-nationally more similar. The most that could be said on the side of arguments proposing some linkage between industrial development and increased standardised mobility rates would be that structural changes—most importantly, the decline in agriculture—appear likely to generate upturns in total, and also perhaps in certain outflow rates over periods of limited duration and of very variable phasing.

Such results are all the more damaging to the liberal theory since, as we earlier emphasised, Europe over the middle decades of the twentieth century, and above all in the post-war era, provides a context in which the theory should have every chance of showing its force. Furthermore, we may reiterate the point that any distortions in our findings that derive from our reliance on (quasi-) cohort analysis, and in particular from the confounding of age and period effects, are unlikely to be ones that tell unfairly against liberal claims: if anything, the contrary should be supposed.

We would therefore believe that the attempt to represent changes in mobility rates in modern societies as displaying regular developmental patterns, driven by a functional logic of industrialism, is one that faces serious empirical difficulties; and, in turn, we would argue that the need must be recognised to search for ways in which these changes might be more satisfactorily understood. In this connection, there is then one further outcome of the analyses of the present chapter which should, in our judgment, be seen as having major significance: namely, that while it appears that liberal expectations of directional tendencies in absolute and relative mobility rates are in both respects largely unfounded, *the nature of the contrary evidence is quite different from one case to the other: with absolute rates it is evidence of trendless, though often quite wide, fluctuation, but with relative rates it is evidence of considerable stability.* What is thus suggested is that in attempts to go beyond the liberal theory, the treatment of

absolute and of relative rates is likely to set quite different kinds of problem and of analytical task.

As regards absolute rates, liberal expectations most obviously fail, we would suggest, because changes in structural influences on mobility do not themselves have the regularity that liberal theorists have been wont to suppose. Analyses of economic growth advanced in the 1950s and 1960s by authors such as Clark (1957), Rostow (1960) and Kuznets (1966) were taken as demonstrating clear sequences of change in the sectoral and occupational, and hence in the class, composition of national labour forces. However, it would by now be widely accepted that, whatever theoretical insights the work of these authors may provide, it does *not* allow one to think, at a historical level, in terms of a well-defined series of developmental stages through which the structure of the labour forces of different nations will pass in turn as industrialisation proceeds. While certain very general tendencies of change may in this respect be identified, considerable variation still prevails from case to case in relation to the speed with which change occurs and the extent to which different aspects of change are separated in time or overlap (Singelmann, 1978; Gagliani, 1985).

The European experience of industrialisation, which has provided the setting for our analyses in this paper, itself well illustrates the variety of paths that the development of labour forces may follow; and it does, moreover, bring out the diversity of the causal factors at work here—by no means all of which can be plausibly seen as reflecting not only early or late industrialisation but, in addition, important influences stemming, on the one hand, from the international political economy and, on the other, from the various strategies pursued by national governments in response to both external and internal pressures. To take but one example here, the contraction of agricul-

ture—which we have found to play a major part in the pattern of change in absolute class mobility rates—cannot be understood, as it has occurred in particular cases, simply in terms of the shifting marginal productivity of sectors and differences in the elasticities of the demand for their products that the theory of economic growth would emphasise. As the agrarian histories of our nations can amply show (see, e.g.; Priebe, 1976), the pace and timing of agricultural contraction also—and often far more decisively—reflects whether nations were at the centre or on the periphery of international trading relations, in a position of economic dominance or dependence, and, further, the policies that their governments adopted towards agriculture both in regard to its social organisation and its protection against or exposure to market forces.[21]

Once, therefore, the variability and complexity of the determination of the structural contexts of mobility is appreciated, the extent to which the movement of absolute rates over time appears as merely trendless, can no longer be found especially surprising. If changes in such rates do largely express the shifting conjunctures of a diversity of exogenous effects, then 'trendlessness' as suggested by Sorokin, is indeed what must be expected. It is noteworthy that it is essentially an argument on these lines that has been pursued by historians who have sought to join in the sociological debate. In rejecting 'the idea of a sustained growth in social mobility during industrialization', these authors have emphasised the 'multitude of factors' which affect mobility levels; and, in place of developmental stages, they have sought rather to establish empirically a number of different 'eras' or 'phases' of both rising *and* falling mobility within the period in which European industrialisation has occurred (see esp. Kaelble, 1984: 490; also Kaelble, 1981; Mendels, 1976; Kocka, 1980).

Thus, we would maintain, the crucial issue that arises so far as absolute rates of mobility

are concerned is that of whether, or how far the course of change they follow is in fact a phenomenon open to explanation in macrosociological terms. Investigators who have been impressed by the degree of temporal variation in absolute, as compared with relative, rates have gone on to conclude that the dynamism of the former must lie primarily in structural effects, and in turn they have urged that these should not be treated as merely a 'nuisance factor' but should become themselves the focus of inquiry (e.g. Hauser et al., 1975; Grusky and Hauser, 1984; Goldthorpe, 1985). However, while this argument has an evident logic, it does leave quite undecided the question of just what *kind* of understanding of structural effects—and thence of change in absolute rates—it might be possible to achieve. In so far as generalisations about such effects can be made, will they prove to be of any great explanatory value when applied to particular instances? Or may one be in this respect forced back willy-nilly to a reliance largely on specific historical descriptions—as a position such as that of Sorokin would in effect imply? Or again are there perhaps intermediate possibilities?

Turning now to relative rates, we meet with a very different situation. In this case, the liberal theory is undermined because, instead of the anticipated trend of change, in the direction of greater equality, we find evidence of an essential stability. Although shifts in relative rates can in some cases be detected [see Erikson and Goldthorpe 1992: 90–101], these are not only ones which go in various directions but, more importantly, ones which, as against those observed in absolute rates, are of very limited magnitude—so that one might wish to speak more of 'oscillation' than of fluctuation. In other words, the liberal theory would here appear to fail because the logic of industrialism has not in fact automatically generated the changes within processes of social selection which were expected of it, and through which a steady increase in fluidity and openness would be promoted.

It is in this connection of interest to note that of late exponents of the liberal theory appear to have modified their position in regard to relative rates quite significantly. Thus, for example, Treiman initially sought to provide the hypothesis of a trend towards greater openness with a rationale largely in terms of the functional exigencies of industrialism (1970: 218). However, in a recent paper (with Yip), he puts much stronger emphasis on the part that is played in creating greater openness and equality of opportunity by the more proximate factor of greater equality *of condition*—that is, by a greater equality in the economic, cultural and social resources that families possess. And while it is still maintained that this increase in equality of condition itself ultimately derives from the development of industrialism, it is at the same time accepted that 'industrialization and inequality do not move in perfect concert' and, further, that *other* factors, especially political ones—for example, whether a nation has a socialist regime—may also affect the degree of inequality that exists (Treiman and Yip, 1989: 376–7). That is to say, it would here seem to be recognised that even in cases where a trend towards greater fluidity may be empirically established, this cannot be regarded as simply a matter of developmental necessity but must rather be explained as the contingent outcome of quite complex patterns of social action (cf. also Ganzeboom, Luijkx and Treiman, 1989; Simkus et al., 1990). And conversely, this revised, and evidently much weaker, position is then of course able to accommodate the alternative possibility that, in particular instances, no trend of this kind is observed—because countervailing forces have in fact proved too strong.

The stability in relative rates that we have shown gains in significance, we may add, not only because the period that our data cover comprised decades of unprecedented economic growth but also because it was, of course, one of major political upheavals, national and international, in the train of war and revolution, na-

tional frontiers were redrawn and massive shifts of population occurred.[22] The fact that the relative rates underlying the mobility experience of cohorts within our national samples should then reveal so little change—whether directional or otherwise—becomes all the more remarkable. While we have not been able to support the claim of a sustained developmental trend, we have, it appears, found indications of something of no less sociological interest: that is, of a constancy in social process prevailing within our several nations over decades that would in general have to be characterised in terms of the transformation and turbulence that they witnessed.

Furthermore, this finding is, as we have indicated, one which may be related to a larger sociological argument, namely, that represented by the FJH hypothesis. We have presented analyses which indicate that some variation in fluidity patterns does in fact occur among nations—indeed, more than within nations over time—and also that this variation shows no tendency to diminish [see Erikson and Goldthorpe 1992: 90-101]. Thus, expectations of convergence are not met. However, neither would cross-national varia-

tion appear to be increasing; and, more importantly, as we have elsewhere sought to show (Erikson and Goldthorpe 1987, 1992: ch. 5), it could not be reckoned as sufficiently wide to rule out the possibility that the 'basic' similarity in relative rates that the FJH hypothesis claims is the major source of the temporal stability that we have observed; or, that is, the possibility that *constancy* above all reflects *commonality*.

In other words, in so far as the degree of similarity proposed by the FJH hypothesis is established, we may think of temporal shifts in fluidity within nations as being no more than oscillations occurring around the standard pattern that the hypothesis implies or, at all events, as being restricted in their frequency and extent by whatever set of effects it is that generates this pattern. And in this regard, then, the ultimate task becomes that of understanding these effects; or, that is, of seeking to explain not variance, to which, as Lieberson (1987) has observed, analytical strategies within macrosociology have thus far been chiefly oriented, but rather a *lack* of variance—for which, unfortunately, appropriate strategies remain largely to be devised.

APPENDIX TABLE 1
National Inquiries Used as Data Sources

	Inquiry	Date	References for survey details
England & Wales (ENG)	Oxford National Occupational Mobility Inquiry	1972	Goldthorpe (1980)
France (FRA)	INSEE Enquête Formation Qualification Professionelle	1970	Pohl, Thélot and Jousset (1974)
Federal Republic of Germany (FRG)	ZUMA Superfile	1976–1978	Erikson *et al.* (1988)
Hungary (HUN)	Social Mobility and Occupational Change in Hungary	1973	Andorka and Zagórski (1980)
Irish Republic (IRL)	Determinants of Occupational Mobility	1973–1974	O'Muircheartaigh and Wiggins (1977)
Northern Ireland (NIR)	Determinants of Occupational Mobility	1973–1974	O'Muircheartaigh and Wiggins (1977)
Poland (POL)	Change in the Socio-Occupational Structure	1972	Zagórski (1977–8)
Scotland (SCO)	Scottish Mobility Study	1974–1975	Payne (1987)
Sweden (SWE)	Level of Living Survey	1974	Andersson (1987)

APPENDIX TABLE 2
The Class Schema

Full version	Collapsed versions Seven-class*	Five-class	Three-class
I Higher-grade professionals, administrators, and officials; managers in large industrial establishments; large proprietors	I+II Service class: professionals, administrators and managers; higher-grade technicians; supervisors of non-manual workers		
II Lower-grade professionals, administrators, and officials; higher-grade technicians; managers in small industrial establishments; supervisors of non-manual employees		I-III White-collar workers	Non manual workers
IIIa Routine non-manual employees, higher grade (administration and commerce)	III Routine non-manual workers; routine non-manual employees in administration and commerce; other rank-and-file service workers		
IIIb Routine non-manual employees, lower grade (sales and services)			
IVa Small proprietors, artisans, etc., with employees	IVa+b Petty bourgeoisie: small proprietors and artisans, etc., with and without employees	IVa+b Petty bourgeoisie	
IVb Small proprietors, artisans, etc., without employees			
IVc Farmers and smallholders; other self-employed workers in primary production	IVc Farmers: farmers and smallholders and other self-employed workers in primary production	IVc+VIIb Farm workers	Farm workers
V Lower-grade technicians; supervisors of manual workers	V+VI Skilled workers: lower-grade technicians; supervisors of manual workers; skilled manual workers	V+VI Skilled workers	Manual workers
VI Skilled manual workers			
VIIa Semi- and unskilled manual workers (not in agriculture, etc.)	VIIa Non-skilled workers: semi- and unskilled manual workers (not in agriculture, etc.)	VIIa Non-skilled workers	
VIIb Agricultural and other workers in primary production	VIIb Agricultural labourers: agricultural and other workers in primary production		

APPENDIX TABLE 3
Scores for Classes of the Schema on Different Occupational Scales as a Basis for a Threefold Hierarchical Division

Scale[a]	Class							Division		
	I+II	III	IVa+b	IVc	V+VI	VIIa	VIIb	1	2	3
Treiman	56	35	42	44	35	29	24			
Hope-Goldthorpe (England)	63	36	39	47	40	29	31			
Wegener (FRG)	92	50	49	50	49	39	30			
Irish Occupational Index (all Ireland)	58	30	42	42	37	24	26			
de Lillo-Schizzerotto (Italy)	71	41	51	48	34	20	11			
Nioi (Japan)	62	41	37	37	41	33	30			
Duncan (USA)	66	27 46	25	33	17	14				

Note:

[a] The international Treiman scale and those for the FRG, Ireland, and Japan are intended as scales of occupational prestige, although constructed in different ways; the English scale and also, it would seem, the Italian, are intended as ones of the general desirability of occupations in popular estimation, and the US scale, while originally constructed as a proxy for a prestige scale, is now generally interpreted as one of the socio-economic status of occupations. For further details, see Treiman (1977), Goldthorpe and Hope (1974), Wegener (1988), Boyle (1976), de Lillo and Schizzerotto (1985), Nioi (1979), and Duncan (1961)

Notes

1. This paper is based on chapter 3 of Robert Erikson and John H. Goldthorpe, *The Constant Flux: A Study of Class Mobility in Industrial Societies*, The Clarendon Press, Oxford, 1992. The research on which this book reports was carried out under the auspices of the CASMIN-Projekt, based at the Institut für Sozialwissenschaften of the University of Mannheim and funded by grants from the Stiftung Volkswagenwerk, Hanover. Readers are referred to the above work (chapter 2 esp.) for full details of the comparative methodology followed in research.

2. The influence here of the 'stages-of-growth' model of Rostow (1960: see esp. Chart 1) would seem to be of particular importance and also, perhaps—though the evidence is indirect—the interpretation of European industrial development provided by Landes (1957, 1965, 1972), which places major emphasis upon the rate and pattern of diffusion or techniques of production from Britain to the more 'backward' economies of the European mainland.

3. Thus, for example, in Kerr *et al.* (1960) discussion of France and Italy is largely concerned with the impediments to industrial development

that result from the persisting importance of 'family-dominated enterprises' with 'patrimonial management' (see e.g. pp. 80, 141–2; and cf. Landes, 1957); and discussion of Germany, with difficulties of social rigidity and authoritarianism, following from the promotion of industrialisation by a dynastic elite (e.g. pp. 54–5, 150–1).

4. It is of interest that Bell should refer to the situation on which he comments as one 'that has gone relatively unexamined'. This statement may well be true for American theorists of industrialism, but it can scarcely hold in the case of European economic and social historians. See, for example, the discussion of issues central to the 'reperiodisation' of the development of industrial society in Europe that are found in Wrigley (1972) and Mayer (1981).

5. So far as emigration is concerned, a detailed review of the possible and likely effects on mobility rates and propensities is provided in Hout (1989), with special reference to the Irish case.

6. For our present purposes, it is the confounding of period by age effects that is most likely to create problems. To the extent that cohort effects are present in the data, this may be regarded as valid evidence against the occurrence of secular trends.

7. This is in fact the highest maximum age that we could apply across all nine of our national samples.

8. The wording of the questions from which this information was derived varied somewhat from one national inquiry to another but not, we believe, in ways likely to have any significant effects on the comparability of data. In this and all similar instances full details of question wording, construction of variables, etc. are to be found in the CASMIN International Social Mobility Superfile (Erikson *et al.*, 1988).

9. We are greatly endebted to Jan Hoem for his documentation to the CASMIN International Social Mobility Superfile (Erikson *et al.*, 1988).

10. These plots are not shown here but in what follows it may be assumed that where no reference is made to rates of mobility from class origins in this respect, our findings in this respect would not lead us seriously to qualify those we would obtain for rates from class origins to present class.

11. The results that we report here for Hungary do of course depend on our treating workers on agricultural co-operatives or state farms as having a different class position (VIIb) from that of peasant proprietors (IVc). Some analysis of mobility in Hungary have not made this distinction; but we would argue the desirability of so doing, wherever it is practically feasible. It was, after all, precisely the aim both of the immediate post-war land reform and of the subsequent collectivisation programme to *change* agrarian class relations. In the Polish case, it should be noted, the attempt to collectivise agriculture that the regime launched at the end of the 1940s met with fierce peasant opposition and was finally abandoned in 1956 (cf. Lewis, 1973).

12. Although, then, we are here forced back to the obviously rather crude three-class basis of much earlier comparative research, we must stress that we will do achieve a much higher standard of data comparability. As a result of our systematic recoding of the original unit-record data (see Erikson and Goldthorpe, 1992: ch. 2), we have a reasonable assurance that the categories of 'nonmanual', 'manual' and 'farm' are being applied in a consistent manner from nation to nation, rather than providing comparability of a merely nominal kind.

13. It may be noted that in Figure 4 the left tail of the curve for Sweden has been deleted. This is on account of its unreliability, as determined by a test developed by Hoem (see Erikson and Goldthorpe, 1992: ch. 3, Annex). For the same reason, we have also deleted the left tail of the curve for Northern Ireland in Figure 8.

14. These results are of direct relevance to the Lipset-Zetterberg hypothesis of cross-national similarity in absolute rates, since this was in fact formulated in terms of outflow rates from nonmanual to manual positions and *vice versa*. We do not take up this issue here (but see further Erikson and Goldthorpe, 1992: ch. 6).

15. Following the hierarchical levels that we propose, a further upward flow—that our 3 × 7 tables do not enable us to distinguish—would be represented by men entering Class I + II positions from Class III origins.

16. Thus, for example, in the English case the more or less continuous rise in upward mobility into the service class across the cohorts we distinguish can be related to a corresponding steady expansion of this class from a time somewhere between 1931 and 1951 (there was no 1941 Census)—following, however, on several decades in which it grew scarcely at all (see Goldthorpe, 1980, 1987: ch. 2 esp.). As regards socialist societies, it may further be noted that evidence of a 'parabolic' curve for upward mobility, similar to that we record in Hungary and Poland, is also found for post-war Czechoslovakia in data from a survey conducted in 1984 (personal communication from Marek Boguszak and cf. Boguszak, 1990).

17. It would, moreover, be mistaken simply to equate a peasant economy—or society—with a 'traditional' one. Thus, while one may well with justification speak of a peasant economy existing in substantial areas of Ireland at least up to the 1940s, many of its key institutional features—most importantly, perhaps, non-partible inheritance—were relatively new (cf. Hannan, 1979). The Irish peasant community, as classically depicted by Arensberg and Kimball (1940, 1968), has in fact to be seen as the historical product of economic and social conditions in Ireland following the Great Famine of 1846–9 and then of the land reform legislation introduced between 1870 and the First World War.

18. It is important that 'rG²', referred to by Goodman (1972) as the 'coefficient of multiple determination', should be interpreted within the particular context of loglinear modelling, rather than being taken as the equivalent of the perhaps more familiar R² of regression analysis. As Schwartz has pointed out (1985), the fact that R²s are typically much lower than rG²s reflects the fact that in regression the units of analysis are usually individuals while in loglinear modelling they are the numbers of cross-tabulations and the scores are the numbers of individuals in a cell. Such aggregate data must then be expected to reveal stronger regularities than individual-level data. Schwartz's summary (1985: 2–3) is apt: rG² 'measures how adequately a model accounts for the observed *associations* among a pre-specified set of variables while R¹ and Eta² measure the amount of *variation* in one variable that can be accounted for by its (linear) association with specified independent variables. The point

may be added that the substantive meaning of rG^2 will of course depend on the model that is chosen as baseline.

19. This suggestion was made to us by Joseph E. Schwartz in a personal communication, for which we are duly grateful.

20. We may add that results from equivalent analyses of data referring to mobility from class of origin to class of first employment are essentially similar. In only one case, that of Ireland, would the CnSF model be rejected on the basis of the $G^2(S)$ statistic; and again only in the Swedish case does the model not account for at least 90 per cent of the total origin-destination association, while at most only a little over 5 per cent of all cases are misclassified. It should, however, be recalled that we cannot undertake an analysis of the kind in question for the FRG, owing to lack of information on first employment.

21. Moreover, while we would believe that 'demand side' factors are generally of major importance in promoting structural change, 'supply side' ones may also have to be taken into account—for example, the effects of demographic change, including in- and out-migration, and of changes in the workforce participation rates of women and of different age-groups. And in these respects too political intervention may obviously play a crucial role.

22. Most importantly, in the aftermath of World War II the FRG was created out of the division of the Third Reich, and Poland's frontiers were moved some 150–200 miles to the west—both changes being accompanied by large population movements. In addition, one may note the truncation of Hungary in 1920 (with the loss of almost 70 per cent of its area and 60 per cent of its population); and the partition of Ireland in 1920-2, following the War of Independence and the Civil War, so as to create the Irish Free State (which became the Irish Republic in 1949) and the six counties of Northern Ireland, a constituent element of the United Kingdom with, up to 1973, its own parliament and executive.

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P E T E R   G O T T S C H A L K

▶ M O D E R N   A N A L Y S E S   O F   I N C O M E   M O B I L I T Y   A N D   P O V E R T Y   S P E L L S

Inequality, Income Growth, and Mobility: The Basic Facts

During the 1950s and 1960s, mean wages in the United States grew rapidly, and the dispersion around this growing mean changed very little. Starting in the 1970s and continuing into the 1980s and 1990s, these patterns were reversed: mean wages grew slowly, and inequality increased rapidly.

These changes in labor markets were reflected in changes in the distribution of family income.[1] The mean of the distribution of family income did increase after 1973, in spite of the near constancy of mean real wages, as family members increased the number of hours they worked. However, the increase in inequality of wages was mirrored by an increase in the dispersion of family income. A large descriptive literature has documented the rise in inequality, while a smaller behavioral literature has sought to delineate the causes of this rise.[2]

These changes in the distribution of family income affected rates of poverty directly. During the 1950s and 1960s, temporary increases in poverty during recessions were more than offset by declines in poverty during economic expansions. As long as the poor gained along

with everyone else from the secular growth in the mean, one could be confident that poverty rates would ratchet down. This is exactly what happened as poverty rates fell from 22.4 percent in 1959 to 11.1 percent in 1973.

But these patterns in mean family income, poverty and inequality came to an end in the 1970s. Figure 1 plots real mean per capita income, the official poverty rate and the ratio of the income of the household at the 80th percentile to the income at the 20th percentile, which is a commonly used measure of inequality. Percentile ratios are often used as the overall measure of inequality, partly because they are not influenced by the problem that at the very top of the income distribution, most surveys report income higher than a certain amount as being "top-coded." Changes in percentile ratios avoid this problem of top-coding by only requiring knowledge of the income at the 80th or 90th percentile, which is below the top-coded values. But other measures and other ratios display largely similar patterns.

Over the last two decades, poverty rates have continued to increase during recessions and decline during expansions, just as they had in the 1960s. However, the declines in poverty during expansions have failed to offset the increases during recessions, and poverty rates ratcheted up 31 percent from 1973 to 1994 (that is, from 11.1 percent to 14.5 percent) in spite of a

27 percent increase in mean per capita income. The coexistence of rising poverty and increases in mean incomes indicates that the poverty-reducing effects of growing mean income were being offset by the growth in inequality, as well as demographic changes. Changes in the demographic composition of the population, such as the increase in female-headed households, are also partially responsible for the rise in poverty rates. But these changes are no more important to the rise in poverty than the increase in wage inequality (Danziger and Gottschalk, 1995)....

Conceptual Issues: Inequality, Economic Growth, Mobility

For many people, growth in inequality is considered a distributional "problem" only if it results in a decline in the economic position of persons at the bottom of the distribution. If incomes grow throughout the distribution, but the growth is higher at the top than at the bottom, then inequality increases, but the absolute incomes of those at the bottom improve.

Changes in the absolute incomes of those at the bottom are affected by the amount of economic growth, changes in inequality and changes in mobility. While this essay makes sharp distinctions among these three concepts, the ideas are often confused, especially in the popular press. Increases in the mean, increases in inequality and increases in mobility each describe a particular aspect of the joint distribution of income, Y, over T periods: $f(Y_1, Y_2, \ldots Y_t)$. Economic growth between period t and $t + k$ reflects differences in the means of the marginal distributions of Y in the two years. Increases in inequality reflect changes in the variance (and in higher level moments) of the marginal distributions. Changes in mobility reflect changes in the covariance of income across years.

FIGURE 1

Mean Per Capita Income, 80th/20th Percentiles and Poverty Rates (1973 = 1.0)

Legend: — Percent Below Poverty Level; - - - p80/p20; ······ Mean Per Capita Income

Source: Tables B-3 and B-5 Current Population Reports—Consumer Income Series P60-193 and Table C-1 of P60-194. Mean per capita income is a weighted average of male and female persons, including persons with zero income.

TABLE 1

Earnings Mobility in the United States

One Year Mobility (1974-1975)

		1975 Quintiles					
		1	2	3	4	5	Total
1974 Quintiles	1	0.687	0.221	0.079	0.013	0.000	1.000
	2	0.215	0.491	0.222	0.069	0.003	1.000
	3	0.065	0.236	0.497	0.176	0.026	1.000
	4	0.033	0.049	0.159	0.584	0.175	1.000
	5	0.000	0.005	0.040	0.158	0.798	1.000

Seventeen Year Mobility (1974-1991)

		1991 Quintiles					
		1	2	3	4	5	Total
1974 Quintiles	1	0.421	0.228	0.143	0.130	0.078	1.000
	2	0.287	0.360	0.193	0.092	0.067	1.000
	3	0.147	0.206	0.321	0.205	0.120	1.000
	4	0.097	0.120	0.242	0.324	0.217	1.000
	5	0.031	0.073	0.102	0.254	0.539	1.000

Source: Author's tabulation of the PSID.

Increases in mean income will reduce the proportion of people falling below a fixed poverty threshold as long as there are no other changes in the distribution. This insight lies at the heart of the proposition that economic growth can benefit everyone. However, if the mean and the variance of the distribution both increase, then there is no assurance that all will be better off. The U.S. experience of recent decades shows that increases in inequality of labor market income can fully offset the effects of increase in the mean, leading to a decline in absolute (as well as relative) earnings at the bottom of the distribution.

Measures of mobility capture how incomes are correlated across periods. Without information on mobility it is impossible to tell what proportion of low earners in a cross-section also had low earnings in a subsequent cross-section. If many low earners in a cross-section have high earnings in other years, then the cross-sectional earnings distribution is not very informative. Only longitudinal data can yield that information. Likewise, cross-section data cannot reveal whether people with low earnings in one year are getting poorer, nor for that matter whether the rich are getting richer. Cross-section data can only be used to compare the characteristics and number of persons with low earnings in one year with those in another year....

Changes in Mobility

Table 1 uses the University of Michigan's Panel Survey of Income Dynamics (PSID) to document the extent of mobility. These data show that while earnings mobility is clearly evident, there is also substantial persistence. The table shows the probability that a person in a certain quintile in 1974 (the first year for which we have valid earnings data) was in a particular quintile in 1975 (top panel) and in 1991 (bottom panel).[3] Of those in the lowest quintile in 1974, 68.7 percent were still in the

lowest quintile one year later and fully 90.8 percent were in the two lowest quintiles.[4] Thus, while there is mobility out of the lowest quintile in one year, it is small and movement was not very far.

Mobility rates are naturally higher when persons have 17 years to climb out of the distribution. But a substantial proportion still remain in the lowest quintile. Of those who started in the lowest quintile in 1974, 42.1 percent found themselves in the lowest quintile 17 years later. This degree of persistence is consistent with the well-documented finding that the transitory component of earnings dies off after roughly three years. Therefore, of those who experience a transitory increase in earnings in one year, many will tend to fall back a few years later. To put it another way, the probability of being out of the bottom quintile after 17 years is much lower than would be implied by a calculation that took the one-year transition rates and assumed that movement would occur independently for each of the next 17 years.[5] Of those who did exit the bottom quintile, most did not make large progress, with the largest group moving to the next quintile. Similarly, the probability of staying in the highest quintile was .539, with .793 staying in the two highest quintiles.

Whether this mobility should be viewed as large or small depends on the question being asked. It is certainly high enough to make the point that people are not stuck at the bottom or the top of the earnings distribution; after all, most people's earnings increase as they gain labor market experience. Thus, one should be careful not to assume that those in a certain quintile in one year remained in that quintile the next year. However, mobility is too low to wash out the effects of yearly inequality. Even when earnings are averaged over a 17-year period, inequality is only reduced by roughly a third, as measured by the 90/10 ratio.[6] Thus, even based on average earnings over 17 years, substantial inequality of "permanent" earnings would remain.[7]

Another flaw on which to judge whether the United States has a lot or a little mobility is by comparisons with other industrialized countries for which we have longitudinal data. While the United States has substantially more inequality than other OECD countries, it is not an outlier when it comes to mobility (Burkhauser, Holtz-Eakin and Rhody, forthcoming; OECD, 1996).[8] U.S. mobility rates resemble those of countries as different as France, Italy and Sweden. The fact that the United States has a more decentralized labor market than does the United Kingdom does not carry over into greater economic mobility. Likewise, the more centralized wage setting institutions in Germany and the Nordic countries do not translate into significantly less mobility in those countries than in the United States.

Thus far, the focus has been on the amount of mobility, not the trend in mobility. Even if the United States had a high *level* of mobility, this would reveal nothing about the *trend* in inequality of income measured over multiple periods. The existence of mobility reduces the level of inequality of income measured over multiple years. However, mobility reduces the *trend* toward greater inequality only if mobility *increases*. If mobility were constant, then we would simply have two different measures of inequality: a one-year measure based on the evolving cross-section evidence and a permanent income measure based on multiple years. The amount of inequality will be lower, but both measures will display the same rising trend.

Has mobility increased? Measuring changes in mobility makes substantial demands on the data. Mobility itself can only be estimated with two or more years of data. Therefore, at a very minimum it takes three years of data to measure changes in mobility. Furthermore, one needs many years of data to estimate mobility patterns even in a world where mobility is not changing. The data requirements are further compounded when trying to measure changes in mobility. Only a few studies have looked at changes in earnings mobility. Some have found declines, most have found no change, and none has found any increase (Gottschalk and Moffitt, 1994; Buchinsky

and Hunt, 1995). Therefore, taking mobility into account does nothing to reverse the *trend* toward greater inequality.

Notes

1. Changes in the distribution of family income reflected other changes as well, including demographic shifts and changes in the distribution of other sources of incomes such as transfer income and earnings of spouses.

2. For a review of this literature, see Levy and Murnane (1992) and Gottschalk and Smeeding (1997). For a discussion of patterns of inequality before the 1950s, the interested reader might begin with Goldin and Margo (1992).

3. The sample for the top panel consists of males 20 to 58 in 1974. The sample for the bottom panel is restricted to males 20 to 42, which insures that sample members are 59 or younger in 1991.

4. Reported annual earnings includes measurement error, which tends to overstate the amount of mobility. Averaging income over three years to reduce the measurement error reduces mobility out of the lowest quintile by about 10 percent.

5. If the probability of exiting in each period were (1−.687) and no one who exited from the lowest quintile returned, then the probability of remaining in the lowest quintile for 16 years would be .687[17] instead of the observed .421.

6. Based on author's tabulation of the 90/10 ratio based on 17-year average earnings, PSID.

7. Since people with low permanent earnings are very likely to face borrowing constraints over this long a period, it is in no way obvious that this long an accounting period is more appropriate than a one-year accounting period. In fact, an accounting period shorter than a year might be the most appropriate for people with very low earnings.

8. The probability of changing quintiles is similar in the United States and in OECD countries for which we have data. However, since the United States has greater inequality, change between quintiles in the United States does require larger percentage changes in earnings.

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The Dynamics and Intergenerational Transmission of Poverty and Welfare Participation

The traditional approach to the measurement of poverty has been to examine the size and composition of the poverty population by analyzing cross-sectional data on yearly income. Yet a good part of the poverty policy debate focuses on issues that cannot be addressed with data on yearly income. There is substantial interest, for example, in long-term poverty or the welfare dependence of a single generation and the links between the outcomes of parents and their children. Statistics on who is poor (or who receives welfare) during a single year provide no information on the total number of years that individuals and families are poor (or receiving welfare). Nor do they tell us if today's poor (or welfare recipients) grew up in households that were poor or received public assistance. Here we examine the recent empirical research on poverty and welfare dynamics and the emerging research on the links between generations.

The vision of a permanently dependent underclass, mired in poverty and dependency, gained considerable attention during the 1980s. Conservative analysts such as Charles Murray (1984) argued that a "welfare trap" robbed recipients of the will to better their lot. Welfare offered the opportunity to drop out of the labor market and to abandon the traditional family model by making it possible to raise children while unemployed and unmarried. Furthermore, the resulting debilitating effects of welfare were asserted to be passed on to successive generations. According to this view, welfare programs were a cause of the problem, rather than part of the solution to poverty. The way to save people from long-term poverty and dependence was to scale back the welfare system.

Ironically, the notion that people were trapped in long-term poverty was one of the motivations for the War on Poverty. Drawing on the work of Oscar Lewis (1961) and Michael Harrington (1962), liberals used the idea of an intergenerational poverty to galvanize public support for the creation of work and training programs promised to reunite the poor with the rest of society. In effect, the War on Poverty was waged on behalf of the children of the poor, who were assumed to be trapped by poverty rather than by welfare. According to this view, welfare provided the transitional financial support necessary to allow the poor to gain the skills to become self-sufficient.

That the specter of a permanently poor class has been used to justify both the creation and the dismantling of social programs is indicative of the controversy surrounding these issues. Moreover, just as both liberals and conservatives have used the existence of the permanently poor to promote their policy agendas, both groups have also denied or downplayed the existence of permanent poverty at one point or another.

Two factors have contributed to the conservatives' emphasis at times on the transitory nature of poverty. The first is their belief in the openness of society. Sensitive to criticisms that markets lead to a rigid class division among social and economic classes, they have argued that there is considerable mobility across the income distribution and, hence, that for many families poverty is not a permanent status. Second is their belief that official measures of yearly poverty seriously exaggerate the amount of poverty. One of the primary defects of annual income as a measure of the distribution of well-being is that it ignores offsetting changes in incomes in other years.[1] Milton Friedman makes the case most forcefully by asking us to consider two societies that have the same distribution of annual income: "In one there is great mobility and change so that the position of particular families in the income hierarchy varies widely from year to year. In the other, there is great rigidity, each family stays in the same position year after year. Clearly, in any meaningful sense, the second one would be the more unequal society" (1962, p. 171). According to this view, we should be most concerned with the distribution of lifetime well-being. If many of the poor in one year are not poor in the following year, then the truly needy, or truly poor, are a small subset of the poor in a single year.[2]

Liberals have also at times downplayed the existence of permanent poverty, though for two somewhat different reasons. First, their belief that income is largely determined by factors outside the control of the individual, leads them to stress the transitory nature of poverty and welfare recipiency. Families fall upon hard times. During these bleak periods the less fortunate fall into poverty and may need to participate in government programs. Outside conditions may change, however, leading to exits from both poverty and welfare.

Second, liberals are also reluctant to embrace the notion of an underclass because of their experience with the debate over the "culture of poverty" in the late 1960s. Although the concept of a dysfunctional culture was originally proposed as a critique of capitalism, the culture of poverty argument soon came to be viewed as "blaming the victims" for conditions beyond their control. According to this view, it was not "the system" but rather the poor's lack of will to avoid the "welfare trap" that caused long-term poverty.[3] As black clients became an increasing proportion of the welfare caseload, this argument became open to charges of racial bias. As a result, liberals backed off from any discussion of long-term or intergenerational poverty during the 1970s for fear of being labeled racist or unsympathetic to the poor.

That liberals and conservatives have such different views on intergenerational and intergenerational dynamics is due, in part, to their very different models of the causes of long-term poverty and the role of welfare in reducing or exacerbating poverty. The causal explanation, put forward by conservatives, is that welfare programs create dependency and, therefore, perpetuate poverty (Murray, 1984; Mead, 1986). The availability of welfare encourages women to bear children out of wedlock, encourages families to break up, and eliminates the need for absentee fathers to contribute to the economic and social requirements of their children, thereby encouraging long-term dependency. Furthermore, long-term dependency is assumed to be passed from one generation to the next.

For liberals, long-term poverty and welfare participation have generally been explained in terms of the lack of employment opportunities or the existence of jobs that do not provide earnings sufficient for a family to have a minimally adequate standard of living (Harrington, 1962; Wilson and Neckerman, 1986). If employment opportunities continue to be inadequate, then parents will not be able to earn enough to support their children. Poverty will continue, and in some cases, de-

pendency on welfare will also result from the inadequate economic environment.

William Julius Wilson and Kathryn Neckerman (1986) have further broadened the focus to the connections between inadequate employment opportunities, family structure, and poverty. They argue that the lack of employment opportunities, especially for black men, has led to a lower rate of marriage and a higher rate of out-of-wedlock childbearing among black women. Inadequate employment opportunities thus produce poverty and welfare dependence indirectly through effects on family structure as well as directly through reduced income.

From this brief review, we can see that conservatives are likely to view long-term poverty as evidence of the dangers of welfare. At the same time they stress that American society is fairly open, so that many of the poor are only temporarily poor. Liberals are likely to point to the problems faced by the long-term poor as a way of marshaling sympathy for government interventions to combat poverty, including policies to improve market opportunities and to expand welfare participation.

Who is correct in this debate is still a highly contested issue. Part of the debate rests on logical arguments. Liberals argue that because welfare is freely chosen by recipients, it can hardly be called a "trap." Recipients obviously believe that welfare is the best of the bad options they face. There is no logical basis for arguing that the mother herself would freely choose welfare if it formed a "trap" that she wished to avoid. Welfare provides a steady, if meager, source of income, which must be preferred to the option of working and raising a family as a single parent or the option of marrying the father, who may not be able to support his children financially. Although it is possible to argue that the children or taxpayers are worse off when the mother accepts assistance, it is not consistent to argue that these recipients make choices and that these choices make them worse off.

Similarly, conservatives argue that liberals deny the inevitable work and marriage disincentives inherent in the welfare system. By paying a mother more if she doesn't work and doesn't marry, the welfare system discourages mothers from following either of these socially desirable activities. Because both marriage and work lead to higher income, the welfare system creates long-term poverty and dependency. Therefore, according to conservatives, the logical outcome of a more generous welfare system is to form a trap that locks recipients into long-term poverty.

The relevant question, however, is not whether a trap exists or whether there are disincentives, for it is certainly true that some families receive welfare for protracted periods and that there are disincentives. The question is the quantitative magnitude of these factors. We approach this highly ideological debate by examining two central issues: the prevalence of long-term poverty and welfare participation and the disincentives caused by public assistance; and the relationship between poverty, income, and welfare use in one generation and the next.

Evidence on Intragenerational Mobility

Dynamic issues have received less attention than the static measures of poverty, in part because longitudinal data sets such as the Panel Study of Income Dynamics (PSID) and the National Longitudinal Survey of Youth (NLSY) have been widely available only since the late 1960s. These data sets only now have enough years of data to study both long-term poverty and welfare reciepency and to observe the outcomes over multiple generations.

Income and Poverty Dynamics

We begin by documenting the extent to which poverty is a permanent or transitory condition. Figure 1 presents data on the length of poverty spells. This figure, based on data from the Panel Study of Income Dynamics,

FIGURE 1
Annual poverty spell distribution.
(Author's tabulation of Panel Study of Income Dynamics, 1968–1987, distribution of first observed spell.)

a. All races

Spell length	Proportion
1 year	0.594
2 years	0.166
3 years	0.078
4 years	0.046
5 years	0.030
6 years	0.015
7 years	0.022
over 7 years	0.049

b. By race

Spell length	Nonblack	Black
1 year	0.631	0.484
2 years	0.174	0.149
3 years	0.075	0.087
4 years	0.039	0.066
5 years	0.029	0.033
6 years	0.009	0.031
7 years	0.010	0.056
over 7 years	0.031	0.093
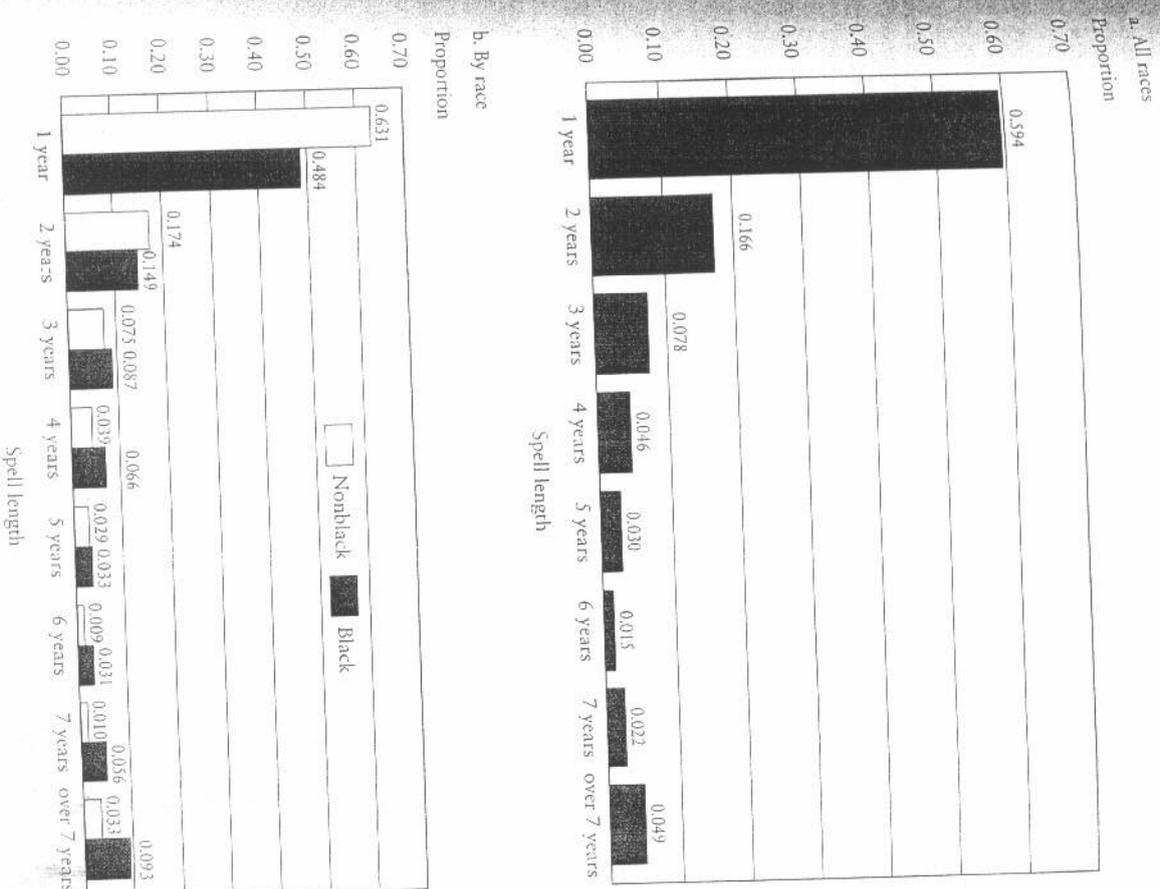
counts the number of consecutive years that a person lived in a family with an annual income below the family's annual poverty line. It asks the question, "If you follow a group of people who have just started new poverty spells, how long will these poverty spells last?"

Figure 1a shows data for persons of all races. It shows that 59.4 percent of poverty spells last only one year.[4] An additional 16.6 percent last only two years. Thus nearly three-quarters of all poverty spells are shorter than two years. At the other extreme only 7.1 percent of the spells last seven or more years. Figure 1b shows the corresponding data for persons disaggregated by race. From this figure it is clear that blacks stay in poverty longer than nonblacks. Of the poverty spells of nonblacks, 63.1 percent last less than one year; the corresponding figure for blacks is only 48.4. Blacks also have considerably more long spells. Almost 15 percent of their poverty spells last seven or more years, while only 4.3 percent of the spells for nonblacks are this long. . . .

Welfare Dynamics

The public debate during the 1980s over welfare reform was largely driven by the perception that a large number of welfare recipients were incapable of becoming self-sufficient without either a large carrot to persuade them off the program or a large stick to force them off. Conservatives charged that welfare recipients stayed on welfare for long periods, soaking up tax dollars and living in perpetual dependency. Liberals downplayed long-term dependency, acknowledging that a small proportion of the welfare population had long welfare spells but emphasizing that most recipients used welfare on a temporary basis.

Duration of single AFDC spells. We begin by answering the following question: If all the ... families with Dependent Children ... cases that opened in a given year were followed for their duration, how long would each spell last? Figure 2 shows that most

AFDC spells are short. For blacks, 33.7 percent of spells last only a year, and an additional 16.2 percent end in the second year. For nonblacks, the corresponding figures are 44.0 and 22.8 percent.[7] By the end of two years, half of the welfare spells for blacks and two-thirds of the spells for nonblacks have ended.

These data provide evidence that most welfare entrants are not trapped in perpetual dependency.[8] But Figure 2 also shows that although most cases are not long, a substantial minority of cases remain open for protracted periods. At the end of seven years, 5.8 percent of the AFDC spells of nonblacks were still in progress and 25.4 percent of the AFDC spells of blacks were still in progress.

Recidivism and duration of multiple spells. Roughly half of the families leaving AFDC or Food Stamps will return to these programs at some future date. The duration of a single spell thus gives only a partial picture. To know whether recipients use AFDC for extensive parts of their child-rearing years, one must take account of recidivism and the combined length of multiple spells. Data on multiple spells, however, are limited.

An alternative measure of participation across multiple spells is to estimate the number of years a family receives AFDC, without regard to breaks in spells. Figure 3 (see page 384) shows our estimates of the number of years a woman who received welfare would receive AFDC in the first nine years after the birth of her first child.[9] These distributions are shown separately by race for all women who received AFDC (Figure 3a for blacks and 3b for nonblacks).[10]

As expected, the number of total years on welfare is substantially higher than the number of years on welfare in the first spell. Although roughly half the initial spells of blacks last two years or less, just 27.7 percent of black recipients received AFDC for only two of the ten years when multiple spells are taken into account.[11] For nonblacks the proportion of spells of two years or less drops from 66.8 to 41.3 when multiple spells are included. The

FIGURE 2

Distribution of AFDC spell length by race, 1974–1987.

(Author's tabulation of Panel Study of Income Dynamics, 1974–1987, distribution of first observed spell.)
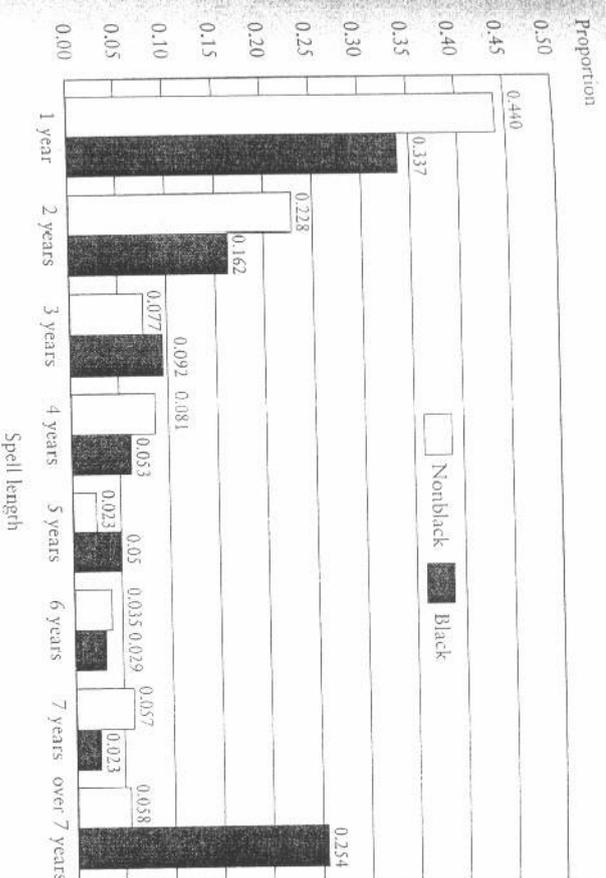

short spells are partially replaced by spells of three to four years as people with short spells exit and return for short periods. Including multiple spells, however, also increases the proportion of long spells. The proportion of initial spells that lasted seven to ten years is 21.1 percent for blacks and 11.7 percent for nonblacks. When multiple spells are included, these figures increase to 34.4 and 18.0 percent. . . .

Evidence on Intergenerational Dynamics

We now extend our analysis to poverty and welfare dynamics across generations. Again this issue has a political context. Liberals tend to focus on the intergenerational transmission

of family background, income, and poverty. If low-income families have few resources to pass on to their children or to use to finance their children's education, then their children will be more likely to become poor adults themselves. Inasmuch as poverty leads to welfare participation, this will also lead to intergenerational welfare participation. According to this view, the intergenerational transmission of poverty causes the intergenerational correlation in welfare participation. Conservatives tend to argue the opposite. Welfare perpetuates poverty and dependence across generations by promoting out-of-wedlock childbearing, by breaking up families, and by eroding the work ethic. These early childhood experiences lower children's achievement and lead to poverty and welfare participation in the next generation.

FIGURE 3

Estimated distribution of years a mother receives AFDC in the first ten years after conception of her first child. (Authors' calculations based on the Panel Study of Income Dynamics, 1974–1987.)

a. All black recipients

Legend: ■ First spell □ All spells

Spell length	First spell	All spells
1 year	33.8	18.1
2 years	13.8	9.6
3 years	9.0	8.5
4 years	8.4	8.9
5 years	8.1	10.6
6 years	5.7	9.8
7 years	3.8	9.4
8 years	6.3	12.8
9 years	9.7	10.9
10 years	1.3	1.3

b. All nonblack recipients

Spell length	First spell	All spells
1 year	40.2	22.0
2 years	22.6	19.3
3 years	6.8	10.3
4 years	13.0	16.4
5 years	1.5	6.4
6 years	4.0	7.6
7 years	5.9	8.9
8 years	3.1	5.9
9 years	2.2	2.7
10 years	0.5	0.5

Intergenerational Correlations in Poverty and Income

If successive generations have similar incomes, then parents and their children are likely to have similar probabilities of falling into poverty.[12] Although early studies of intergenerational income mobility tended to find relatively low correlations, recent evidence suggests the correlation is substantial.[13] For example, Donald Treiman and Robert Hauser (1977) estimated that the intergenerational correlation of income was between .24 and .36 for men aged 25 to 34; Jere Behrman and Paul Taubman (1990) and Gary Solon (1992) found correlations of father's and son's income of .58 and .40 respectively. Such a high intergenerational correlation in income implies relatively little mobility in incomes across generations.

What do these correlations imply for someone who is born in a low-income family? Solon (1992) estimates (assuming an intergenerational correlation in income of .40) that the probability that a son whose father was in the bottom quintile (20 percent) of the income distribution will remain in the bottom quintile of the income distribution as an adult is .42. Growing up at the bottom of the income distribution poses a significant disadvantage in American society.[14] Similarly, Mary Corcoran and her colleagues (1987) find that children growing up in families that experience long-term poverty have significantly lower education, wages, and incomes. . . .

The Role of Family Background and Family Structure

The research on the intergenerational relationships in the experience of poverty can be viewed as part of a larger body of sociological research on the effects of family background on social and economic achievement in adulthood. The research shows that, in addition to income and father's occupation, family background characteristics, such as parents' education, whether or not parents remained married, and number of siblings, significantly affect children's achievement (Jencks et al., 1972; Featherman and Hauser, 1978).

The effects of family background factors as well as of family income are mediated by other variables, among the most important of which is an individual's education. In other words, background has a strong effect on education, which in turn has a strong effect on income.

Although family structure—whether or not a child grew up in a "broken family"—has long been included in status attainment models, interest in family instability as a possible mechanism for explaining the intergenerational transmission of poverty increased in the 1980s.[15] Today most of the background characteristics known to affect children's well-being have changed in ways that would be expected to benefit children. Parents are more educated than they were several decades ago; fathers' occupational status has risen; and the number of siblings in the family has declined. In contrast, family instability, which is believed to reduce children's well-being, has become increasingly common since 1950. Hence researchers have focused on the role of family structure in reproducing poverty across generations.

Does family instability harm children? If we ask whether growing up in a nonintact family is associated with being poor in adulthood, the answer is yes. Figure 4 shows the likelihood of experiencing several "high-risk" events—dropping out of school, having a child out of wedlock before age twenty, and being idle in late adolescence—for children who grow up in intact and nonintact families. Each of these events increases the risk of poverty and welfare dependence in adulthood, and each is a fairly good proxy for children's lifetime income.

Children from nonintact families are more than twice as likely to drop out of high school as children from intact families. Young women from nonintact families are between two and four times as likely to give birth out of wedlock as young women from intact families, and young men from nonintact families are about 1.5 times as likely to become idle as their peers from intact families. About half of the association between family instability and child well-being is due to differences in family income. Most of the rest is due to differences in parenting behavior (such as helping with school work and supervising social activities) and residential mobility.

Although family structure has a sizable impact, family disruption does not automatically relegate children to long-term poverty or welfare dependence. Most children finish high school, delay childbearing, and income attached to the labor force regardless of whether they live with one or both parents while growing up. . . .

have overstated the extent to which poverty and welfare are traps. The large majority of families and individuals who are poor or who use welfare are not trapped, and neither are their children. It is true that individuals who lived in poor families as children are more likely to experience poverty as adults, and it is true that individuals whose families participated in welfare programs when they were children are more likely to receive welfare as adults. But it is also true that as many as two-thirds of the children from these families manage to escape poverty and dependence when they grow up.

Notes

1. Annual income would be the proper measure if people could only save or borrow to smooth income within each year.

2. Note that this argument implicitly assumes that people can smooth their consumption by either saving or borrowing against future income. The argument for extending the accounting period beyond a year becomes much weaker if many poverty spells occur early in life when income smoothing through saving may not be possible.

3. This view is still often reflected in public statements. For example, in his famous "Murphy Brown" speech, Vice President Dan Quayle stated that "the intergenerational poverty that troubles us so much today is predominantly a poverty of values." *Boston Globe*, May 21, 1992.

4. We find more one-year spells than reported in early studies. This reflects our use of the official poverty line rather than 125 percent of the official thresholds, our inclusion of post-1982 data, our inclusion of persons over sixty-five, and their exclusion of some one-year spells. Using their procedure reduces the frequency of one-year spells by .084.

5. This question differs from the question that asks how long spells currently in progress will last.

6. Our results differ from those of Ellwood (1986) who used fewer years of data and who looked only at spells of both receiving AFDC and being a female head of household.

7. Blank (1989) finds somewhat shorter durations because she uses monthly data.

8. Although AFDC receives by far the most attention, the Food Stamp program provides assistance to a much larger caseload. Burstein and Visher (1989) show that there is even more turnover in the Food Stamp caseload than in the AFDC caseload. At the end of one year, roughly two-thirds of all Food Stamp cases have been closed. If long-term recipiency is defined as a Food Stamp spell that lasts for three years or more, then only 15 percent of all Food Stamp cases could be classified as long term.

9. Because AFDC is available to pregnant women, we include the year prior to birth and the following nine years in the ten-year window.

10. These data are generated by estimating discrete time duration models for spells on and off of welfare and simulating the predicted spell durations over the ten-year period. The data on the first spell differ from the data in Figure 2, which samples all spells.

11. Duncan, Laren, and Yeung (1991) examined families in the PSID that received AFDC at least once during the first eighteen years of their child's life. Although their conclusions are based on smaller samples that do not allow for disaggregation, they find similar overall patterns.

12. Furthermore, a focus on the association in income across generations may be more informative, as individuals who experience childhood poverty may experience near-poverty as adults. They would not be counted as poor, but analyzing income, rather than poverty status, overcomes the problem of living standards above the poverty line.

13. Becker and Tomes (1986) concluded that the intergenerational correlation in income was somewhere around .17, based on their review of some early studies. This finding suggests a fairly small effect of parental income on the income of children later as adults.

14. If the intergenerational correlation in income were zero, the probability that the child of a poor family would fall into poverty would be the same as the probability for the child of a rich family, namely .20.

15. For a review of this literature, see McLanahan and Booth (1989).

16. These patterns are attenuated but not eliminated after controlling for a large number of factors that may also affect the daughter's participation.

17. Gottschalk (1992) finds some evidence that the relationship is not just spurious.

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Status and Income Attainment

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The Process of Stratification

Stratification systems may be characterized in various ways. Surely one of the most important has to do with the processes by which individuals become located, or locate themselves, in positions in the hierarchy comprising the system. At one extreme we can imagine that the circumstances of a person's birth—including the person's sex and the perfectly predictable sequence of age levels through which he is destined to pass—suffice to assign him unequivocally to a ranked status in a hierarchical system. At the opposite extreme his prospective adult status would be wholly problematic and contingent at the time of birth. Such status would become entirely determinate only as adulthood was reached, and solely as a consequence of his own actions taken freely—that is, in the absence of any constraint deriving from the circumstances of his birth or rearing. Such a pure achievement system is, of course, hypothetical, in much the same way that motion without friction is a purely hypothetical possibility in the physical world. Whenever the stratification system of any moderately large and com-

plex society is described, it is seen to involve both ascriptive and achievement principles.

In a liberal democratic society we think of the more basic principle as being that of achievement. Some ascriptive features of the system may be regarded as vestiges of an earlier epoch, to be extirpated as rapidly as possible. Public policy may emphasize measures designed to enhance or to equalize opportunity—hopefully, to overcome ascriptive obstacles to the full exercise of the achievement principle.

The question of how far a society may realistically aspire to go in this direction is hotly debated, not only in the ideological arena but in the academic forum as well. Our contribution, if any, to the debate will consist largely in submitting measurements and estimates of the strength of ascriptive forces and of the scope of opportunities in a large contemporary society. The problem of the relative importance of the two principles in a given system is ultimately a quantitative one. We have pushed our ingenuity to its limit in seeking to contrive relevant quantifications.

The governing conceptual scheme in the analysis is quite a commonplace one. We think of the individual's life cycle as a sequence in time that can be described, however partially and crudely, by a set of classificatory or quantitative measurements taken at succes-

sive stages. Ideally we should like to have under observation a cohort of births, following the individuals who make up the cohort as they pass through life. As a practical matter we resorted to retrospective questions put to a representative sample of several adjacent cohorts so as to ascertain those facts about their life histories that we assumed were both relevant to our problem and accessible by this means of observation.

Given this scheme, the questions we are continually raising in one form or another are: how and to what degree do the circumstances of birth condition subsequent status and, how does status attained (whether by ascription or achievement) at one stage of the life cycle affect the prospects for a subsequent stage? The questions are neither idle nor idiosyncratic ones. Current policy discussion and action come to a focus in a vaguely explicated notion of the "inheritance of poverty." Thus a spokesman for the Social Security Administration writes:

It would be one thing if poverty hit at random and no one group were singled out. It is another thing to realize that some seem destined to poverty almost from birth—by their color or by the economic status or occupation of their parents.[1]

Another officially sanctioned concept is that of the "dropout," the person who fails to graduate from high school. Here the emphasis is not so much on circumstances operative at birth but on the presumed effect of early achievement on subsequent opportunities. Thus the "dropout" is seen as facing "a lifetime of uncertain employment,"[2] probable assignment to jobs of inferior status, reduced earning power, and vulnerability to various forms of social pathology.

In this study we do not have measurements on all the factors implicit in a full-blown conception of the "cycle of poverty" nor all those variables conceivably responding unfavorably to the achievement of "dropout" status. . . . This limitation, however, is not merely an analytical convenience. We think of the selected variables as being sufficient to

describe the major outlines of status changes in the life cycle of a cohort. Thus a study of the relationships among these variables leads to a formulation of a basic model of the process of stratification.

A Basic Model

To begin with, we examine only five variables. For expository convenience, when it is necessary to resort to symbols, we shall designate them by arbitrary letters but try to remind the reader from time to time of what the letters stand for. These variables are:

V: Father's educational attainment
X: Father's occupational status
U: Respondent's educational attainment
W: Status of respondent's first job
Y: Status of respondent's occupation in 1962

Each of the three occupational statuses is scaled by the [socioeconomic] index described [elsewhere][3] ranging from 0 to 96. The two education variables are scored on the following arbitrary scale of values ("rungs" on the "educational ladder") corresponding to specified numbers of years of formal schooling completed:

0: No school
1: Elementary, one to four years
2: Elementary, five to seven years
3: Elementary, eight years
4: High school, one to three years
5: High school, four years
6: College, one to three years
7: College, four years
8: College, five years or more (i.e., one or more years of postgraduate study)

Actually, this scoring system hardly differs from a simple linear transformation, or "coding," of the exact number of years of school completed. In retrospect, for reasons given [elsewhere],[4] we feel that the score implies too great a distance between intervals at the lower

end of the scale; but the resultant distortion is minor in view of the very small proportions scored 0 or 1.

A basic assumption in our interpretation of regression statistics—though not in their calculation as such—has to do with the causal or temporal ordering of these variables. In terms of the father's career we should naturally assume precedence of V (occupation) with respect to X. We are not concerned with the father's career, however, but only with his statuses that comprised a configuration of background circumstances or origin conditions for the cohorts of sons who were respondents in the Occupational Changes in a Generation (OCG) study. Hence we generally make no assumption as to the priority of V with respect to X; in effect, we assume the measurements on these variables to be contemporaneous from the son's viewpoint. The respondent's education, U, is supposed to follow in time—and thus to be susceptible to causal influence from—the two measures of father's status. Because we ascertained X as of respondent's age 16, it is true that some respondents may have completed school before the age to which X pertains. Such cases were doubtlessly a small minority and in only a minor proportion of them could the father (or other family head) have changed status radically in the two or three years before the respondent reached 16.

The next step in the sequence is more problematic. We assume that W (first job status) follows U (education). The assumption conforms to the wording of the questionnaire, which stipulated "the first full-time job you had after you left school." In the years since the OCG study was designed we have been made aware of a fact that should have been considered more carefully in the design. Many students leave school more or less definitively, only to return, perhaps to a different school, some years later, whereupon they often finish a degree program. The OCG questionnaire contained information relevant to this problem, namely the item on age at first job. Through an oversight no tabulations of this item were made for the present study. Tables prepared for another study using the OCG data, however, suggest that approximately one-eighth of the respondents report a combination of age at first job and education that would be very improbable unless (a) they violated instructions by reporting a part-time or school-vacation job as the first job, or (b) they did, in fact, interrupt their schooling to enter regular employment. (These "inconsistent" responses include men giving 19 as their age at first job and college graduation or more as their education; 17 or 18 with some college or more; 14, 15, or 16 with high-school graduation or more; and under 14 with some high school or more.) When the two variables are studied in combination with occupation of first job, a very clear effect is evident. Men with a given amount of education beginning their first jobs early held lower occupational statuses than those beginning at a normal or advanced age for the specified amount of education.

Despite the strong probability that the U-W sequence is reversed for an appreciable minority of respondents, we have hardly any alternative to the assumption made here. If the bulk of the men who interrupted schooling to take their first jobs were among those ultimately securing relatively advanced education, then our variable W is downwardly biased, no doubt, as a measure of their occupational status immediately after they finally left school for good. In this sense, the correlations between U and W and between W and Y are probably attenuated. Thus, if we had really measured "job after completing education" instead of "first job," the former would in all likelihood have loomed somewhat larger as a variable intervening between education and 1962 occupational status. We do not wish to argue that our respondents erred in their reports on first job. We are inclined to conclude that their reports were realistic enough, and that it was our assumption about the meaning of the responses that proved to be fallible.

The fundamental difficulty here is conceptual. If we insist on any uniform sequence of the events involved in accomplishing the tran-

sition to independent adult status, we do violence to reality. Completion of schooling, departure from the parental home, entry into the labor market, and contracting of a first marriage are crucial steps in this transition, which all normally occur within a few short years. Yet they occur at no fixed ages nor in any fixed order. As soon as we aggregate individual data for analytical purposes we are forced into the use of simplifying assumptions. Our assumption here is, in effect, that "first job" has a uniform significance for all men in terms of its temporal relationship to educational preparation and subsequent work experience. If this assumption is not strictly correct, we doubt that it could be improved by substituting any other single measure of initial occupational status. (In designing the OCG questionnaire, the alternative of "job at the time of first marriage" was entertained briefly but dropped for the reason, among others, that unmarried men would be excluded thereby.)

One other problem with the U-W transition should be mentioned. Among the younger men in the study, 20 to 24 years old, are many who have yet to finish their schooling or to take up their first jobs or both—not to mention the men in this age group missed by the survey on account of their military service.[7] Unfortunately, an early decision on tabulation plans resulted in the inclusion of the 20 to 24 group with the older men in aggregate tables for men 20 to 64 years old. We have ascertained that this results in only minor distortions by comparing a variety of data for men 20 to 64 and for those 25 to 64 years of age. Once over the U-W hurdle, we see no serious objection to our assumption that both U and W precede Y, except in regard to some fraction of the very young men just mentioned.

In summary, then, we take the somewhat idealized assumption of temporal order to represent an order of priority in a causal or processual sequence, which may be stated diagrammatically as follows:

$$(V, X) - (U) - (W) - (Y).$$

In proposing this sequence we do not overlook the possibility of what Carlsson calls "delayed effects,"[8] meaning that an early variable may affect a later one not only via intervening variables but also directly (or perhaps through variables not measured in the study).

In translating this conceptual framework into quantitative estimates the first task is to establish the pattern of associations between the variables in the sequence. This is accomplished with the correlation coefficient. Table 1 supplies the correlation matrix on which much of the subsequent analysis is based. In discussing causal interpretations of these correlations, we shall have to be clear about the distinction between two points of view. On the one hand, the simple correlation—given our assumption as to direction of causation—measures the gross magnitude of the effect of the antecedent upon the consequent variable. Thus, if $r_{YW} = .541$, we can say that an increment of one standard deviation in first job status produces (whether directly or indirectly) an increment of just over half of one standard deviation in 1962 occupational status. From another point of view we are more concerned with net effects. If both first job and 1962 status have a common antecedent—say, father's occupation—we may want to state what part of the effect of W on Y consists in a transmission of the prior influence of X. Or, thinking of X as the initial cause, we may focus on the extent to which its influence on Y is transmitted by way of its prior influence on W.

We may, then, devote a few remarks to the pattern of gross effects before presenting the apparatus that yields estimates of net direct

TABLE 1
Simple Correlations for Five Status Variables

Variable	Y	W	U	X	V
Y: 1962 occ. status	……	.541	.596	.405	.322
W: First-job status		……	.538	.417	.332
U: Education			……	.438	.453
X: Father's occ. status				……	.516
V: Father's education					……

and indirect effects. Since we do not require a causal ordering of father's education with respect to this occupation, we may be content simply to note that $r_{XV} = .516$, observed for the respondents themselves. The difference suggests a heightening of the effect of education on occupational status between the fathers' and the sons' generations. Before stressing this interpretation, however, we must remember that the measurements of V and X do not pertain to some actual cohort of men, here designated "fathers." Each "father" is represented in the data in proportion to the number of his sons who were 20 to 64 years old in March 1962.

The first recorded status of the son himself is education (U). We note that r_{UV} is just slightly greater than r_{UX}. Apparently both measures on the father represent factors that may influence the son's education.

In terms of gross effects there is a clear ordering of influences on first job. Thus $r_{WU} > r_{WV} > r_{WX}$. Education is most strongly correlated with first job, followed by father's occupation, and then by father's education.

Occupational status in 1962 (Y) apparently is influenced more strongly by education than by first job; but our earlier discussion of the first-job measure suggests we should not overemphasize the difference between r_{YW} and r_{YU}. Each, however, is substantially greater than r_{YX}, which in turn is rather more impressive than r_{YV}.

Figure 1 is a graphic representation of the system of relationships among the five variables that we propose as our basic model. The numbers entered on the diagram, with the exception of r_{XV}, are path coefficients, the estimation of which will be explained shortly. First we must become familiar with the conventions followed in constructing this kind of diagram. The link between V and X is shown as a curved line with an arrowhead at both ends. This is to distinguish it from the other lines, which are taken to be paths of influence. In the case of V and X we may suspect an influence running from the former to the latter.

FIGURE 1
Path coefficients in basic model of the process of stratification

Father's education V — .310
.516
Father's occ. X — .279, .224
Respondent's education U — .859
W First job — .818
.440, .394, .115, .281
Occ. in 1962 Y — .753
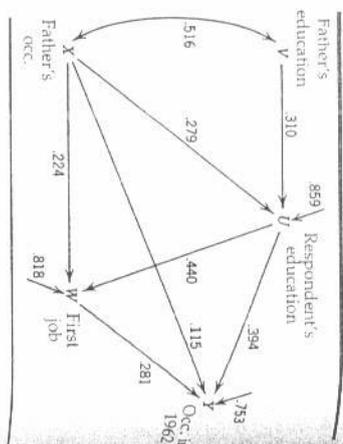
But if the diagram is logical for the respondent's generation, we should have to assume that for the fathers, likewise, education and occupation are correlated not only because one affects the other but also because common causes lie behind both, which we have not measured. The bidirectional arrow merely serves to sum up all sources of correlation between V and X and to indicate that the explanation thereof is not part of the problem at hand.

The straight lines running from one measured variable to another represent direct (or net) influences. The symbol for the path coefficient, such as p_{YW}, carries a double subscript. The first subscript is the variable at the head of the path, or the effect; the second is the causal variable. (This resembles the convention for regression coefficients, where the first subscript refers to the "dependent" variable, the second to the "independent" variable.)

Finally, we see lines with no source indicated carrying arrows to each of the effect variables. These represent the residual paths, standing for all other influences on the variable in question, including causes not recognized or measured, errors of measurement, and departures of the true relationships from additivity and linearity, properties that are assumed throughout the analysis.

An important feature of this kind of causal scheme is that variables recognized as effects of certain antecedent factors may, in turn, serve as causes for subsequent variables. For example, U is caused by V and X, but it in turn influences W and Y. The algebraic representation of the scheme is a system of equations, rather than the single regression equation more often employed in multiple regression analysis. This feature permits a flexible conceptualization of the modus operandi of the causal network. Note that Y is shown here as being influenced directly by W, U, and X, but not by V (an assumption that will be justified shortly). But this does not imply that V has no influence on Y. V affects U, which does affect Y both directly and indirectly (via W). Moreover, V is correlated with X, and thus shares in the gross effect of X on Y, which is partly direct and partly indirect. Hence the gross effect of V on Y, previously described in terms of the correlation r_{YV}, is here interpreted as being entirely indirect, in consequence of V's being influenced directly by W, U, and X, and its correlation with another cause of Y.

Path Coefficients

Whether a path diagram, or the causal scheme it represents, is adequate depends on both theoretical and empirical considerations. At a minimum, before constructing the diagram we must know, or be willing to assume, a causal ordering of the observed variables (hence the lengthy discussion of this matter earlier in this chapter). This information is external or a priori with respect to the data, which merely describe associations or correlations. Moreover, the causal scheme must be complete, in the sense that all causes are accounted for. Here, as in most problems involving analysis of observational data, we achieve a formal completeness of the scheme by representing unmeasured causes as a residual factor, presumed to be uncorrelated with the remaining factors lying behind the variables in question. If any factor is known or

presumed to operate in some other way it must be represented in the diagram in accordance with its causal role, even though it is not measured. Sometimes it is possible to deduce interesting implications from the inclusion of such a variable and to secure useful estimates of certain paths in the absence of measurements on it, but this is not always so. A partial exception to the rule that all causes must be explicitly represented in the diagram is the unmeasured variable that can be assumed to operate strictly as an intervening variable. Its inclusion would enrich our understanding of a causal system without invalidating the causal scheme that omits it. Sociologists have only recently begun to appreciate how stringent are the logical requirements that must be met if discussion of causal processes is to go beyond mere impressionism and vague verbal formulations.[9] We are a long way from being able to make causal inferences with confidence, and schemes of the kind presented here had best be regarded as crude first approximations to adequate causal models.

On the empirical side, a minimum test of the adequacy of a causal diagram is whether it satisfactorily accounts for the observed correlations among the measured variables. In making such a test we employ the fundamental theorem in path analysis, which shows how to obtain the correlation between any two variables in the system, given the path coefficients and correlations entered on the diagram.[10] Without stating this theorem in general form we may illustrate its application here. For example,

$$r_{YX} = p_{YX} + p_{YU}r_{UX} + p_{YW}r_{WX};$$

and

$$r_{WX} = p_{WX} + p_{WU}r_{UX}.$$

We make use of each path leading to a given variable (such as Y in the first example) and the correlations of each of its causes with all other variables in the system. The latter correlations, in turn, may be analyzed; for example, r_{WX}, which appeared as such in the first

equation, is broken down into two parts in the second. A complete expansion along these lines is required to trace out all the indirect connections between variables; thus,

$$r_{YX} = p_{YX} + p_{YU}p_{UX} + p_{YU}p_{UV}r_{VX} + p_{YW}p_{WU}p_{UX} + p_{YW}p_{WU}p_{UV}r_{VX}$$

Now, if the path coefficients are properly estimated, and if there is no inconsistency in the diagram, the correlations calculated by a formula like the foregoing must equal the observed correlations. Let us compare the values computed from such a formula with the corresponding observed correlations:

$$r_{WV} = p_{WX}r_{XV} + p_{WU}r_{UV}$$
$$= (.224)(.516) + (.440)(.453)$$
$$= .116 + .199 = .315$$

which compares with the observed value of .332; and

$$r_{YV} = p_{YU}r_{UV} + p_{YX}r_{XV} + p_{YW}r_{WV}$$
$$= (.394)(.453) + (.115)(.516) + (.281)(.315)$$
$$= .326$$

(using here the calculated rather than the observed value of r_{WV}), which resembles the actual value, .322. Other such comparisons—reveal, at most, trivial discrepancies [no larger than .001].

We arrive, by this roundabout journey, at the problem of getting numerical values for the path coefficients in the first place. This involves using equations of the type of Figure 1 the solution of which involves equations of the same form as those correlations if the path coefficients are known, but in the typical empirical problem we know the correlations (or at least some of them) and have to estimate the paths. For a diagram of the type of Figure 1 the solution involves equations of the same form, except that we work with a recursive system of regression equations[11] rather than a single regression equation.

TABLE 2

Partial Regression Coefficients in Standard Form (Beta Coefficients) and Coefficients of Determination, for Specified Combinations of Variables

Dependent Variables[a]	Independent Variables[a]				Coefficient of Determination (R²)
	W	U	X	V	
W[b]	...	...	.433	.279	.310	.26
W[b]	...	...	.440	.214	.026	.33
Y	.282	.397	.224	...	...	.33
Y[b]	.281	.394	.120	.115	-.014	.43
Y	.311	.428	...	...	...	.42

[a] V: Father's education. X: Father's occ. status. U: Respondent's education. W: First-job status. Y: 1962 occ. status.
[b] Beta coefficients in these sets taken as estimates of path coefficients for Figure 1.

Table 2 records the results of the regression calculations. It can be seen that some alternative combinations of independent variables were studied. It turned out that the net regressions of both W and Y on V were so small as to be negligible. Hence V could be disregarded as a direct influence on these variables—without loss of information. The net regression of Y on X was likewise small but, as it appears, not entirely negligible. Curiously, this net regression is of the same order of magnitude as the proportion of occupational inheritance in this population—about 10 percent, as discussed [elsewhere].[12] We might speculate that the direct effect of father's occupation on the occupational status of a mature man consists of this modest amount of strict occupational inheritance. The remainder of the effect of X on Y is indirect, inasmuch as X has previously influenced U and W, the son's education and the occupational level at which he got his start. For reasons noted [elsewhere][13] we do not assume that the full impact of the tendency to take up the father's occupation is registered in the choice of first job.

With the formal properties of the model in mind we may turn to some general problems confronting this kind of interpretation of our

results. One of the first impressions gained from Figure 1 is that the largest path coefficients in the diagram are those for residual factors, that is, variables not measured. The residual path is merely a convenient representation of the extent to which measured causes fail to account for the variation in the system. (The residual is obtained from the coefficient of determination; if $R^2_{Y(WUX)}$ is the squared multiple correlation of Y on the three independent variables, then the residual for Y is $\sqrt{1 - R^2_{Y(WUX)}}$.) Sociologists are often disappointed in the size of the residual, assuming that this is a measure of their success in "explaining" the phenomenon under study. They seldom reflect on what it would mean to live in a society where nearly perfect explanation of the dependent variable could be secured by studying causal variables like father's occupation or respondent's education. In such a society it would indeed be true that some are "destined to poverty almost from birth . . . by the economic status or occupation of their parents" (in the words of the reference cited in endnote 1). Others, of course, would be "destined" to affluence or to modest circumstances. By no effort of their own could they materially alter the course of destiny, nor could any stroke of fortune, good or ill, lead to an outcome not already in the cards.

Thinking of the residual as an index of the adequacy of an explanation gives rise to a serious misconception. It is thought that a high multiple correlation is presumptive evidence that an explanation is correct or nearly so, whereas a low percentage of determination almost certainly means that a causal interpretation is almost certainly wrong. The fact is that the size of the residual (or, if one prefers, the proportion of variation "explained") is no guide whatever to the validity of a causal interpretation. The best-known cases of "spurious correlation"—a correlation leading to an egregiously wrong interpretation—are those in which the coefficient of determination is quite high.

The relevant question about the residual is not really its size at all, but whether the unobserved factors it stands for are properly represented as being uncorrelated with the measured antecedent variables. We shall entertain [elsewhere][14] some conjectures about unmeasured variables that clearly are not uncorrelated with the causes depicted in Figure 1. It turns out that these require us to acknowledge certain possible modifications of the diagram, whereas other features of it remain more or less intact. A delicate question in this regard is that of the burden of proof. It is all too easy to make a formidable list of unmeasured variables that someone has alleged to be crucial to the process under study. But the mere existence of such variables is already acknowledged by the very presence of the residual. It would seem to be part of the task of the critic to show, if only hypothetically, but specifically, how the modification of the causal scheme to include a new variable would disrupt or alter the relationships in the original diagram. His argument to this effect could then be examined for plausibility and his evidence, if any, studied in terms of the empirical possibilities it suggests.

Our supposition is that the scheme in Figure 1 is most easily subject to modification by introducing additional measures of the same kind as those used here. If indexes relating to socioeconomic background other than V and X are inserted we will almost certainly estimate differently the direct effects of these particular variables. If occupational statuses of the respondent intervening between W and Y were known we should have to modify more or less radically the right-hand portion of the diagram. Yet we should argue that such modifications may amount to an enrichment or extension of the basic model rather than an invalidation of it. The same may be said of other variables that function as intervening causes. In theory, it should be possible to specify these in some detail, and a major part of the research worker's task is properly defined as an attempt at such specification. In the course of such work, to be sure, there is

always the possibility of a discovery that would require a fundamental reformulation, making the present model obsolete. Discarding the model would be a cost gladly paid for the prize of such a discovery.

Postponing the confrontation with an alternative model, the one at hand is not lacking in interest. An instructive exercise is to compare the magnitudes of gross and net relationships. Here we make use of the fact that the correlation coefficient and the path coefficient have the same dimensionality. The correlation r_{YX} = .405 (Table 1) means that a unit change (one standard deviation) in X produces a change of 0.4 unit in Y, in gross terms. The path coefficient, p_{YX} = .115 (Figure 1), tells us that about one-fourth of this gross effect is a result of the direct influence of X on Y. (We speculated above on the role of occupational inheritance in this connection.) The remainder (.405 − .115 = .29) is indirect, via U and W. The sum of all indirect effects, therefore, is given by the difference between the simple correlation and the path coefficient connecting two variables. We note that the indirect effects on Y are generally substantial, relative to the direct. Even the variable temporally closest (we assume) to Y has "indirect effects"—actually, common antecedent causes—nearly as large as the direct. Thus r_{YW} = .541 and p_{YW} = .281, so that the aggregate of "indirect effects" is .26, which in this case are common determinants of Y and W that spuriously inflate the correlation between them.

To ascertain the indirect effects along a given chain of causation we must multiply the path coefficients along the chain. The procedure is to locate on the diagram the dependent variable of interest, and then trace back along the paths linking it to its immediate and remote causes. In such a tracing we may reverse direction once but only once, following the role "first back, then forward." Any bidirectional correlation may be traced in either direction. If the diagram contains more than one such correlation, however, only one may be used in a given compound path. In tracing the indirect connections no variable may be intersected more than once in one compound path. Having traced all such possible compound paths, we obtain the entirety of indirect effects as their sum.

Let us consider the example of effects of education on first job, U on W. The gross or total effect is r_{WU} = .538. The direct path is p_{WU} = .440. There are two indirect connections or compound paths: from W back to X, then forward to U; and from W back to X, then forward to V, and then forward to U. Hence we have:

$$r_{WU} = p_{WU} + \frac{p_{WX}p_{UX} + p_{WX}r_{XV}p_{UV}}{\text{(indirect)}}$$

(gross)   (direct)

or, numerically,

$$.538 = .440 + (.224)(.279) + (.224)(.516)(.310)$$

$$= .440 + .062 + .036$$

$$= .440 + .098.$$

In this case all the indirect effect of U on W derives from the fact that both U and W have X (plus V) as a common cause. In other instances, when more than one common cause is involved and these causes are themselves interrelated, the complexity is too great to permit a succinct verbal summary.

A final stipulation about the scheme had best be stated, though it is implicit in all the previous discussion. The form of the model itself, but most particularly the numerical estimates accompanying it, are submitted as valid only for the population under study. No claim is made that an equally cogent account of the process of stratification in another society could be rendered in terms of this scheme. For other populations, or even for subpopulations within the United States, the magnitudes would almost certainly be different, although we have some basis for supposing them to have been fairly constant over the last few decades in this country. The technique of path analysis is not a method for discovering causal laws but a procedure for giving a quantitative interpretation to the manifestations of a known or assumed causal system as it operates in a particular population. When the

same interpretive structure is appropriate for two or more populations, there is something to be learned by comparing their respective path coefficients and correlation patterns. We have not yet reached the stage at which such comparative study of stratification systems is feasible. . . .

The Concept of a Vicious Circle

Although the concept of a "cycle of poverty" has a quasi-official sanction in U. S. public policy discussion, it is difficult to locate a systematic explication of the concept. As clear a formulation as any that may be found in academic writing is perhaps the following:[15]

Occupational and social status are to an important extent self-perpetuating. They are associated with many factors which make it difficult for individuals to modify their status. Position in the social structure is usually associated with a certain level of income, education, family structure, community reputation, and so forth. These become part of a vicious circle in which each factor acts on the other in such a way as to preserve the social structure in its present form, as well as the individual family's position in that structure. . . . The cumulation of disadvantages (or of advantages) affects the individual's entry into the labor market as well as his later opportunities for social mobility.

The suspicion arises that the authors in preparing this summary statement were partly captured by their own rhetoric. Only a few pages earlier they had observed that the "widespread variation of educational attainment within classes suggests that one's family background plays an enabling and motivating rather than a determining role."[16] But is an "enabling and motivating role" logically adequate to the function of maintaining a "vicious circle"? In focusing closely on the precise wording of the earlier quotation we are not interested in splitting hairs or in generating a polemic. It merely serves as a convenient point of departure for raising the questions of what is specifically meant by "vicious circle," what are the operational criteria for this concept, and what are the limits of its usefulness.

To begin with, there is the question of fact—or, rather, of how the quantitative facts are to be evaluated. How "difficult" is it, in actuality, "for individuals to modify their status" (presumably reference is to the status of occupation—that is, the son's occupational status "difficult" to compare with that of the father-son correlation for occupational status is of the order of .4. (Assuming that the father-son correlation, this attenuation by errors of measurement, should perhaps be revised slightly upward.) Approaching the measurement problem in an entirely different way, we find that the amount of intergenerational mobility between census major occupation groups is no less than seven-eighths as much as would occur if there were no statistical association between the two statuses whatsoever, or five-sixths as much as the difference between the "minimum" mobility involved in the intergenerational shift in occupation distributions and the amount required for "perfect" mobility.[17] Evidently a very considerable amount of "status modification" or occupational mobility does occur. (There is nothing in the data exhibited by Lipset and Bendix to indicate the contrary.) If the existing amount of modification of status is insufficient in terms of some functional or normative criterion implicitly employed, the precise criterion should be made explicit. How much mobility must occur to contradict the diagnosis of a "vicious circle"?

Next, take the postulate that occupational status (of origin) is "associated with many factors" and that "each factor acts on the other" so as "to preserve . . . the individual family's position." Here the exposition virtually cries out for an explicit quantitative causal model; if not one of the type set forth in the first section of this chapter, then some other model that also takes into account the way in which several variables combine their effects. Taking our own earlier model, for want of a better alternative, what do we learn about the "associated factors"? Family "position" is,

indeed, "associated with . . . education," and education in turn makes a sizable difference in early and subsequent occupational achieve ment. Yet of the total or gross effect of educa tion (U) on Y, occupational status in 1962 ($r_{YU} = .596$), only a minor part consists in a transmission of the prior influence of "family position," at least as this is indicated by meas ured variables V (father's education) and X (father's occupation). . . . A relevant calcula tion concerns the compound paths through V and X linking Y to U. Using data for men 20 to 64 years old with nonfarm background, we find:

$$p_{YX}p_{UX} = .025$$
$$p_{YX}r_{XV}p_{UV} = .014$$
$$p_{YV}p_{UV} = .014$$
$$p_{YV}p_{UX}r_{XV}p_{UV} = .008$$

$$\text{Sum} = .061$$

This is the *entire* part of the effect of educa tion that has to do with "perpetuating" the "family's position." By contrast, the direct ef fect is $p_{YU} = .407$ and the effect via W (exclu sive of prior influence of father's education and occupation on respondent's first job) is $p_{YW}p_{WU} = .128$, for a total of .535. Far from serving in the main as a factor perpetuating initial status, education operates *primarily* to induce variation in occupational status that is *independent* of initial status. The simple rea son is that the large residual factor for U is uncorrelated with X and V. This is not to gainsay the equally cogent point that the de gree of "perpetuation" (as measured by r_{YX}) that does occur is mediated in large part by education.

This conclusion is so important that we should not allow it to rest on a single calcula tion. The reader accustomed to a calculus of "explained variation" may prefer the follow ing. For men 35 to 44 years of age with non farm background (a convenient and not un representative illustration), we have these

pertinent results: $r_{YX} = .400$; $R_{Y(UX)} = .425$; $R_{Y(UXV)} = .651$. Note that adding to the "associ ated factor" of father's education to father's occupation increases very slightly our esti mate of the influence of "family position" on occupational achievement. Including respon dent's education, however, makes quite a striking difference. Squaring these coefficients to yield an accounting of the total variation in respondent's 1962 occupational status (Y), we obtain these percentages:

(i) Gross (or total) effect of father's education and occupation — 18.06

(ii) Education of respondent, independent of (i) — 24.32

(iii) All other factors, independent of (i) and (ii) — 57.62

TOTAL — 100.00

An analogous calculation, derived from multiple-classification rather than linear-re gression statistics, was offered [elsewhere].[18] The results are rather similar. Here we have imputed to the measures of "family position," X and V, their *total* influence, including such part of this as works through education; the 24 per cent contribution of respondent's edu cation refers only to the part of the effect of education that is net of the background fac tors. Still, education has a greater influence, *independent of these factors*, than they have themselves, operating both directly and indi rectly. Overshadowing both these compo nents, of course, is the unexplained variation of nearly 58 per cent, which can have nothing to do with "perpetuating status."

Whatever the merit of these observations, they should at least make clear that statistical results do not speak for themselves. Rather, the findings of a statistical analysis must be controlled by an interpretation—one that specifies the form the analysis will take—and be supplemented by further interpretations that (ideally) make explicit the assumptions on which the analyst is proceeding. The form in which our results are presented is dictated

by a conception of status achievement as a temporal process in which later statuses de pend, in part, on earlier statuses, intervening achievements, and other contingent factors. In such a framework it may not be a meaningful task to evaluate the relative importance of dif ferent causal factors. Instead, attention is fo cused on how the causes combine to produce the end result. From this point of view we can indicate, first, the gross effect of the measured background factors or origin statuses of a co hort of men on their adult achievement. We can then show how and to what extent this effect is transmitted via measured intervening variables and, finally, to what extent such in tervening variables contribute to the outcome, independently of their role in transmission of prior statuses. In a balanced interpretation all these questions should be dealt with explicitly.

Our treatment seems to indicate the advis ability of keeping in perspective the magni tude of the gross relationship of background factors and status of origin to subsequent achievement. The relationship is not trivial, nor is it, on the other hand, great enough in itself to justify the conception of a system that insures the "inheritance of poverty" or other wise renders wholly ineffectual the operation of institutions supposedly based on univeral istic principles.

Our model also indicates where the "vi cious circle" interpretation is vulnerable. In the passage on the vicious circle quoted there seems to be an assumption that because of the substantial inter-correlations between a num ber of background factors, each of which has a significant relationship to subsequent achievement, the total effect of origin on achievement is materially enhanced. Here, in other words, the concept of "cumulation" ap pears to refer to the intercorrelations of a col lection of independent variables. But the ef fect of such intercorrelations is quite oppo site to what the writers appear to suppose. They are not alone in arguing from a fallacious as sumption that was caustically analyzed by Karl Pearson half a century ago.[19] The crucial point is that if the several determinants are in deed substantially intercorrelated with each

other, then their combined effect will consist largely in redundancy, not in "cumulation." This circumstance does not relieve us from the necessity of trying to understand better *how* the effects come about (a point also illustrated in a less fortunate way in Pearson's work). It does imply that a refined estimate of how much effect results from a combination of "associated factors" will not differ greatly from a fairly crude estimate based on the two or three most important ones. Sociologists have too long followed the mirage of "in creasing the explained variance." . . .

We do not wish to imply that the idea of cumulation of influences, or even the particu lar form of cumulation describable as a "vi cious circle," is without merit. Our aim is to call attention to the necessity of specifying the actual mechanism that is only vaguely sug gested by such terms. The cumulation here consists in large measure of the effects of contingent factors not related to social origins or measured background factors.

One legitimate meaning of cumulation is illustrated by the model of a synthetic cohort presented [elsewhere].[20] In this case what is cumulative is the experience of an individual or a cohort of individuals over the life cycle, so that in the latter part of the life cycle achieved status depends heavily on prior achievements, whatever the factors determining those achievements may have been. The cumulation here consists in large measure of the effects of contingent factors not related to social origins or measured background factors.

The situation of the Negro American, which is analyzed [elsewhere],[21] exemplifies a similar form of cumulation. What is crucial in this case is not merely that Negroes begin life at a disadvantage and that this initial disadvantage, transmitted by intervening conditions, has adverse effects on later careers. Rather, what happens is that, in addition to the initial handicap, the Negro ex periences further handicaps at each stage of the life cycle. When Negroes and whites are equated with respect to socioeconomic cir cumstances of origin and rearing, Negroes se cure inferior education. But if we allow for this educational disadvantage as well as the disadvantage of low social origins, Negroes find their way into first jobs of lower status

than whites. Again, allowing for the handicap of inferior career beginnings, the handicap of low education, and the residual effect of low socioeconomic origins—even with all these allowances—Negroes do not enjoy comparable occupational success in adulthood. Indeed, even though we have not carried our own analysis this far, there is good evidence that Negroes and whites do not have equal incomes even after making allowance for the occupational status difference and the educational handicap of Negroes.[22] Thus there surely are disadvantaged minorities in the United States who suffer from a "vicious circle" of cumulative impediments. But not all background factors that create occupational status difference and the educational handicap of Negroes are necessarily indicative of such a vicious circle of cumulative disadvantages; the handicaps of the Southern whites, for example, are not cumulative in the same sense.[23] A vicious circle of cumulative impediments is a distinctive phenomenon that should not be confused with any and all forms of differential occupational achievement.

As noted earlier, the issue of equalitarianism is one that has generally been more productive of debate than of cogent reasoning from systematized experience. Without becoming fully involved in such a debate here, we must at least attempt to avoid having our position misunderstood. We have not vouchsafed a "functional interpretation" that asserts that somehow American society has just the right amount of stratification and just the appropriate degree of intergenerational status transmission. We have indicated that it is possible seriously to misconstrue the nature of the causal relationships in the process that characterizes status transmission between generations.

In conclusion, one question of policy may be briefly mentioned, which pertains to the distinction between the plight of the minorities who do suffer disadvantages due to their ascribed status and the influence of ascribed factors on occupational life in general. To help such minorities to break out of the vicious circle resulting from discrimination and poverty is a challenge to a democratic society, must face, in our opinion. To advocate this policy, however, is not the same as claiming that all ascriptive constraints on opportunities and achievements could or should be eliminated. To eliminate all disadvantages that flow from membership in a family of orientation—with its particular structure of interpersonal relationships, socioeconomic level, community and regional location, and so on—would by the same token entail eliminating any advantages the family can confer or provide. If parents, having achieved a desirable status, can ipso facto do nothing to make comparable achievement easier for their offspring, we may have "equal opportunity." But we will no longer have a family system—at least not in the present understanding of the term. (This point has not been misunderstood in radical, particularly Marxist, ideologies.)

We do not contemplate an effortless equilibrium at some optimum condition where the claims of egalitarian values and the forces of family attachment are neatly balanced to the satisfaction of all. A continuing tension between these two ultimately incompatible tendencies may, indeed, be a requisite for social progress. We do contend that both equity and effectiveness in the policy realm call for a deeper understanding of the process of stratification than social science and politics yet can claim.

Notes

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Inequality: A Reassessment of the Effect of Family and Schooling in America

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Most Americans say they believe in equality. But when pressed to explain what they mean by this, their definitions are usually full of contradictions. Many will say, like the Founding Fathers, that "all men are created equal." Many will also say that all men are equal "before God," and that they are, or at least ought to be, equal in the eyes of the law. But most Americans also believe that some people are more competent than others, and that this will always be so, no matter how much we reform society. Many also believe that competence should be rewarded by success, while incompetence should be punished by failure. They have no commitment to ensuring that everyone's job is equally desirable, that everyone exercises the same amount of political power, or that everyone receives the same income.

But while most Americans accept inequality in virtually every sphere of day-to-day life, they still believe in what they often call "equal opportunity." By this they mean that the rules determining who succeeds and who fails should be fair. People are, of course, likely to disagree about precisely what is "fair" and what is "unfair." Still, the general principle of fair competition is almost universally endorsed.

During the 1960s, many reformers devoted enormous effort to equalizing opportunity. More specifically, they tried to eliminate inequalities based on skin color, and to a lesser extent on economic background. They also wanted to eliminate absolute deprivation: "poverty," "ignorance," "powerlessness," and so forth. But only a handful of radicals talked about eliminating inequality per se. Almost none of the national legislation passed during the 1960s tried to reduce disparities in adult status, power, or income in any direct way. There was no significant effort, for example, to make taxation more progressive, and very little effort to reduce wage disparities between highly paid and poorly paid workers. Instead, attention focused on helping workers in poorly paid jobs to move into better paid jobs. Nor was there much effort to reduce the social or psychological distance between high- and low-status occupations. Instead, the idea was to help people in low-status occupations leave these occupations for more prestigious ones. Even in the political arena, "maximum feasible participation" implied mainly that more "leaders" should be black and poor, not that power should be equally distributed between leaders and followers.

Because the reforms of the 1960s did not tackle the problem of adult inequality directly, they accomplished only a few of their goals. Equalizing opportunity is almost impossible without greatly reducing the absolute level of inequality, and the same is true of eliminating deprivation.

Consider the case of equal opportunity. One can equalize the opportunities available to blacks and whites without equalizing anything else, and considerable progress was made in this direction during the late 1960s. But equalizing the opportunities available to different children of the same race is far more difficult. If a society is competitive and rewards adults unequally, some parents are bound to succeed while others fail. Successful parents will then try to pass along their advantages to their children. Unsuccessful parents will then inevitably pass along some of their disadvantages. Unless a society completely

eliminates ties between parents and children, inequality among parents guarantees some degree of inequality in the opportunities available to children. The only real question is how serious these inequalities must be.

Or consider the problem of deprivation. When the war on poverty began in late 1963, it was conceived as an effort to raise the living standards of the poor. The rhetoric of the time described the persistence of poverty in the midst of affluence as a "paradox," largely attributable to "neglect." Official publications all assumed that poverty was an absolute rather than a relative condition. Having assumed this, they all showed steady progress toward the elimination of poverty, since fewer and fewer people had incomes below the official "poverty line."

Yet despite all the official announcements of progress, the feeling that lots of Americans were poor persisted. The reason was that most Americans define poverty in relative rather than absolute terms. Public opinion surveys show, for example, that when people are asked how much money an American family needs to "get by," they typically name a figure about half what the average American family actually receives.[1] This has been true for the last three decades, despite the fact that real incomes (i.e. incomes adjusted for inflation) have doubled in the interval.

Political definitions of poverty have reflected these popular attitudes. During the Depression, the average American family was living on about $30 a week. A third of all families were living on less than half this amount, i.e. less than $15 a week. This made it natural for Franklin Roosevelt to speak of "one third of a nation" as ill-housed, ill-clothed, and ill-fed. One third of the nation was below what most people then regarded as the poverty line.

By 1964, when Lyndon Johnson declared war on poverty, incomes had risen more than fivefold. Even allowing for inflation, living standards had doubled. Only about 10 percent of all families had real incomes as low as the bottom third had had during the Depression. But popular conceptions of what it took

to "get by" had also risen since the Depression. Mean family income was about $160 a week, and popular opinion now held that it took $80 a week for a family of four to make ends meet. About a quarter of all families were still poor by this definition. As a matter of political convenience, the Administration set the official poverty line at $60 a week for a family of four rather than $80, ensuring that even conservatives would admit that those below the line were poor. But by 1970 inflation had raised mean family income to about $200 a week, and the National Welfare Rights Organization was rallying liberal support for a guaranteed income of $100 a week for a family of four.

These political changes in the definition of poverty were not just a matter of "rising expectations" or of people's needing to "keep up with the Joneses." The goods and services that made it possible to live on $15 a week during the Depression were no longer available to a family with the same "real" income (i.e. $40 a week) in 1964. Eating habits had changed, and many cheap foods had disappeared from the stores. Most people had enough money to buy an automobile, so public transportation had atrophied, and families without automobiles were much worse off than during the Depression. The labor market had also changed, and a person without a telephone could not get or keep many jobs. A home without a telephone was more cut off socially than when few people had telephones and more people "dropped by." Housing arrangements had changed, too. During the Depression, many people could not afford indoor plumbing and "got by" with a privy. By the 1960s, privies were illegal in most places. Those who could not afford an indoor toilet ended up in buildings which had broken toilets. For this they paid more than their parents had paid for privies.

Examples of this kind suggest that the "cost of living" is not the cost of buying some fixed set of goods and services. It is the cost of participating in a social system. The cost of participation depends in large part on how much other people habitually spend to participate.

Those who fall far below the norm, whatever it may be, are excluded. It follows that raising the incomes of the poor will not eliminate poverty if the incomes of other Americans rise even faster. If people with incomes less than half the national average cannot afford what "everyone" regards as "necessities," the only way to eliminate poverty is to make sure everyone has an income at least half the average.

This line of reasoning applies to wealth as well as poverty. The rich are not rich because they eat filet mignon or own yachts. Millions of people can now afford these luxuries, but they are still not "rich" in the colloquial sense. The rich are rich because they can afford to buy other people's time. They can hire other people to make their beds, tend their gardens, and drive their cars. These are not privileges that become more widely available as people become more affluent. If all workers' wages rise at the same rate, the highly paid professional will have to spend a constant percentage of his income to get a maid, a gardener, or a taxi. The number of people who are "rich," in the sense of controlling more than their share of other people's time and effort, will therefore remain the same, even though consumption of yachts and filet mignon is rising.

If the distribution of income becomes more equal, as it did in the 1930s and 1940s, the number of people who are "rich" in this sense of the term will decline, even though absolute incomes are rising. If, for example, the wages of domestic servants rise faster than the incomes of their prospective employers, fewer families will feel they can afford full-time servants. This will lower the living standards of the elite to some extent, regardless of what happens to consumption of yachts and filet mignon.

This same logic applies not only to income but to the cognitive skills taught in school. Young people's performance on standardized tests rose dramatically between World War I and World War II, for example. But the level of competence required for many adult roles rose too. When America was a polyglot na-

tion of immigrants, all sorts of jobs were open to those who could not read English. Such people could, for example, join the army, drive a truck, or get a job in the construction industry. Today, when almost everyone can read English, the range of choices requires a written examination, and apprenticeships in the construction trades are restricted to those who can pass tests. Those who cannot read English are at a disadvantage, simply because they are atypical. America is not organized with their problems in mind. The same thing applies to politics. If the average citizen's vocabulary expands, the vocabulary used by politicians and newspapers will expand too. Those with very limited vocabularies relative to their neighbors will still have trouble following events, even though their vocabulary is larger than, say, their parents' vocabulary was.

Arguments of this kind suggest that it makes more sense to think of poverty and ignorance as relative than as absolute conditions. They also suggest that eliminating poverty and ignorance, at least as these are usually defined in America, depends on eliminating, or at least greatly reducing, inequality. This is no simple matter. Since a competitive system means that some people "succeed" while others "fail," it also means that people will end up unequal. If we want to reduce inequality, we therefore have two options. The first possibility is to make the system less competitive by reducing the benefits that derive from success and the costs paid for failure. The second possibility is to make sure that everyone enters the competition with equal advantages and disadvantages.

The basic strategy of the war on poverty during the 1960s was to try to give everyone entering the job market or any other competitive arena comparable skills. This meant placing great emphasis on education. Many people imagined that if schools could equalize people's cognitive skills this would equalize their bargaining power as adults. In such a

system nobody would end up very poor—or, presumably, very rich.

This strategy rested on a series of assumptions which went roughly as follows:

1. Eliminating poverty is largely a matter of helping children born into poverty to rise out of it. Once families escape from poverty, they do not fall back into it. Middle-class children rarely end up poor.

2. The primary reason poor children do not escape from poverty is that they do not acquire basic cognitive skills. They cannot read, write, calculate, or articulate. Lacking these skills, they cannot get or keep a well-paid job.

3. The best mechanism for breaking this vicious circle is educational reform. Since children born into poor homes do not acquire the skills they need from their parents, they must be taught these skills in school. This can be done by making sure that they attend the same schools as middle-class children, by giving them extra compensatory programs in school, by giving their parents a voice in running their schools, or by some combination of all three approaches.

So far as we can discover, each of these assumptions is erroneous.

1. Poverty is not primarily hereditary. While children born into poverty have a higher-than-average chance of ending up poor, there is still an enormous amount of economic mobility from one generation to the next. Indeed, there is nearly as much economic inequality among brothers raised in the same homes as in the general population. This means that inequality is recreated anew in each generation, even among people who start life in essentially identical circumstances.

2. The primary reason some people end up richer than others is not that they have

more adequate cognitive skills. While children who read well, get the right answers to arithmetic problems, and articulate their thoughts clearly are somewhat more likely than others to get ahead, there are many other equally important factors involved. Thus there is almost as much economic inequality among those who score high on standardized tests as in the general population. Equalizing everyone's reading scores would not appreciably reduce the number of economic "failures."

3. There is no evidence that school reform can substantially reduce the extent of cognitive inequality, as measured by tests of verbal fluency, reading comprehension, or mathematical skill. Neither school resources nor segregation has an appreciable effect on either test scores or educational attainment.

Our work suggests, then, that many popular explanations of economic inequality are largely wrong. We cannot blame economic inequality primarily on genetic differences in men's capacity for abstract reasoning, since there is nearly as much economic inequality among men with equal test scores as among men in general. We cannot blame economic inequality primarily on the fact that parents pass along their disadvantages to their children, since there is nearly as much inequality among men whose parents had the same economic status as among men in general. We cannot blame economic inequality on differences between schools, since differences between schools seem to have very little effect on any measurable attribute of those who attend them.

Economic success seems to depend on varieties of luck and on-the-job competence that are only moderately related to family background, schooling, or scores on standardized tests. The definition of competence varies greatly from one job to another, but it seems in most cases to depend more on personality than on technical skills. This makes it hard to imagine a strategy for equalizing competence.

A strategy for equalizing luck is even harder to conceive.

The fact that we cannot equalize luck or competence does not mean that economic inequality is inevitable. Still less does it imply that we cannot eliminate what has traditionally been defined as poverty. It only implies that we must tackle these problems in a different way. Instead of trying to reduce people's capacity to gain a competitive advantage on one another, we would have to change the rules of the game so as to reduce the rewards of competitive success and the costs of failure. Instead of trying to make everyone equally lucky or equally good at his job, we would have to devise "insurance" systems which neutralize the effects of luck, and income-sharing systems which break the link between vocational success and living standards.

This could be done in a variety of ways. Employers could be constrained to reduce wage disparities between their best- and worst-paid workers.[2] The state could make taxes more progressive, and could provide income supplements to those who cannot earn an adequate living from wages alone. The state could also provide free public services for those who cannot afford to buy adequate services in the private sector. Pursued with vigor, such a strategy would make "poverty" (i.e. having a living standard less than half the national average) virtually impossible. It would also make economic "success," in the sense of having, say, a living standard more than twice the national average, far less common than it now is. The net effect would be to make those with the most competence and luck subsidize those with the least competence and luck to a far greater extent than they do today.

This strategy was rejected during the 1960s for the simple reason that it commanded relatively little popular support. The required legislation could not have passed Congress. Nor could it pass today. But that does not mean it was the wrong strategy. It simply means that until we change the political and moral premises on which most Americans now oper-

ate, poverty and inequality of opportunity will persist at pretty much their present level.

At this point the reader may wonder whether trying to change these premises is worthwhile. Why, after all, should we be so concerned about economic equality? Is it not enough to ensure equal opportunity? And does not the evidence we have described suggest that opportunities are already quite equal in America? If economic opportunities are relatively equal, and if the lucky and the competent then do better for themselves than the unlucky and incompetent, why should we feel guilty about this? Such questions cannot be answered in any definitive way, but a brief explanation of our position may help avoid misunderstanding.

We begin with the premise that every individual's happiness is of equal value. From this it is a short step to Bentham's dictum that society should be organized so as to provide the greatest good for the greatest number. In addition, we assume that the law of diminishing returns applies to most of the good things in life. In economic terms this means that people with low incomes value extra income more than people with high incomes.[3] It follows that if we want to maximize the satisfaction of the population, the best way to divide any given amount of money is to make everyone's income the same. Income disparities (except those based on variations in "need") will always reduce overall satisfaction, because individuals with low incomes will lose more than individuals with high incomes gain.

The principal argument against equalizing incomes is that some people contribute more to the general welfare than others, and that they are therefore entitled to greater rewards. The most common version of this argument is that unless those who contribute more than their share are rewarded (and those who contribute less than their share punished) productivity will fall and everyone will be worse off. A more sophisticated version is that people will only share their incomes on an equal basis if all decisions that affect these incomes are made collectively. If people are left free to make decisions on an individual basis, their

neighbors cannot be expected to pay the entire cost of their mistakes.

We accept the validity of both these arguments. We believe that men need incentives to contribute to the common good, and we prefer monetary incentives to social or moral incentives, which tend to be inflexible and very coercive. We believe, in other words, that virtue should be rewarded, and we assume that there will be considerable variation in virtue from one individual to another. This does not, however, mean that incomes must remain as unequal as they are now. Even if we assume, for example, that the most productive fifth of all workers accounts for half the Gross National Product, it does not follow that they need receive half the income. A third or a quarter might well suffice to keep both them and others productive.

Most people accept this logic to some extent. They believe that the rich should pay more taxes than the poor, although they often disagree about how much more. Conversely, they believe that the poor should not starve, even if they contribute nothing to the general welfare. They believe, in other words, that people should not be rewarded solely for their contribution to the general welfare, but that other considerations, such as need, should also be taken into account. Our egalitarianism is simply another way of saying that we think need should play a larger role than it now does in determining what people get back from society. We do not think it can or should be the sole consideration.

When we turn from the distribution of income to the distribution of other things, our commitment to equality is even more equivocal. We assume, for example, that occupational prestige resembles income in that those who have low-prestige occupations usually value additional prestige more than those who have high-prestige occupations. Insofar as prestige is an end in itself, then, the optimal distribution is again egalitarian. But occupational prestige derives from a variety of factors, most of which are more difficult to redistribute than income. We cannot imagine a social system in which all occupations have

equal prestige, except in a society where all workers are equally competent. Since we do not see any likelihood of equalizing competence, we regard the equalization of occupational prestige as a desirable but probably elusive goal.

When we turn from occupational prestige to educational attainment and cognitive skills, the arguments for and against equality are reversed. If schooling and knowledge are thought of strictly as ends in themselves, it is impossible to make a case for distributing them equally. We can see no reason to suppose, for example, that people with relatively little schooling value additional schooling more than people who have already had a lot of schooling. Experience suggests that the reverse is the case. Insofar as schooling is an end in itself, then, Benthamite principles imply that those who want a lot should get a lot, and those who want very little should get very little. The same is true of knowledge and cognitive skills. People who know a lot generally value additional knowledge and skills more than those who know very little. This means that insofar as knowledge or skill is valued for its own sake, an unequal distribution is likely to give more satisfaction to more people than an equal distribution.

The case for equalizing the distribution of schooling and cognitive skill derives not from the idea that we should maximize consumer satisfaction, but from the assumption that equalizing schooling and cognitive skill is necessary to equalize status and income. This puts egalitarians in the awkward position of trying to impose equality on people, even though the natural demand for both cognitive skill and schooling is very unequal. Since we have found rather modest relationships between cognitive skill and schooling on the one hand and status and income on the other, we are much less concerned than most egalitarians with making sure that people end up alike in these areas.

Our commitment to equality is, then, neither all-embracing nor absolute. We do not believe that everyone can or should be made equal to everyone else in every respect. We assume that some differences in cognitive skill and vocational competence are inevitable, and that efforts to eliminate such differences can never be 100 percent successful. But we also believe that the distribution of income can be made far more equal than it is, even if the distribution of cognitive skill and vocational competence remains as unequal as it is now. We also think society should get on with the task of equalizing income rather than waiting for the day when everyone's earning power is equal.

Notes

1. This material has been collected and analyzed by Lee Rainwater at Harvard University, as part of a forthcoming study of the social meaning of low income.

2. Lester C. Thurow and Robert E.B. Lucas, in "The American Distribution of Income" [Washington, D.C.: U.S. Government Printing Office, March 17, 1972], discuss the possibility of such constraints in some detail. The principal virtue of this approach is that it reduces the incomes of the rich *before* they are defined as "income" rather than after. This means that the recipient is less conscious of what he is giving up and less likely to feel he is being cheated of his due.

3. If everyone had equal earning power we could assume that people "chose" their incomes voluntarily and that those with low incomes were those who were maximizing something else (e.g. leisure, autonomy, etc.). But as we note [elsewhere], people's concern with income as against other objectives has no apparent effect on their actual income, at least while they are young. [see Christopher Jencks, Marshall Smith, Henry Acland, Mary Jo Bane, David Cohen, Herbert Gintis, Barbara Heyns, Stephan Michelson, *Inequality: A Reassessment of the Effect of Family and Schooling in America*, New York: Harper and Row, 1972, ch.7, note 64]. Thus we infer that income differences derive largely from differences in earning power and luck.

WILLIAM H. SEWELL, ARCHIBALD O. HALLER, AND ALEJANDRO PORTES

The Educational and Early Occupational Attainment Process

Blau and Duncan (1967:165-172) have recently presented a path model of the occupational attainment process of the American adult male population. This basic model begins with two variables describing the early stratification position of each person; these are his father's educational and occupational attainment statuses. It then moves to two behavioral variables; these are the educational level the individual has completed and the prestige level of his first job. The dependent variable is the person's occupational prestige in 1962. That the model is not without power is attested by the fact that it accounts for about 26 percent of the variance in educational attainment, 33 percent of the variance in first job, and 42 percent of the variance in 1962 level of occupational attainment. Various additions to the basic model are presented in the volume, but none is clearly shown to make much of an improvement in it. These include nativity, migration, farm origin, subgroup position, marriage, and assortative mating. Without detracting from the excellence of the Blau and Duncan analysis, we may make several observations.

1. Because the dependent behaviors are occupational prestige attainments—attainment levels in a stratification system, it is appropriate to single out variables indicating father's stratification position as the most relevant social structural inputs. It is unfortunate that practical considerations prevented the inclusion of psychological inputs in their model, especially considering the repeated references to one such—mental ability—in the literature on differential occupational attainment (Lipset and Bendix, 1959:203-226; Sewell and Armer, 1966). More recently, this gap has been partially filled (Duncan, 1968a).

2. Also omitted are social psychological factors which mediate the influence of the input variables on attainment. This, too, is unfortunate in view not only of the speculative theory but also the concrete research in social psychology, which suggests the importance of such intervening variables as reference groups (Merton, 1957:281-386), significant others (Gerth and Mills, 1953:84-91), self-concept (Super, 1957:80-100), behavior expectations (Gross et al., 1958), levels of educational and occupational aspiration (Haller and Miller, 1963; Kuvlesky and Ohlendorf, 1967; Ohlendorf et al., 1967), and experiences of success or failure in school (Parsons, 1959; Brookover et al., 1965).

It remains to be seen whether the addition of such psychological and social psychological variables is worthwhile, although there are

reasons for believing that at least some of them may be. First, an explanation of a behavior system requires a plausible causal argument, not just a set of path coefficients. As indicated in Duncan's (1969) recent work, the introduction of social psychological mediating variables offers this possibility, but it does not guarantee it. As it stands, the Blau-Duncan model fails to indicate why any connection at all would be expected between the input variables, father's education and occupation, and the three subsequent factors: respondent's education, respondent's first job, and respondent's 1962 occupation. Granting differences among social psychological positions, they all agree that one's cognitions and motivations (including, among others, knowledge, self-concept and aspirations) are developed in structured situations (including the expectations of others), and that one's actions (attainments in this case) are a result of the cognitive and motivational orientations one brings to the action situation, as well as the factors in the new situation itself. Second, if valid, a social psychological model will suggest new points at which the causal system may be entered in order to change the attainment behaviors of persons, an issue not addressed by the Blau and Duncan volume. Variables such as the expectations of significant others offer other possibilities for manipulating the outcomes, including educational attainments. Third, in addition to the above advantages, a social psychological model of educational and occupational attainment might add to the explanation of variance in the dependent variables.

The Problem

The present report extends the attempts of the writers (Sewell and Armer, 1966; Sewell and Orenstein, 1965; Sewell and Shah, 1967; Sewell, 1964; Haller and Sewell, 1967; Portes et al., 1968; Haller, 1966; Haller and Miller, 1963; Haller and Portes, 1964; Sewell et al., 1957; Miller and Haller, 1964; Sewell et al., 1957) to apply social psychological concepts

to the explanation of variation in levels of educational and occupational attainment. We assume (1) that certain social structural and psychological factors—initial stratification position and mental ability, specifically—affect both the sets of significant others' influences bearing on the youth, and the youth's own observations of his ability; (2) that the influence of significant others, and possibly the youth's estimates of his ability, affect the youth's levels of aspiration; (3) that the levels of educational and occupational aspiration affect subsequent levels of educational attainment; (4) that education in turn affects levels of occupational attainment. In the present analysis we assume that all effects are linear; also, that the social psychological variables perform only mediating functions.

More specifically, we present theory and data regarding what we believe to be a logically consistent social psychological model. This provides a plausible causal argument to link stratification and mental ability inputs through a set of social psychological and behavioral mechanisms to educational and occupational attainments. One compelling feature of the model is that some of the inputs may be manipulated through experimental or other purposive interventions. This means that parts of it can be experimentally tested in future research and that practical policy agents can reasonably hope to use it in order to change educational and occupational attainments.

A Social Psychological Model

The model treats causal relationships among eight variables. X_1 is the occupational prestige level attained by the adult person, or *occupational attainment* (OccAtt); X_2 is the educational level he had previously attained, or *educational attainment* (EdAtt); X_3 is the occupational prestige level to which he aspired as a youth, or *level of occupational aspiration* (LOA); X_4 is his *level of educational aspiration* (LEA); X_5 is the influence for educational achievement exerted upon him by significant others while still in

DIAGRAM 1

Path coefficients of antecedents of educational and occupational attainment levels

.21 .22 X₇ X₈ .84 .54 .33 .59 .01 .47 X₆ .78 Xᵤ X₅ .63 .84 .56 .44 .73 X₄ X₃ .81 X₂ X₁ .43 .21 .82

X₁-Occupational Attainment
X₂-Educational Attainment
X₃-Level of Occupational Aspiration
X₄-Level of Educational Aspiration
X₅-Significant Others' Influence
X₆-Academic Performance
X₇-Socioeconomic Status
X₈-Mental Ability
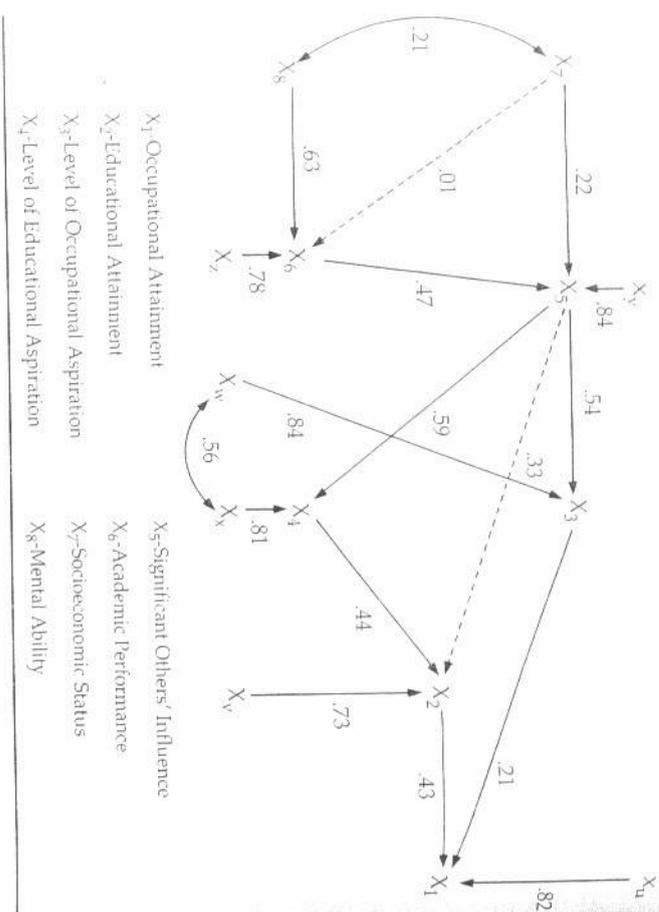
high school, or *significant others' influence* (SOI); X₆ is the quality of his *academic performance* in high school (AP); X₇ is the level of his family in the stratification system, or *socioeconomic status* (SES); and X₈ is his *mental ability* (MA) as measured while he was in high school (MA). Path models (Blau and Duncan, 1967:165–172; Wright, 1934; Wright, 1960; Heise, 1969) require a knowledge of the causal order among the variables. Beyond the causal arguments presented below, additional credibility is suggested by the existence of a plausible temporal order among variables. X₇ (SES) and X₈ (MA) precede everything else. X₅ (SOI) and X₆ (AP) precede both aspirations and attainments, and it can be assumed that for the most part X₆ precedes X₅. Youthful aspirations obviously precede later educational and occupational attainments. Pre-adult educational attainments precede adult occupational attainments.

By no means do all of the possible causal linkages seem defensible. The most likely ones are indicated in Diagram 1. In it straight solid lines stand for causal lines that are to be theoretically expected, dotted lines stand for possible but theoretically debatable causal lines, and curved lines represent unanalyzed correlations among variables which cannot be assigned causal priority in present data.

Commencing from the left of the diagram, we assume, as has often been found before (Sewell and Shah, 1967; Sewell et al., 1957), that a low positive correlation, r_{78} exists between the youth's measured mental ability (MA) and his parents' socioeconomic status (SES). This is the case: r_{78} = .21. We anticipate the existence of substantial effect of MA on academic performance (AP). We theorize that significant others' influence (SOI) is controlled both by AP and by socioeconomic status, as well as by exogenous factors, that they exert pro-

The Educational and Early Occupational Attainment Process

found effects on aspiration, and that the latter in turn influences later attainments. A more detailed examination of the theory follows.

Working with partial conceptions of SOI (and using different terminology), Bordua (1960) and Sewell and Shah (1968) have shown that parents' expectations for the youth's attainments are important influences on later aspirations and attainment. Similarly, Cramer (1967), Alexander and Campbell (1964), Campbell and Alexander (1965), Haller and Butterworth (1960), and Duncan et al. (1968) have investigated peer influences on aspirations and attainments. Each of these sets of actors, plus some others, may be seen as a special case of reference group influence. Building on such thinking, we have concluded that the key variable here is significant others' influence. Significant others are the specific persons from whom the individual obtains his level of aspiration, either because they serve as models or because they communicate to him their expectations for his behavior (Woelfel, 1967). The term "significant others" is more appropriate than that of "reference group" because it eliminates the implication that collectivities such as one's friends, or that one's work groups, or parents are necessarily the influential agents for all individuals. Experimental research, beginning with Sherif's work (1935), has shown the importance of other persons in defining one's own situation. One obtains his social behavior tendencies largely through the influence of others. Herriott (1963) has carried this line of thinking into the present area of research. He has shown that one's conception of the educational behavior others think appropriate to him is highly correlated with his level of educational aspiration. Thus, significant others' influence is a central variable in a social psychological explanation of educational and occupational attainment. It is obviously important to discover the causal paths determining SOI, as well as those by which it exerts its effects on attainment. We hypothesize a substantial direct path (p_{57}) from socioeconomic status (SES) to SOI. We also hypothesize a substantial effect of mental ability on SOI. This is be-

cause we expect that the significant others with whom the youth interacts base their expectations for his educational and occupational attainments in part on his demonstrated abilities. In turn, this implies that the path from mental ability (MA) to SOI is indirect by way of academic performance (AP). Thus, we hypothesize the existence of a pronounced path from MA to AP (p_{68}) and another from AP to SOI (p_{56}). So far we assume that one's grades in school are based on the quality of his performance. A strong, undercurrent in the literature seems to have held, however, that the youth's family's SES has a direct influence on his grades (Havighurst and Neugarten, 1957:236–237). To our knowledge, this has not been adequately demonstrated, and in large high schools, often far removed from the youth's home and neighborhood, this may well be debatable. Nevertheless, since it is at least possible that school grades (the evidences of performance) are partly determined by teachers' desires to please prestigious parents or to reward "middle-class" behavior, we have drawn a dotted path (p_{67}) from SES to AP, allowing for the possibility of such an influence.

We hypothesize that the major effects of significant others' influence (SOI) on attainment are mediated by its effects on levels of aspiration. Thus, we have indicated a path (p_{35}) from SOI to level of occupational aspiration (p_{35}) from SOI to level of occupational aspiration (LOA) and another (p_{45}) from SOI to level of educational aspiration (LEA). It is not inconsistent with this to suspect the possibility that SOI might have a direct influence on later educational attainment (EdAtt); we have thus included a dotted or debatable path (p_{25}) from SOI to EdAtt. Because we are here referring to SOI during late high school, it must necessarily refer largely to college education. There is, therefore, no reason to include such a path from SOI to occupational attainment.

Levels of educational aspiration (LEA) and occupational aspirations (LOA) are known to be highly correlated, since education is widely, and to some extent validly, considered to be a necessary condition for high occupational attainment (Haller and Miller, 1963:30, 39–42).

96). But LOA and LEA are not identical. (In these data, $r_{34_s} = r_{wx} = .56$.) We expect that LEA will have a pronounced effect on EdAtt (p_{24}), and that its entire effect on level of occupational attainment will be expressed through EdAtt. On the other hand, we do not hypothesize any effect of LOA on EdAtt which is not already contained in its correlation with LEA. Hence, there is no hypothetical path for LOA to EdAtt. A direct effect of LOA on OccAtt (p_{31}) is hypothesized, however.

There are 26 possible paths, given the sequence laid out above. As one can see by counting the paths (straight lines) in Diagram 1, we hypothesize noteworthy effects for only eight of these—ten if the dotted lines are counted. If this were a rigorous theoretical model, path coefficients would be calculated only for these eight (or ten) supposed causal connections. We believe that because of the fact that it is not rigorous, and at this stage of our knowledge probably cannot be, it would be well to calculate all of the possible 26 path coefficients, using the calculated values as rough indicators of the influences operating in the system. If the theoretic reasoning is a fair description of the reality to which it is addressed, the path coefficients for the eight (or ten) predicted causal lines should be considerably greater than those for the remainder where no causal prediction was made. Also, it is entirely possible that some unhypothesized causal lines might turn out to be of importance. This, too, argues for calculating the whole set of 26. These data are presented in tabular form (Table 3) below.

Method

In 1957 all high school seniors in Wisconsin responded to an extensive questionnaire concerning their educational and occupational aspirations and a number of potentially related topics. In 1964 one of the authors (Sewell) directed a follow-up in which data on later educational and occupational attainments were collected from an approximately one-third random sample of the respondents in the original survey.

This study is concerned with those 929 subjects for whom data are available at both times, in 1957 and 1964, and who (a) are males and (b) whose fathers were farmers in 1957. Zero-order correlations are computed on all 929 cases, using a computer program which accepts missing data. All higher order coefficients are based on 739 cases for whom data on each variable were complete. (The matrices of zero-order correlations between all eight variables for those two sets of cases are practically identical.)

Variables

Level of occupational attainment (X_1— OccAtt) was measured by Duncan's (1961) socioeconomic index of occupational status.

Level of educational attainment (X_2— EdAtt) was operationalized with data obtained in 1964 by dividing the sample into those who have had at least some college education and those who have not had any at all.[1]

Level of occupational aspiration (X_3— LOA) was determined by assigning Duncan's (1961) socioeconomic index scores to the occupation indicated by the respondent as the one he desired to fill in the future.

Level of educational aspiration (X_4—LEA) is a dichotomous variable corresponding to the respondent's statement in 1957 of whether or not he planned to attend college after graduating from high school.

Index of significant others' influence (X_5— SOI) is a simple summated score (range: zero to three) of three variables: (a) The youth's report of his parents' encouragement for college, dichotomized according to whether or not the respondent perceived direct parental encouragement for going to college. (b) The youth's report of his teachers' encouragement for college, dichotomized in a similar manner, according to whether or not direct teacher encouragement for college was perceived by the respondent. (c) Friends' college plans, dichotomized according to the respondent's statement that most of his close friends planned or did not plan to go to college.

These variables, all emphasizing education, were combined because they reflect the same conceptual dimension, and that dimension is theoretically more relevant than any of its component parts. That the three components do in fact measure the same dimension is attested by the positive correlations among them and a subsequent factor analysis. These correlations and the correlation of each with the summated variable, significant others' influence, are shown in Table 1. It may be relevant to point out the composition of this significant others' index in the light of Kelley's distinction (1952). Clearly, the perceptions of direct parental and teacher pressures toward college conform to the classic case of normative reference groups. The educational plans of close friends, on the other hand, may be thought of as having mixed functions. First, close peer groups may exercise pressure toward conformity, and second, friends' plans also serve for the individual's cognitive comparison of himself with "people like himself." Therefore, though the main character of the dimension indicated by this index is clearly normative, it can be thought of as containing some elements of an evaluative function as well.

Quality of academic performance (X_6—AP) is measured by a reflected arc sine transformation of each student's rank in his high school class.

Socioeconomic status (X_7—SES) is measured by a factor-weighted combination of the education of the respondent's father and mother, his perception of the economic status of the family, his perception of possible parental support should he choose to go to college and the approximate amount of such support, and the occupation of his father.[2]

Measured mental ability (X_8—MA) is indexed by Henmon-Nelson test scores (1942). The data were taken when the youths were in the junior year of high school. The scores, originally recorded as percentile-ranks, were treated with an arc sine transformation to approximate a normal distribution.[3]

TABLE 1
Zero-Order Correlations Between Indicators of Significant Others' Influence Regarding College

	Teachers' Influence	Friends' Influence	Index of Significant Others' Influence
Parental Influence	.37	.26	.74
Teachers' Influence	...	.32	.72
Friends' Influence	...	...	.68
Significant Others' Influence	...	...	...

Results

The zero-order correlation coefficients among eight variables are presented in Table 2. A complete path diagram would involve too many lines to be intelligible, because path coefficients presented in Diagram 1 were calculated for all 26 possible lines implied in the causal order specified above. With the exception of the theoretically dubious direct path from SES to AP, which turned out to be $p_{67} = .01$, each of the path coefficients for causal lines hypothesized in Diagram 1 is larger than those not hypothesized. Both sets of standardized beta (or path) coefficients are presented in Table 3.

This table shows that the reasoning presented in the above section, offering a social-psychological explanation for educational and occupational attainment, cannot be too far off the mark. We had hypothesized that SOI (significant others' influence) was of central importance. In fact, it has notable direct effects on three subsequent variables, each of which bears ultimately on prestige level of occupational attainment. Both theory and data agree that SOI has direct effects on levels of educational and occupational aspiration, as well as educational (i.e., college) attainment. In turn, each aspiration variable appears to have the predicted substantial effects on its respective attainment variable. Looking at its antecedents, we note theory and data again agree that SOI is affected directly by SES and indirectly by measured mental ability through

TABLE 2
Zero-Order Correlations

	X₂ Educational Attainment (Years College)	X₃ Level of Occupational Aspiration	X₄ Level of Educational Aspiration	X₅ Significant Others' Influence	X₆ Academic Performance (Grade Point)	X₇ Socioeconomic Status	X₈ Measured Mental Ability
X₁ Occupational Attainment (Prestige Scores—Duncan)	.52	.43	.38	.41	.37	.14	.33
X₂ Ed. Att.		.53	.61	.57	.48	.23	.40
X₃ LOA			.70	.53	.43	.15	.41
X₄ LEA				.59	.46	.26	.40
X₅ SOI					.49	.29	.41
X₆ AP						.16	.62
X₇ SES							.21
X₈ MA							

TABLE 3
Standardized Beta Coefficients for Hypothesized and Non-Hypothesized Causal Paths*

Dependent Variables	X₂ EdAtt	X₃ LOA	X₄ LEA	X₅ SOI	X₆ AP	X₇ SES	X₈ MA
X₆ AP	…	…	…	…	…	(.01)	.62
X₅ SOI	…	…	…	…	.39	.21	.13
X₄ LEA	…	…	…	.45	.18	.07	.08
X₃ LOA	…	…	.42	(.23)	.12	−.02	.16
X₂ EdAtt	…	.34	.17	.05	.18	.05	.03
X₁ OccAtt	.38	.19	−.10	.11	.06	.00	.04

* Figures in italics are coefficients for paths hypothesized in Diagram 1.
Figures in parentheses refer to theoretically debatable causal lines.

the latter's effect on the youth's academic performance. The latter variable is crucial because it provides (or is correlated with) palpable evidence that significant others can observe and, thus to a degree, align their expectations for the youth with his demonstrated ability.

None of the unpredicted paths is very strong, but we must recognize that there may be more operating in such a system than we were able to anticipate from previous thinking. There is a pair of perhaps consequential direct paths from academic performance to educational attainment (p₂₆ = .18) and to educational aspiration (p₄₆ = .17). There are several possibilities. The data might imply the existence of a mediating factor, such as one's self conception of his ability, a factor which could influence both educational aspirations and attainment. They also suggest that not all of the effect of ability on educational aspiration and attainments is mediated by SOI. Finally, one's ability may exert a continuing effect on his educational attainments quite apart from the mediation of either significant others or aspirations—and therefore apart from one's conception of his ability. Arguments such as these, however, should not be pressed too far because the figures are small. Another unexpected but noteworthy path links mental ability directly to level of occupational aspiration. We offer no speculation regarding it.

So far we have seen that a consistent and plausible social psychological position is at least moderately well borne out by the analysis of lines of apparent influence of its variables when they are arranged in causal order. How well does the total set of independent variables work in accounting for variance in the attainment variables? In brief, the $R^2_{1.2345678} = .34$ and $R^2_{2.345678} = .50$. Thus, the variables account for 34 percent of the variance in level of occupational attainment and 50 percent of the variance in level of educational attainment. Obviously, variables X₃ through X₈ are much more effective in accounting for educational attainment than in accounting for occupational attainment. Indeed, educational attainment alone accounts for 27 percent of the variance in occupational attainment (from Table 3, $r^2_{12} = .52^2 = .27$).

What we have here, then, is a plausible causal system functioning primarily to explain educational attainment. The same set of variables has considerable effect on occupational attainment. This, in turn, has considerable effect on occupational attainment. The same set of variables adds a small but useful amount to the explanation of occupational attainment variance beyond that contributed by its explanation of educational attainment.[4]

Discussion and Conclusions

Using father's occupational prestige, the person's educational attainment, and his first job level, Blau and Duncan (1967:165-172) were able to account for 33 percent of the variance in occupational attainment of a nationwide sample of American men. Neither our sample nor our variables are identical with theirs; so it is impossible to assess the total contribution of this study to the state of knowledge as reflected in their work. Educational attainment is strategic in both studies and in this regard the studies are fairly comparable. The present model adds a great deal to the explanation of the social psychological factors affecting that variable. The prospects seem good, too, that if the present model were to be applied to a sample coming from a wider range of the American stratification system with greater age variation, it might prove to be more pow-

erful than it appears with our sample of young farm-reared men. In general, the present take-off on the Blau-Duncan approach to occupational attainment levels seems worthy of further testing and elaboration.

Several comments are appropriate regarding the social psychological position and data presented here. (1) Clearly, the variable we have called significant others' influence is an important factor. The present evidence appears to show that once formed its effects are far-reaching. Also, besides being a powerful explanatory factor, significant others' influence should be amenable to manipulation. It thus suggests that it might serve as a point at which external agents might intervene to change educational and occupational attainment levels. This means that at least part of the system is theoretically amenable to experimental testing. The parts of the present model which are hypothetically dependent upon this variable might be more securely tested if such experiments can be worked out. Also, practical change agents might be able to change levels of attainment, either by inserting significant others as new significant others or by changing the expectations existing significant others have for the individual. There may well be a substantial payoff from more refined work with this variable.

(2) The results seem to indicate, too, that aspirations (a special class of attitudes) are in fact performing mediational functions in transmitting anterior factors into subsequent behaviors. This has been a subject of recent debate, much of which has in effect held that attitudinal variables are useless epiphenomena. This was recently discussed by Fendrich (1967).

Such encouraging results do not, however, mitigate the need for (a) general experimental determination of the supposed effects of attitudes on behaviors, and (b) specific experimental determination of the effects of aspirations on attainments.

(3) The question may be raised as to the extent to which this system is inherently culture-bound. One might wonder whether attainment behavior within an institutionalized pattern of "sponsored" rather than "contest"

achievement (Turner, 1960) would change the path model. Besides this (and perhaps other institutionalized types of achievement patterns), there is also the question of the relevance of the model for ascribed occupational attainment systems. Obviously we do not have data bearing on these questions but we may at least discuss them. Let us suppose that the same eight variables are measured on youth in a "sponsored" achievement context. We speculate that if measured mental ability is the basis of selection of those who are to be advanced, then the direct path from mental ability to significant others' influence would increase. Since one's sponsors presumably influence one's aspirations and aspirations in turn mediate attainment, the rest of the model probably would not change much.

Consider the case of ascribed attainment. Here one's parents' position determines what one's significant others will expect of one; the variables to which these influences continue more or less unchanged. The importance of higher education may vary among basically ascribed systems: in one it may be unimportant, in another it may merely validate one's status, or in still another it may train ascribed elites to fulfill the key social roles in the society. If educational attainment is important within the social system, aspirations will mediate the influence of significant others upon it, and it in turn will mediate occupational attainment. If not, occupational aspirations will mediate occupational attainment and educational attainment will drop out of the path model. In short, by allowing for variations in the path coefficients, the same basic social psychological model might work well to describe attainment in stratification and mobility systems quite different from that of the present sample.

(4) The linear model used here seems to be an appropriate way to operationalize social psychological positions holding that the function of "intervening" attitudinal variables is to mediate the influence of more fundamental social structural and psychological variables on behavior. By assuming linear relations among variables and applying a path system to the analysis, we have cast the attainment problem in such a framework. It seems to have worked quite well. We are sufficiently encouraged by this attempt to recommend that a parallel tack might be made on problems in which the overt behavior variables are quite different from educational and occupational attainment.

(5) Nonetheless, satisfactory as such a linear model and its accompanying theory seems to be, there is still the possibility that other techniques flowing from somewhat different social psychological assumptions might be better. It is possible that, in the action situation, enduring attitudes (such as educational and occupational aspirations) may function as independent forces which express themselves in relevant overt behaviors to the degree that other personality and situational variables permit. Linear models would thus be effective to the degree that the persons modify their aspirations to bring them in line with potentials for action offered by the latter variables. More importantly, the combined effects of aspiration and facilitational variables would produce non-linear accelerating curves of influence on behavior variables. For the present types of data, this would imply that parental stratification position, mental ability, and significant others' influence not only produce aspirations, but also, to the extent to which these influences continue more or less unchanged on into early adulthood, they function as differential facilitators for the expression of aspirations in attainments. If this is true, a nonlinear system of statistical analysis handling interaction effects would be even more powerful than the one used in this paper.

(6) It should be remembered that the most highly educated of these young men had just

begun their careers when the final data were collected. If the distance between them and the less educated widens, the occupational attainment variance accounted for by the model may well increase. The direct relations of some of the antecedents to occupational attainment may also change. In particular, mental ability may show a higher path to occupational attainment.

(7) Finally, although the results reported in this paper indicate that the proposed model has considerable promise for explaining educational and early occupational attainment of farm boys, its adequacy should now be tested on populations with a more differentiated socioeconomic background. It is quite possible that in such populations the effects of socioeconomic status on subsequent variables may be significantly increased. The effects of other variables in the system may also be altered when the model is applied to less homogeneous populations.

The present research appears to have extended knowledge of the causal mechanism influencing occupational attainment. Most of this was accomplished by providing a consistent social psychological model which adds to our ability to explain what is surely one of its key proximal antecedents, educational attainment.

Notes

1. It is important to note that the timing of the follow-up was such as to allow most individuals to complete their education up to the bachelor's degree and beyond. It is unlikely that the educational attainment of the sample as a whole will change much in the years to come. On the other hand, attainment of the sample as a whole will change much in the years to come. On the other hand, even improve upon it, there was not enough time for those who continued their education to do the same. A few of the latter were still in school; most had just begun their occupational careers. It is therefore possible that a follow-up taken five or ten years from now would show greater differentiation in attainments as the educated group gathers momentum and moves up in the occupational world.

2. Naturally, father's occupation is a constant in this subsample of farm-reared males. It is important to note that the SES mean and standard deviation for this subsample are considerably lower than for the total sample. The low and homogeneous SES levels of this subsample may yield atypical relations among the variables.

3. Our previous research (Sewell and Armer, 1966; Haller and Sewell, 1967) has led us to be skeptical of claims that local ecological and school class compositional factors influence aspirations and attainments. Nevertheless the zero-order intercorrelations of five such variables and their correlations with X_1–X_8 are available (although they are not presented here). Two of these pertain to the county in which the youth attended high school: average county level of living and degree of urbanization. Three pertain to his high school senior class: average SES of the class, percentage of the class members whose fathers attended college, and percentage of the class members whose fathers had professional-level occupations. Though substantially correlated with each other, the variables are uncorrelated with the variables in the above model.

4. Some readers will be interested only for the lines hypothesized in the diagram. For this reason and because of the diagram's parsimony, we have calculated values for each of its eight paths (or ten, including dubious ones). The restricted model explains 47 and 33 percent of the variance in X_7 and X_8, respectively. Data not presented here show that the model reproduces the zero-order correlation matrix quite well. For this reason and because the model is an effective predictor of X_7 and X_8, it may be considered to be fairly valid. Nonetheless, it seems more prudent to rest our case on the less presumptuous data already presented in Table 3. This is why the coefficients presented in the diagram are not discussed here.

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JAY MACLEOD

Ain't No Makin' It: Leveled Aspirations in a Low-income Neighborhood

"Any child can grow up to be president." So maintains the dominant ideology in the United States. This perspective characterizes American society as an open one in which barriers to success are mainly personal rather than social. In this meritocratic view, education ensures equality of opportunity for all individuals, and economic inequalities result from differences in natural qualities and in one's motivation and will to work. Success is based on achievement rather than ascription. Individuals do not inherit their social status—they attain it on their own. Because schooling mitigates gender, class, and racial barriers to success, the ladder of social mobility is there for all to climb. A favorite Hollywood theme, the rags-to-riches story resonates in the psyche of the American people. We never tire of hearing about Andrew Carnegie, for his experience validates much that we hold dear about America, the land of opportunity. Horatio Alger's accounts of the spectacular mobility achieved by men of humble origins through their own unremitting efforts occupy a treasured place in our national folklore. The American Dream is held out as a genuine prospect for anyone with the drive to achieve it.

"I ain't goin' to college. Who wants to go to college? I'd just end up gettin' a shitty job anyway." So says Freddie Piniella, an intelligent eleven-year-old boy from Clarendon Heights, a low-income housing development in a northeastern city. This statement, pro-

nounced with certitude and feeling, completely contradicts our achievement ideology. Freddie is pessimistic about his prospects for social mobility and disputes schooling's capacity to "deliver the goods." Such a view offends our sensibilities and seems a rationalization. But Freddie has a point. What of Carnegie's grammar school classmates, the great bulk of whom no doubt were left behind to occupy positions in the class structure not much different from those held by their parents? What about the static, nearly permanent element in the working class, whose members consider the chances for mobility remote and thus despair of all hope? These people are shunned, hidden, forgotten—and for good reason—because just as the self-made man is a testament to certain American ideals, so the very existence of an "underclass" in American society is a living contradiction to those ideals.

Utter hopelessness is the most striking aspect of Freddie's outlook. Erik H. Erikson writes that hope is the basic ingredient of all vitality.[2] Stripped of hope, there is little left to lose. How is it that in contemporary America a boy of eleven can feel bereft of a future worth embracing? This is not what the United States is supposed to be. The United States is the nation of hopes and dreams and opportunity. As Ronald Reagan remarked in his 1985 State of the Union Address, citing the accomplishments of a young Vietnamese immigrant, "Anything is possible in America if we have the faith, the will, and the heart."[3]

But to Freddie Piniella and many other Clarendon Heights young people who grow up in households where their parents and older siblings are unemployed, undereducated, or imprisoned, Reagan's words ring hollow. For them the American Dream, far from being a genuine prospect, is not even a dream. It is a hallucination.

I first met Freddie Piniella in the summer of 1981 when as a student at a nearby university I worked as a counselor in a youth enrichment program in Clarendon Heights. For ten weeks *I lived a few blocks from the housing project* and worked intensively with nine boys, aged eleven to thirteen. While engaging them in recreational and educational activities, I was surprised by the modesty of their aspirations. The world of middle-class work was entirely alien to them; they spoke about employment in construction, factories, the armed forces, or, predictably, professional athletics. In an ostensibly open society, they were a group of boys whose occupational aspirations did not even cut across class lines....

The male teenage world of Clarendon Heights is populated by two divergent peer groups. The first group, dubbed the Hallway Hangers because of the group's propensity for "hanging" in a particular hallway in the project [i.e., outside doorway #13], consists predominantly of white boys. Their characteristics and attitudes stand in marked contrast to the second group, which is composed almost exclusively of black youths who call themselves the Brothers. Surprisingly, the Brothers speak with relative optimism about their futures, while the Hallway Hangers are despondent about their prospects for social mobility....

Before describing the boys' orientation toward work [in more detail], I would like to make an analytical distinction between aspirations and expectations. Both involve assessments of one's desires, abilities, and the character of the opportunity structure. In articulating one's aspirations, an individual weighs his or her preferences more heavily; expectations are tempered by perceived capabilities and available opportunities. Aspirations are one's preferences relatively unsullied by anticipated constraints; expectations take these constraints squarely into account.[4]

The Hallway Hangers: Keeping a Lid on Hope

Conventional, middle-class orientations toward employment are inadequate to describe the Hallway Hangers' approach to work. The notion of a career, a set of jobs that are connected to one another in a logical progression, has little relevance to these boys. They are

hesitant when asked about their aspirations. This hesitancy is not the result of indecision; rather it stems from the fact that these boys see little choice involved in getting a job. No matter how hard I pressed him, for instance, Jinks refused to articulate his aspirations: "I think you're kiddin' yourself to have any. We're just gonna take whatever we can get." Jinks is a perceptive boy, and his answer seems to be an accurate depiction of the situation. Beggars cannot be choosers, and these boys have nothing other than unskilled labor to offer on a credential-based job market.

It is difficult to gauge the aspirations of most of the Hallway Hangers. Perhaps at a younger age they had dreams for their futures. At ages sixteen, seventeen, and eighteen, however, their own job experiences as well as those of family members have contributed to a deeply entrenched cynicism about their futures. What is perceived as the cold, hard reality of the job market weighs very heavily on the Hallway Hangers; they believe their preferences will have almost no bearing on the work they actually will do. Their expectations are not merely tempered by perceptions of the opportunity structure; even their aspirations are crushed by their estimation of the job market. These generalizations may seem bold and rather extreme, but they do not lack ethnographic support.

The pessimism and uncertainty with which the Hallway Hangers view their futures emerge clearly when the boys are asked to speculate on what their lives will be like in twenty years.

(all in separate interviews)
STONEY: Hard to say. I could be dead tomorrow. Around here, you gotta take life day by day.

BOO-BOO: I dunno. I don't want to think about it. I'll think about it when it comes.

FRANKIE: I don't fucking know. Twenty years. I may be fucking dead. I live a day at a time. I'll probably be in the fucking pen.

SHORTY: Twenty years? I'm gonna be in jail.

(in separate interviews)
STEVE: I don't fucking know. Working probably. Have my own fucking pad, my own house. Bitches, kids. Fucking fridge full of brewskies. Fine wife, likes to get laid.

JINKS: Twenty years from now? Probably kicked back in my own apartment doing the same shit I'm doing now—getting high. I'll have a job, if I'm not in the service, if war don't break out, if I'm not dead. I just take one day at a time.

Although the Hallway Hangers expect to spend a good portion of their waking hours on the job, work is important to them not as an end in itself, but solely as a means to an end—money.

In probing the occupational aspirations and expectations of the Hallway Hangers, I finally was able to elicit from them some specific hopes. Although Shorty never mentions his expectations, the rest of the Hallway Hangers have responded to my prodding with some definite answers. The range of answers as well as how they change over time

These responses are striking not only for the insecurity and despondency they reveal, but also because they do not include any mention of work. It is not that work is unimportant for people as strapped for money as the Hallway Hangers are; work is crucial. Rather, these boys are indifferent to the issue of "future" employment. Work is a given; they all hope to hold jobs of one kind or another in order to support themselves and their families. But the Hallway Hangers believe the character of work, at least all work in which they are likely to be involved, is essentially the same: boring, undifferentiated, and unrewarding. Thinking about their future jobs is a useless activity for the Hallway Hangers. What is there to think about?

For Steve and Jinks, although they do see themselves employed in twenty years, work is still of tangential importance.

JM: If you had to guess, what do you think you'll be doing twenty years from now?

arc as significant as the particular hopes each boy expresses.

Boo-Boo's orientation toward work is typical of the Hallway Hangers. He has held a number of jobs in the past, most of them in the summer. During his freshman year in high school Boo-Boo worked as a security guard at school for $2.50 an hour in order to make restitution for a stolen car he damaged. Boo-Boo also has worked on small-scale construction projects through a summer youth employment program called Just-A-Start, at a pipe manufacturing site, and as a clerk in a gift shop. Boo-Boo wants to be an automobile mechanic. Upon graduating from high school, he studied auto mechanics at a technical school on a scholarship. The only black student in his class, Boo-Boo was expelled early in his first term after racial antagonism erupted into a fight. Boo-Boo was not altogether disappointed, for he already was unhappy with what he considered the program's overly theoretical orientation. (Howard London found this kind of impatience typical of working-class students in the community college he studied.) Boo-Boo wanted hands-on training, but "all's they were doing was telling me about how it's made, stuff like that." Boo-Boo currently is unemployed, but he recently had a chance for a job as a cook's helper. Although he was not hired, the event is significant nevertheless because prior to the job interview, Boo-Boo claimed that his ambition now was to work in a restaurant. Here we have an example of the primacy of the opportunity structure in determining the aspirations of the Hallway Hangers. One job opening in another field was so significant that the opening prompted Boo-Boo to redefine totally his aspirations.

In contrast to the rest of the Hallway Hangers who are already on the job market, Steve wants to stay in school for the two years required to get his diploma. Yet he has a similar attitude toward his future work as do the other youths. He quit his summer job with the Just-A-Start program and has no concrete occupational aspirations. As for expectations, he believes he might enlist in the Air Force af-ter graduation but adds, "I dunno, I might just go up and see my uncle, do some fuckin' construction or something."

Many of these boys expect to enter military service. Jinks and Frankie mention it as an option; Stoney has tried to enlist, but without success. Although Jinks refuses to think in terms of aspirations, he will say what he expects to do after he finishes school.

JM: What are you gonna do when you get out?
JINKS: Go into the service, like everybody else. The navy.
JM: What about after that?
JINKS: After that, just get a job, live around here.
JM: Do you have any idea what job you wanna get?
JINKS: No. No particular job. Whatever I can get.

Jinks subsequently quit school. He had been working twenty hours a week making clothes-racks in a factory with his brother. He left school with the understanding that he would be employed full-time, and he was mildly content with his situation: "I got a job. It ain't a good job, but other things will come along." Two weeks later, he was laid off. For the past three months he has been unemployed, hanging full-time in doorway #13.

Shorty has worked construction in the past and has held odd jobs such as shoveling snow. Shorty, an alcoholic, has trouble holding down a steady job, as he freely admits. He was enrolled in school until recently. Ordered by the court to a detoxification center, Shorty apparently managed to convince the judge that he had attended enough Alcoholics Anonymous meetings in the meantime to satisfy the court. He has not returned to school since, nor has he landed a job. Given that Shorty is often on the run from the police, he is too preoccupied with pressing everyday problems to give serious thought to his long-term future. It is not surprising that my ill-timed query about his occupational aspirations met with only an impatient glare. . . .

The definitions of aspirations and expectations given [earlier] suggest that an assessment of the opportunity structure and of one's capabilities impinge on one's preferences for the future. However, the portrait of the Hallway Hangers painted in these pages makes clear that "impinge" is not a strong enough word. But are the leveled aspirations and pessimistic expectations of the Hallway Hangers a result of strong negative assessments of their capabilities or of the opportunity structure?

This is not an easy question to answer. Doubtless, both factors come into play, but in the case of the Hallway Hangers, evaluation of the opportunity structure has the dominant role. Although in a discussion of why they do not succeed in school, the Hallway Hangers point to personal inadequacy ("We're all just fucking burnouts"; "We never did good anyways"), they look to outside forces as well. In general, they are confident of their own abilities.

(In a group interview)
JM: If you've got five kids up the high school with all A's, now are you gonna be able to say that any of them are smarter than any of you?
SLICK: (immediately) No.
JM: So how'd that happen?
SLICK: Because they're smarter in some areas just like we're smarter in some areas. You put them out here, right? And you put us up where they're living—they won't be able to survive out here.
SHORTY: But we'd be able to survive up there.
FRANKIE: See, what it is—they're smarter more academically because they're taught by teachers that teach academics.
JM: Not even streetwise, just academically, do you think you could be up where they are?
FRANKIE: Yeah.
CHRIS: Yeah.
SHORTY: Yeah.
JM: When it comes down to it, you're just as smart?
FRANKIE: Yeah.
SLICK: (matter-of-factly) We could be smarter.
FRANKIE: Definitely.
CHRIS: On the street, like. . . .
FRANKIE: We're smart, we're smart, but we're just smart [inaudible]. It's fucking, y'know, we're just out to make money, man. I know if I ever went to fucking high school and college in a business course. . .
SLICK: And concentrated on studying. . . .
FRANKIE: I know I could make it. I am a businessman.
JM: So all of you are sure that if you put out in school. . . .
FRANKIE: Yeah! If I went into business, I would, yeah. If I had the fucking money to start out with like some of these fucking rich kids, I'd be a millionaire. Fucking right I would be.

Although these comments were influenced by the dynamics of the group interview, they jibe with the general sense of self-confidence the Hallway Hangers radiate and indicate that they do not have low perceptions of their own abilities.

If their assessments of their own abilities do not account for the low aspirations of the Hallway Hangers, we are left, by way of explanation, with their perceptions of the opportunity structure. The dominant view in the United States is that American society is an open one that values and differentially rewards individuals on the basis of their merits. The Hallway Hangers question this view, for it runs against the grain of their experiences, their families' experiences, and their own encounters with the labor market.

The Clarendon Heights community, as a public housing development, is by definition made up of individuals who do not hold even modestly remunerative jobs. A large majority are on additional forms of public assistance; many are unemployed. Like most old housing projects, Clarendon Heights tends to be a cloistered, insular neighborhood, isolated from the surrounding community. Although younger residents certainly have external points of reference, their horizons are nevertheless very narrow. Their immediate world is composed almost entirely of people who have

nor "made it." To look around at a great variety of people—some lazy, some alcoholics, some energetic, some dedicated, some clever, some resourceful—and to realize all of them have been unsuccessful on the job market is powerful testimony against what is billed as an open society.

The second and much more intimate contact these boys have with the job market is through their families, whose occupational histories only can be viewed as sad and disillusioning by the Hallway Hangers. These are not people who are slothful or slow-witted; rather, they are generally industrious, intelligent, and very willing to work. With members of their families holding low-paying, unstable jobs or unable to find work at all, the Hallway Hangers are unlikely to view the job opportunity structure as an open one.

The third level of experience is their own. All except Steve are now on the job market year round, but only Stoney has a steady job. With the exceptions of Chris, who presently is satisfied with his success peddling drugs, and Steve, who is still in school, the Hallway Hangers are actively in search of decent work. Although they always seem to be following up on some promising lead, they are all unemployed. Furthermore, some who were counting on prospective employment have had their hopes dashed when it fell through. The work they have been able to secure typically has been in menial, dead-end jobs paying minimum wage.

Thus, their personal experience on the job market and the experiences of their family members and their neighbors have taught the Hallway Hangers that the job market does not necessarily reward talent or effort. Neither they nor their parents, older siblings, and friends have shared in the "spoils" of economic success. In short, the Hallway Hangers are under no illusions about the openness of the job opportunity structure. They are conscious, albeit vaguely, of a number of class-based obstacles to economic and social advancement. Slick, the most perceptive and articulate of the Hallway Hangers, points out particular barriers they must face.

SLICK: Out here, there's not the opportunity to make money. That's how you get into stealin' and all that shit.

(in a separate interview)

SLICK: That's why I went into the army—cuz there's no jobs out here right now for people that, y'know, live out here. You have to know somebody, right?

In discussing the problems of getting a job, both Slick and Shorty are vocal.

SLICK: All right, to get a job, first of all, this is a handicap, out here. If you say you're from the projects or anywhere in this area, that can hurt you. Right off the bat: reputation.

SHORTY: Is this dude gonna rip me off, is he

. . . .

SLICK: Is he gonna stab me?
SHORTY: Will he rip me off? Is he gonna set up the place to do a score or somethin'? I tried to get a couple of my buddies jobs at a place where I was working construction, but the guy says, "I don't want 'em if they're from there. I know you; you ain't a thief or nothing."

Frankie also points out the reservations prospective employers have about hiring people who live in Clarendon Heights. "A rich kid would have a better chance of getting a job than me, yeah. Me, from where I live, y'know, a high crime area, I was prob'ly crime-breaking myself, which they think your nice honest rich kid from a very respected family would never do."

Frankie also feels that he is discriminated against because of the reputation that attaches to him because of his brothers' illegal exploits. "Especially me, like I've had a few opportunities for a job, y'know. I didn't get it cuz of my name, because of my brothers, y'know. So I was deprived right there, bang."

vancement. ... y'know they said, 'No, no, no, we ain't havin' no Dougherty work for us.'" In a separate discussion, Frankie again makes this point. Arguing that he would have almost no chance to be hired as a fireman, despite ostensibly meritocratic hiring procedures, even if he scored very highly on the test, Frankie concludes, "Just cuz fuckin' where I'm from and what my name is."

The Hallway Hangers' belief that the opportunity structure is not open also emerges when we consider their responses to the question of whether they have the same chance as a middle- or upper-class boy to get a good job. The Hallway Hangers generally respond in the negative. When pushed to explain why, Jinks and Steve made these responses, which are typical.

(in separate interviews)

JINKS: Their parents got pull and shit.
STEVE: Their fucking parents know people.

Considering the boys' employment experiences and those of their families, it is not surprising that the Hallway Hangers' view of the job market does not conform to the dominant belief in the openness of the opportunity structure. They see a job market where rewards are based not on meritocratic criteria, but on "who you know." If "connections" are the keys to success, the Hallway Hangers know that they are in trouble.

Aside from their assessment of the job opportunity structure, the Hallway Hangers are aware of other forces weighing on their futures. A general feeling of despondency pervades the group. As Slick puts it, "The younger kids have nothing to hope for." The Hallway Hangers often draw attention to specific incidents that support their general and vague feelings of hopelessness and of the futility of nurturing aspirations or high expectations. Tales of police brutality, of uncaring probation officers and callous judges, and of the "pull and hook-ups of the rich kids" all have a common theme, which Chris summarizes, "We don't get a fair shake and shit." Although they sometimes internalize the blame

for their plight (Boo-Boo: "Just screwed up"; Chris: "I guess I just don't have what it takes"; Frankie: "We've just fucked up"), the Hallway Hangers also see, albeit in a vague and imprecise manner, a number of hurdles in their path to success with which others from higher social strata do not have to contend.

Insofar as contemporary conditions under capitalism can be conceptualized as a race by the many for relatively few positions of wealth and prestige, the low aspirations of the Hallway Hangers, more than anything else, seem to be a decision, conscious or unconscious, to withdraw from the running. The competition, they reason, is not a fair one when some people have an unobstructed lane. As Frankie maintains, the Hallway Hangers face numerous barriers: "It's a steeplechase, man. It's a motherfucking steeplechase." The Hallway Hangers respond in a way that suggests only a "sucker" would compete seriously under such conditions. Chris's perspective seems a poignant, accurate description of the situation in which the Hallway Hangers find themselves.

CHRIS: I gotta get a job, any fucking job. Just a job. Make some decent money. If I could make a hundred bucks a week, I'd work. I just wanna get my mother out of the projects, that's all. But I'm fucking up in school. It ain't easy, Jay. I hang out there [in doorway #13] 'til about one o'clock every night. I never want to go to school, again. It's not that I'm dumb. You gimme thirty bucks today, and I'll give you one hundred tomorrow. I dunno. It's like I'm in a hole I can't get out of. I guess I could get out, but it's hard as hell. It's fucked up.

The Brothers:
Ready at the Starting Line

Just as the pessimism and uncertainty with which the Hallway Hangers view their futures emerges when we consider what they perceive

their lives will be like in twenty years, so do the Brothers' long-term visions serve as a valuable backdrop to our discussion of their aspirations. The ethos of the Brothers' peer group is a positive one; they are not resigned to a bleak future but are hoping for a bright one. Nowhere does this optimism surface more clearly than in the Brothers' responses to the question of what they will be doing in twenty years. Note the centrality of work in their views of the future.

(all in separate interviews)
SUPER: I'll have a house, a nice car, no one bothering me. Won't have to take no hard time from no one. Yeah, I'll have a good job, too.

JUAN: I'll have a regular house, y'know, with a yard and everything. I'll have a steady job, a good job. I'll be living the good life, the easy life.

MIKE: I might have a wife, some kids. I might be holding down a regular business job like myself. I'm gonna have some money. And a different girl every day. And a different car. And be like this *(poses with one arm around an imaginary girl and the other on a steering wheel).*

CRAIG: I'll probably be having a good job on my hands, I think. Working in an office as an architect, y'know, with my own drawing board, doing my own stuff, or at least close to there.

James takes a comic look into his future without being prompted to do so. "The ones who work hard in school, eventually, it's gonna pay off for them and everything, and they're gonna have a good job and a family and all that. Not me though! I'm gonna have myself. I'm gonna have some money. And a different girl every day. And a different car. And be like this *(poses with one arm around an imaginary girl and the other on a steering wheel)."*

The Brothers do not hesitate to name their occupational goals. Although some of the Brothers are unsure of their occupational aspirations, none seems to feel that nurturing an aspiration is a futile exercise. The Brothers have not resigned themselves to taking whatever they can get. Rather, they articulate spe-

cific occupational aspirations (although these often are subject to change and revision).

Like all the Brothers, Super has not had extensive experience on the job market; he only has worked at summer jobs. For the past three summers, he has worked for the city doing maintenance work in parks and school buildings through a CETA-sponsored summer youth employment program. During the last year, Super's occupational aspirations have fluctuated widely. His initial desire to become a doctor was met with laughter from his friends. Deterred by their mocking and by a realization of the schooling required to be a doctor, Super immediately decided that he would rather go into business: "Maybe I can own my own shop and shit." This aspiration, however, also was ridiculed. Mokey, commented Mokey, "Super'll be pumping the girls, that kinda business." In private, however, Super still clings to the hope of becoming a doctor, although he cites work in the computer field as a more realistic hope. "Really, I don't know what I should do now. I'm kinda confused. First I said I wanna go into computers, right? Take up that or a doctor." The vagueness of Super's aspirations is important; once again, we get a glimpse of how little is known about the world of middle-class work, even for somebody who clearly aspires to it. Of one thing Super is certain: "I just know I wanna get a good job."

Although Super does not distinguish between what constitutes a good job and what does not, he does allude to criteria by which the quality of a job can be judged. First, a good job must not demand that one "work on your feet," a distinction, apparently, between white and blue-collar work. Second, a good job implies at least some authority in one's workplace, a point Super makes clearly, if in a disjointed manner. "Bosses—if you don't come on time, they yell at you and stuff like that. They want you to do work and not sit down and relax and stuff like that, y'know. I want to try and be a boss, y'know, tell people what to do. See, I don't always want people telling me what to do, y'know—the low rank, I wanna try to be with people in the high rank." Al-

though Super does not know what occupation he would like to enter, he is certain that he wants a job that is relatively high up in a vaguely defined occupational hierarchy....

The Brothers display none of the cockiness about their own capabilities that the Hallway Hangers exhibit. Instead, they attribute lack of success on the job market exclusively to personal inadequacy. This is particularly true when the Brothers speculate about the future jobs the Hallway Hangers and their own friends will have. According to the Brothers, the Hallway Hangers (in Super's words) "ain't gonna get nowhere," not because they are personally lacking. The rest of the Brothers share this view.

JM: Some of those guys who hang with Frankie, they're actually pretty smart. They just don't channel that intelligence into school, it seems to me.
CRAIG: I call that stupid, man. That's what they are.
JM: I dunno.
CRAIG: Lazy.

(in a separate interview)
SUPER: They think they're so tough they don't have to do work. That don't make sense, really. You ain't gonna get nowhere; all's you gonna do is be back in the projects like your mother. Depend on your mother to give you money every week. You ain't gonna get a good job. As you get older, you'll think about that, y'know. It'll come to your mind. "Wow, I can't believe, I should've just went to school and got my education."

(in a separate interview)
MOKEY: They all got attitude problems. They just don't got their shit together. Like Steve. They have to improve themselves.

In the eyes of the Brothers, the Hallway Hangers have attitude problems, are incapable of considering their long-term future, and are lazy or stupid.

Because this evidence is tainted (no love is lost between the two peer groups), it is significant that the Brothers apply the same criteria in judging each other's chances to gain meaningful employment. James thinks Mokey is headed for a dead-end job because he is immature and undisciplined. He also blames Juan for currently being out of work. "Juan's outta school, and Juan does *not* have a job *(said with contempt).* Now that's some kind of a senior. When I'm a senior, I'm gonna have a job already. I can see if you're gonna go to college right when you get out of school; but Juan's not doin' nothin'. He's just stayin' home." Juan, in turn, thinks that Mokey and Super will have difficulty finding valuable work because of their attitudes. He predicts that Derek and Craig will be successful for the same reason.

These viewpoints are consistent with the dominant ideology in America; barriers to success are seen as personal rather than social. By attributing failure to personal inadequacy, the Brothers exonerate the opportunity structure. Indeed, it is amazing how often they affirm the openness of American society.

(all in separate interviews)
DEREK: If you put your mind to it, if you want to make a future for yourself, there's no reason why you can't. It's a question of attitude.
SUPER: It's easy to do anything, as long as you set your mind to it, if you wanna do it. If you really want to do it, if you really want to be something. If you don't want to do it . . . you ain't gonna make it. I gotta get that through my mind; I wanna do it. I wanna be somethin', I don't wanna be livin' in the projects the rest of my life.
MOKEY: It's not like if they're rich they get picked [for a job]; it's just mattered by the knowledge of their mind.
CRAIG: If you work hard, it'll pay off in the end.
MIKE: If you work hard, really put your mind to it, you can do it. You can make it.

This view of the opportunity structure as an essentially open one that rewards intelligence, effort, and ingenuity is shared by all the Brothers. Asked whether their chances of securing a remunerative job are as good as those of an upper-class boy from a wealthy district of the city, they all responded affirmatively. Not a single member of the Hallway Hangers, in contrast, affirms the openness of American society. . . .

Reproduction Theory Reconsidered

This basic finding—that two substantially different paths are followed within the general framework of social reproduction—is a major challenge to economically determinist theories. Two groups of boys from the same social stratum who live in the same housing project and attend the same school nevertheless experience the process of social reproduction in fundamentally different ways. This simple fact alone calls into question many of the theoretical formulations of Bowles and Gintis.[6] If, as they argue, social class is the overriding determinant in social reproduction, what accounts for the variance in the process between the Brothers and Hallway Hangers? Bowles and Gintis, in considering a single school, maintain that social reproduction takes place primarily through educational tracking. Differential socialization through educational tracking prepares working-class students for working-class jobs and middle-class students for middle-class jobs. But the Hallway Hangers and the Brothers, who are from the same social class background and exposed to the curricular structure of the school in the same manner, undergo the process of social reproduction in substantially different manners. The theory of Bowles and Gintis cannot explain this difference.

Bourdieu's notion of habitus, however, can be used to differentiate the Hallway Hangers and the Brothers.[7] The habitus, as defined by Giroux, is "the subjective dispositions which reflect a class-based social grammar of taste,

knowledge, and behavior inscribed in . . . each developing person."[8] According to Bourdieu, the habitus is primarily a function of social class. Bourdieu does not give an adequate sense of the internal structure of the habitus, [presented here]. There is some precedent in his work for incorporating other factors into constructions of the habitus; for example, he differentiates people not only by gender and class, but also by whether they come from Paris or not. Although Bourdieu sometimes gives the impression of a homogeneity of habitus within the boundaries of social class, I understand habitus to be constituted at the level of the family and thus can include, as constitutive of the habitus, factors such as ethnicity, educational histories, peer associations, and demographic characteristics (e.g., geographical mobility, duration of tenancy in public housing, sibling order, and family size) as these shape individual action. Although Bourdieu never really develops the notion along these lines, he does allude to the complexity and interplay of mediations within the habitus. "The habitus acquired in the family underlies the structuring of school experiences, and the habitus transformed by schooling, itself diversified, in turn underlies the structuring of all subsequent experiences (e.g. the reception and assimilation of the messages of the culture industry or work experiences), and so on, from restructuring to restructuring."[9] When understood along the lines I have indicated, the concept of habitus becomes flexible enough to accommodate the interactions among ethnicity, family, schooling, work experiences, and peer associations that have been documented [here].

Although we may accept the notion of habitus as a useful explanatory tool, we must reject the inevitability of its function in Bourdieu's theoretical scheme. According to Bourdieu, the habitus functions discretely to integrate individuals into a social world geared to the interests of the ruling classes; habitus engenders attitudes and conduct that are compatible with the reproduction of class inequality. The outstanding example of this process is the development by working-class individuals

of depressed aspirations that mirror their actual chances for social advancement.

The circular relationship Bourdieu posits between objective opportunities and subjective hopes is incompatible with the findings [presented here]. The Brothers, whose objective life chances probably were lower originally than those available to the Hallway Hangers because of racial barriers to success, nevertheless nurture higher aspirations than do the Hallway Hangers. By emphasizing structural determinants at the expense of mediating factors that influence subjective renderings of objective probabilities, Bourdieu presumes too mechanistic and simplistic a relationship between aspiration and opportunity. This component of his theory fails to fathom how a number of factors lie between and mediate the influence of social class on individuals; Bourdieu cannot explain, for instance, how ethnicity intervenes in the process of aspiration formation and social reproduction.

Thus, the theoretical formulations of Bowles and Gintis and the deterministic elements of Bourdieu's theory, although elegant and intuitively plausible, are incapable of accounting for the processes of social reproduction as they have been observed and documented in Clarendon Heights. These theories give an excellent account of the hidden structural and ideological determinants that constrain members of the working class and limit the options of Clarendon Heights teenagers. What the Hallway Hangers and the Brothers demonstrate quite clearly, however, is that the way in which individuals and groups respond to structures of domination is open-ended. Although there is no way to avoid class-based constraints, the outcomes are not predefined. Bowles and Gintis and Bourdieu pay too little attention to the active, creative role of individual and group praxis. As Giroux maintains, what is missing from such theories "is not only the issue of resistance, but also any attempt to delineate the complex ways in which working-class subjectivities are constituted."[10]

From Ethnography to Theory

Once we descend into the world of actual human lives, we must take our theoretical bearings, to make some sense of the social landscape, but in doing so we invariably find that the theories are incapable of accounting for much of what we see. The lives of the Hallway Hangers and the Brothers cannot be reduced to structural influences or causes; although structural forces weigh upon the individuals involved, it is necessary, in the words of Willis, "to give the social agents involved some meaningful scope for viewing, inhabiting, and constructing their own world in a way which is recognizably human and not theoretically reductive."[11] We must appreciate both the importance and the relative autonomy of the cultural level at which individuals, alone or in concert with others, wrest meaning out of the flux of their lives.

The possibilities open to these boys as lower-class teenagers are limited structurally from the outset. That they internalize the objective probabilities for social advancement to some degree is beyond question. The process by which this takes place, however, is influenced by a whole series of intermediate factors. Because gender is constant in the study discussed in these pages, race is the principal variable affecting the way in which these youths view their situation. Ethnicity introduces new structurally determined constraints on social mobility, but it also serves as a mediation through which the limitations of class are refracted and thus apprehended and understood differently by different racial groups. The Brothers comprehend and react to their situation in a manner entirely different from the response the Hallway Hangers make to a similar situation; ethnicity introduces a new dynamic that makes the Brothers more receptive to the achievement ideology. Their acceptance of this ideology affects their aspirations but also influences, in tandem with parental encouragement, their approach to school and the character of their peer group, factors that in turn bear upon their aspirations.

If we modify the habitus by changing the ethnicity variable and altering a few details of family, occupational and educational histories and duration of tenancy in public housing, we would have the Hallway Hangers. As white lower-class youths, the Hallway Hangers view and interpret their situation in a different light, one that induces them to reject the achievement ideology and to develop aspirations and expectations quite apart from those the ideology attempts to generate. The resultant perspective, which is eventually reinforced by the Hallway Hangers' contact with the job market, informs the boys' approach to school and helps us understand the distinctive attributes of this peer group. Thus, although there are intermediate factors at work that, as constitutive of the habitus, shape the subjective responses of the two groups of boys and produce quite different expectations and actions, the subculture itself, handed down from older to younger boys, is the product of the particular factors that structure the lives of white teenagers in Clarendon Heights.

In addition to the peer group, the curricular structure of the school solidifies the low aspirations of the Hallway Hangers by channeling them into programs that prepare students for manual labor jobs. Low aspirations, in turn, make the Hallway Hangers more likely to dismiss school as irrelevant. Once on the job market, the Hallway Hangers' inability to secure even mediocre jobs further dampens their occupational hopes. Thus although each individual ultimately retains autonomy in the subjective interpretation of his situation, the leveled aspirations of the Hallway Hangers are to a large degree a response to the limitations of social class as they are manifest in the Hallway Hangers' social world.

The Brothers' social class origins are only marginally different from those of the Hallway Hangers. Being black, the Brothers also must cope with racially rooted barriers to success that, affirmative action measures notwithstanding, structurally inhibit the probabilities for social advancement, although to a lesser degree than do shared class limitations. What appears to be a comparable objective situation to that of the Hallway Hangers, however, is apprehended in a very different manner by the Brothers.

Having grown up in an environment where success is not common, the Hallway Hangers see that the connection between effort and reward is not as clearcut as the achievement ideology would have them believe. Because it runs counter to the evidence in their lives and because it represents a forceful assault on their self-esteem, the Hallway Hangers repudiate the achievement ideology. Given that their parents are inclined to see the ideology in the same light, they do not counter their sons' rejection of the American Dream.

A number of important ramifications follow from the Hallway Hangers' denial of the dominant ideology: the establishment of a peer group that provides alternative means of generating self-esteem, the rejection of school and antagonism toward teachers, and, of course, the leveling of aspirations. In schematizing the role of the peer group, it is difficult not to appear tautological, for the group does wield a reciprocal influence on the boys. It attracts those who are apt to reject school and the achievement ideology and those with low aspirations and then deepens these individuals' initial proclivities and further shapes them to fit the group. But at the same time, the peer

As black teenagers, the Brothers interpret their families' occupational and educational records in a much different light than do the Hallway Hangers. Judging by the Brothers' constant affirmation of equality of opportunity, the boys believe that racial injustice has been curbed in the United States in the last twenty years. Whereas in their parents' time the link between effort and reward was very tenuous for blacks, the Brothers, in keeping with the achievement ideology, see the connection today as very strong: "If you work hard, it'll pay off in the end" (Craig). Hence, the achievement ideology is more compatible with the Brothers' attitudes than with those of the Hallway Hangers, for whom it cannot succeed

against overwhelming contrary evidence. The ideology is not as emotionally painful for the Brothers to accept because past racial discrimination can help account for their families' failures, whereas the Hallway Hangers, if the achievement ideology stands, are afforded no explanation of laziness and stupidity for their parents' failures. The optimism that acceptance of the achievement ideology brings for the Brothers is encouraged and reinforced by their parents. Thus, we see how in the modified habitus their ethnicity affects the Brothers' interpretation of their social circumstances and leads to acceptance of the achievement ideology; with all the concomitant results.

Postscript: The Hallway Hangers and Brothers Eight Years Later

"Hey, Jay, what the fuck brings you back to the Ponderosa?" Greeted by Steve in July 1991, I surveyed a Clarendon Heights that had changed considerably since 1983. Steve jerked his thumb over his shoulder at a group of African American teenagers lounging in the area outside doorway #13, previously the preserve of the Hallway Hangers. "How do you like all the new niggers we got here? Motherfuckers've taken over, man." I asked Steve about Frankie, Slick, and the other Hallway Hangers. "I'm the only one holding down the fort," he answered. "Me and Jinks—he lives in the back. The rest of 'em pretty much cut loose, man."

In their mid-twenties, the seven Hallway Hangers should be in the labor force full time. Most of them aren't: They are unemployed or imprisoned, or are working sporadically either for firms "under the table" or for themselves in the drug economy. . . . The Hallway Hangers have been trapped in what economists call the secondary labor market—the subordinate segment of the job structure where the market is severely skewed against workers. Jobs in the primary labor markets provide wages that can support families and an internal career structure, but the rules of

the game are different in the secondary labor market. Wages are lower, raises are infrequent, training is minimal, advancement is rare, and turnover is high.

When the legitimate job market fails them, the Hallway Hangers can turn to the underground economy. Since 1984 almost all of the Hallway Hangers have at least supplemented their income from earnings in the burgeoning, multibillion-dollar drug market. The street economy promises better money than does conventional employment. It also provides a work site that does not demean the Hallway Hangers or drain their dignity. As workers in the underground economy, they won't have to take orders from a boss's arrogant son, nor will they have to gossip with office colleagues and strain to camouflage their street identities. . . .

Although they have certainly fared better than the Hallway Hangers, the Brothers have themselves stumbled economically in the transition to adulthood. Even more so than the Hallway Hangers, the Brothers have been employed in the service sector of the economy. They have bagged groceries, stocked shelves, flipped hamburgers, delivered pizzas, repaired cars, serviced airplanes, cleaned buildings, moved furniture, driven tow trucks, pumped gas, delivered auto parts, and washed dishes. They have also worked as mail carriers, cooks, clerks, computer operators, bank tellers, busboys, models, office photocopiers, laborers, soldiers, baggage handlers, security guards, and customer service agents: Only Mike, as a postal service employee, holds a unionized position. Although their experiences on the labor market have been varied, many of the Brothers have failed to move out of the secondary labor market. Instead, like many of the Hallway Hangers, they have been stuck in low-wage, high-turnover jobs. . . .

These results are depressing. The experiences of the Hallway Hangers since 1984 show that opting out of the contest—neither playing the game nor accepting its rules—is not a viable option. Incarceration and other less explicit social penalties are applied by so-

ciety when the contest is taken on one's own terms. There is no escape: The Hallway Hangers must still generate income, build relationships, and establish households. Trapped inside the game, the Hallway Hangers now question their youthful resistance to schooling and social norms. Granted the opportunity to do it over again, the Hallway Hangers say they would have tried harder to succeed.

But the Brothers *have* always tried, which is why their experiences between 1984 and 1991 are as disheartening as the Hallway Hangers'. If the Hangers show that opting out of the contest is not a viable option, the Brothers show that dutifully playing by the rules hardly guarantees success either. Conservative and liberal commentators alike often contend that if the poor would only apply themselves, behave responsibly, and adopt bourgeois values, then they will propel themselves into the middle class. The Brothers followed the recipe quite closely, but the outcomes are disappointing. They illustrate how rigid and durable the class structure is. Aspiration, application, and intelligence often fail to cut through the firm figurations of structural inequality. Though not impenetrable, structural constraints on opportunity, embedded in both schools and job markets, turn out to be much more debilitating than the Brothers anticipated. Their

dreams of comfortable suburban bliss currently are dreams deferred, and are likely to end up as dreams denied.

Notes

1. All names of neighborhoods and individuals have been changed to protect the anonymity of the study's subjects.
2. Erik H. Erikson, *Gandhi's Truth* (New York: Norton, 1969), p. 154.
3. Ronald Reagan, "State of the Union Address to Congress," *New York Times*, 6 February 1985, p. 17.
4. Kenneth I. Spenner and David L. Featherman, "Achievement Ambitions," *Annual Review of Sociology* 4 (1978):376-378.
5. Howard B. London, *The Culture of a Community College* (New York: Praeger, 1978).
6. Samuel Bowles and Herbert Gintis, *Schooling in Capitalist America* (New York: Basic Books, 1976).
7. See Pierre Bourdieu, *Outline of a Theory of Practice* (Cambridge: Cambridge University Press, 1977).
8. Henry A. Giroux, *Theory & Resistance in Education* (London: Heinemann Educational Books, 1983), p. 89.
9. Bourdieu, *Outline of a Theory of Practice*, p. 87.
10. Giroux, *Theory & Resistance*, p. 85.
11. Paul E. Willis, *Learning to Labor* (Aldershot: Gower, 1977), p. 172.

▶ THE "NEW STRUCTURALISM"

MICHAEL J. PIORE

The Dual Labor Market: Theory and Implications

The central tenet of [my] analysis is that the role of employment and of the disposition of manpower in perpetuating poverty can be best understood in terms of a dual labor market. One sector of that market, which I have termed elsewhere the primary market,[1] offers jobs which possess several of the following traits: high wages, good working conditions, employment stability and job security, equity and due process in the administration of work rules, and chances for advancement. The secondary sector has jobs that are decidedly less attractive, compared with those in the primary sector. They tend to involve low wages, poor working conditions, considerable variability in employment, harsh and often arbitrary discipline, and little opportunity to advance. The poor are confined to the secondary labor market. Eliminating poverty requires that they gain access to primary employment.

The factors that generate the dual market structure and confine the poor to the secondary sector are complex. With some injustice to that complexity, they may be summarized: First, the most important characteristic distinguishing primary from secondary jobs

appears to be the behavioral requirements they impose upon the work force, particularly that of employment stability. Insofar as secondary workers are barred from primary jobs by a real qualification, it is generally their inability to show up for work regularly and on time. Secondary employers are far more tolerant of lateness and absenteeism, and many of these do not matter. Work skills, which require considerable emphasis in most discussions of poverty and employment, do not appear a major barrier to primary employment (although, because regularity and punctuality are important to successful learning in school and on the job, such behavioral traits tend to be highly correlated with skills).

Second, certain workers who possess the behavioral traits required to operate efficiently in primary jobs are trapped in the secondary market because their superficial characteristics resemble those of secondary workers. This identification occurs because employment decisions are generally made on the basis of a few readily (and hence inexpensively) assessed traits like race, demeanor, accent, educational attainment, test scores, and the like. Such traits tend to be statistically correlated with job performance but not necessarily (and probably not usually) causally related to it. Hence, a number of candidates who are rejected because they possess the

"wrong" traits are actually qualified for the job. Exclusion on this basis may be termed *statistical discrimination*. In addition to statistical discrimination, workers are also excluded from primary employment by *discrimination pure and simple*.

Discrimination of any kind enlarges the labor force that is captive in the secondary sector, and thus lowers the wages that secondary employers must pay to fill their jobs. Such employers thus have an economic stake in perpetuating discrimination. Since it limits the supply of labor in the primary sector and raises the wages of workers who have access to jobs there, primary workers also have a stake in discrimination. Discrimination pure and simple is not generally of economic value to primary employers, since it forces them to pay higher wages without obtaining corresponding economic gains. In statistical discrimination, however, the higher wages are compensated by the reduced cost of screening job candidates, and here primary employers share the interest of secondary employers and primary workers in perpetuating such discrimination.

Third, the distinction between primary and secondary jobs is not, apparently, technologically determinate. A portion—perhaps a substantial proportion—of the work in the economy can be organized for either stable or unstable workers. Work normally performed in the primary sector is sometimes shifted to the secondary sector through subcontracting, temporary help services, recycling of new employees through probationary periods, and the like. Nor is the primary-secondary distinction necessarily associated with a given enterprise. Some enterprises, most of whose jobs constitute primary employment and are filled with stable, committed workers, have subsections or departments with inferior job opportunities accommodated to an unstable work force. Secondary employers generally have a few primary jobs, and some have a large number of them. Nonetheless, despite a certain degree of elasticity in the distribution of work between the primary and secondary sections,

shifts in the distribution generally involve changes in the techniques of production and management and in the institutional structure and procedures of the enterprises in which the work is performed. The investment necessary to effect these changes acts to strengthen resistance to antipoverty efforts.

Fourth, the behavioral traits associated with the secondary sector are reinforced by the process of working in secondary jobs and living among others whose life-style is accommodated to that type of employment. Hence, even people initially forced into the secondary sector by discrimination tend, over a period of time, to develop the traits predominant among secondary workers. Thus, a man who works in a world where employment is intermittent and erratic tends to lose habits of regularity and punctuality. Similarly, when reward and punishment in the work place are continually based upon personal relationships between worker and supervisor, workers forget how to operate within the impersonal, institutional grievance procedures of the primary sector. When such workers do gain access to primary jobs, they are frustrated by the system's failure to respond on a personal basis and by their own inability to make it respond on an institutional basis.

Finally, among the poor, income sources other than employment, especially public assistance and illicit activity, tend to be more compatible with secondary than with primary employment. The public assistance system discourages full-time work and forces those on welfare either into jobs that are part-time or into jobs that pay cash income which will not be reported to the social worker or can be quickly dropped or delayed when the social worker discovers them or seems in danger of doing so. The relationship between social worker and client builds upon the personal relationship that operates in the secondary sector, not on the institutional mechanisms that tend to operate in the primary sector. Illegitimate activity also tends to follow the intermittent work pattern prevalent in secondary employment, and the at-

tractions of such activity, as well as life patterns and role models it presents to those not themselves involved but associating with people who are, foster behavioral traits antagonistic to primary employment.

The dual market interpretation of poverty has some central implications; the manner of participation in the economy; the poor do participate in the economy, not the question of participation as such, constitutes the manpower problem of the poor; and their current mode of participation is ultimately a response to a series of pressures—economic, social, and technical—playing upon individuals and labor market institutions. This suggests that a distinction can be drawn between policies that are designed to alleviate the pressures which generate the dual market structure and those that attempt to attack the problem directly by moving individuals from secondary to primary employment. The latter policies combat prevailing pressures but leave intact the forces that generate them. The thrust of [my] argument is that in concentrating upon training, counseling, and placement services for the poor, manpower policy has overemphasized direct approaches, and that more weight should be placed upon policies which affect the environment in which employment decisions are made and the pressures which the environment generates. Among such policies are antidiscrimination policy, occupational licensing reform, and the structure of public assistance.

Analysis of the dual labor market suggests a further implication: because the "poor" do participate in the economy, certain groups are interested in that participation and how it occurs. Policies aimed at moving the poor out of the secondary market work against the interests of these groups and therefore are in danger of being subverted by them. This danger is a major reason for concentrating on indirect approaches that are not susceptible to the same kind of subversion; in fact, because such approaches alleviate the pressures generating the dual market structure, they reduce the resistance to policies that move directly

against that structure. The dangers to which existing institutions subject programs designed to move the poor directly out of the secondary market are twofold. The new institutions created by these programs can be recaptured by the prevailing economic system and used by the prevailing economic system; for example, neighborhood employment offices may recruit secondary workers for secondary jobs, and training may be provided in primary employment to workers who would have gotten it anyway in establishments that would have financed it themselves. The central problem in the design of direct approaches to manpower programs is to organize them in such a way that they can resist this two-fold threat of rejection on the one hand and capture on the other.

These conclusions follow directly from the dual market interpretation of the poverty problem but they are not uniquely dependent upon it. The dual labor market is one of a class of theoretical constructs which views poverty in the United States in terms of a dichotomy in the economic and social structures. Such a dichotomy is implicit in the concept of a "culture of poverty" and in the expression of public policy goals associated with poverty in terms of an income cutoff. Most such views of poverty entertain the idea that the dichotomy is a product of forces endogenous to the economy (or, more broadly, the society as a whole). It follows that attempts to eliminate poverty will tend to run counter to the natural operation of the economy, and that they will be resisted by existing institutions and are in danger of rejection. To say all this is perhaps to say simply that if poverty were easy to eliminate, it wouldn't be around in the first place. But it does at least identify as a certain problem in the program design the task of equipping the institution

which works with the poor to withstand the rejection pressures.

What the dual labor market interpretation implies is not implicit in other dichotomous interpretations is that the poor are separated from the nonpoor not only in the negative sense of exclusion from activities and institutions to which the nonpoor have access, but also in the positive sense that they have economic value where they are; that, in other words, *there are groups actively interested in the perpetuation of poverty*. It is this interest that makes new institutions created to work with the poor in the labor market subject to threats of capture as well as of rejection.

Notes

1. See Michael J. Piore, "On-The-Job Training in the Dual Labor Market," in Arnold Weber, et al., *Public-Private Manpower Policies* (Madison, Wisc.: Industrial Relations Research Association, 1969), pp. 101-132.

An Outline of a Theory of the Matching of Persons to Jobs

AAGE B. SØRENSEN AND ARNE L. KALLEBERG

Much recent research in sociology has focused on labor market processes. These concerns include analysis of the processes that produce variation in individual earnings by characteristics of people and their jobs; the analysis of career patterns and job mobility processes; and the analysis of employment and unemployment patterns of various population groups. Sociologists share many of these concerns with economists, and there is much overlap in research topics among sociologists and economists.

Despite similarities in methodology and research design, the research traditions in sociology and economics have quite different intellectual backgrounds. Most empirical research on labor market processes in economics is guided by the dominant school of labor economics—the neoclassical theory of wage determination and labor supply, with marginal productivity theory accounting for the demand side and human capital theory taking care of the supply side. In contrast, sociological research on labor market phenomena has its origin in research describing socioeconomic attainment and social mobility processes for various population groups. Sociological research on attainment and mobility has not employed an explicitly stated conceptual apparatus that informs the choice of variables and the interpretation of parameters. Although there is a growing body of findings about the magnitude of the influences of various variables on the outcomes of labor market processes, particularly income attainment, there are few efforts by sociologists to identify the mechanisms that create the influences on income and earnings or on the other labor market outcomes.

There is no need for sociologists to develop a unique theory of labor market processes if the neoclassical economic theory adequately accounts for the findings of empirical research. With respect to a favorite variable of both economists and sociologists—that is, education—human capital theory does provide an interpretation of results. However, the economic theory does not provide a rationale for the sociological concern for occupational attainment. Job characteristics, including those presumably captured by the Socioeconomic Index (SEI) or prestige scores of occupations, play little or no role in the orthodox economic theory. Still, occupational status accounts for a substantial fraction of the explained variance in sociological income attainment models.

The amount of variance added to income attainment models by occupation is not necessarily a strong argument for replacing or supplementing the economic theory. Sociologists have not been able to account for very much variance in income attainment. Research informed by human capital theory (e.g., Mincer, 1974) has in fact been able to do as well or better without including occupation. A measure of occupational status must necessarily show some relation to income, reflecting the between-occupation variance in income that it captures. An observed effect of job characteristics on income or earnings may be attributed to a misspecification of sociological models, both with respect to functional form and omitted variables, and need not be considered a challenge to the economic theory.

There are, however, other reasons for critically evaluating the neoclassical or orthodox economic theory. The economic theory is powerful, and numerous predictions can be derived from it regarding the earnings attainment process and other labor market processes, particularly labor supply. (A list of such predictions is presented by Becker, 1964.) Some of these predictions are borne out by empirical observations; some are not. Thurow (1975, pp. 56-70) presents a list of deviations from the theory's pertaining to such issues as the relationship between wages and

unemployment, changes in the distribution of earnings, and the relationship between the distribution of education and the distribution of income. Numerous others have identified features of the earnings attainment process and of labor markets that deviate from the assumptions and predictions of the neoclassical theory. A review of these challenges to orthodox theory has been presented by Cain (1976). Particularly important are those critiques that argue that labor markets are segmented and that stress the differences between either so-called primary and secondary jobs (cf. Doeringer & Piore, 1971); or monopoly, competitive, and state economic sectors (cf. Averitt, 1968; Bluestone, 1970; O'Connor, 1973); or wage competition and job competition sectors (Thurow, 1975); or internal and external markets (Doeringer & Piore, 1971; Kerr, 1954). These critiques, all contrary to the assumption about the homogeneous nature of labor markets made by the economic theory. They stress qualitative differences among jobs relevant for employment and earnings processes and claim to be able to account for the observations that deviate from the orthodox economic theory, as well as to provide different explanations for labor market processes that also can be explained by the orthodox theory. An example of such an alternative explanation is Thurow's (1975) interpretation of the relationship between education and earnings.

Most of the criticism comes from within economics, though there are examples of research and conceptual elaboration by sociologists pertaining to the issues raised by the segmented labor market theory (Sørensen, 1977; Spilerman, 1977; Stolzenberg, 1975). The issues are clearly relevant for sociological research, and more so since the segmented neoclassical theory provide a rationale for introducing job characteristics sociologists are likely to continue to emphasize.

The classical sociological theorists did not leave labor market analysis to economists. Marx and Weber spent lifetimes analyzing the

relation between economy and society, and their concerns in many ways parallel the issues raised in recent controversies. Marx's analysis of capitalist society is an analysis of the implications of the fundamental condition of capitalist production: Labor is treated as a commodity bought and sold freely in a market. This conception of the labor market, we shall argue in the following pages, parallels the conception of the orthodox economic theory.

Marx treated labor in capitalist society as a homogeneous abstract category, and though there are occasional remarks concerning deviations from this model of labor as a commodity and their relevance for class conflict (e.g., Marx, 1961, Vol. 1, chap. 14), no systematic analysis of alternative labor market structures is presented. Weber's long analysis of the sociological categories of economic action (Weber, 1947, Pt. 1, chap. 2) provides, in contrast, numerous concepts relevant for the analysis of labor market structures (including nonmarket relationships), particularly in the sections on the social division of labor. The concepts are highly relevant for the issues raised by the challenges to orthodox economic theory, and some of Weber's basic concepts will be used extensively in this chapter.

The following pages provide a conceptual framework for the analysis of labor markets. Labor markets are arenas for the matching of persons to jobs. The conditions that determine the earnings outcome of this matching process are of primary interest here, particularly the identification of what determines the influence of job and personal characteristics on earnings. The purpose of this chapter is not to show the neoclassical theory to be wrong, but rather to identify the conditions for the emergence of the matching process associated with the labor market structure assumed in the orthodox economic theory. It will be argued that the conditions for the emergence of this matching process are not present in some segments of the labor market. The absence of these conditions leads to alternative matching processes, and a model of one important alternative matching process will be presented. The two contrasting match-

ing processes will be shown to have very different implications for the earnings determination process and for other labor market processes.

Basic Concepts

The theory proposed in this chapter will rely on Weber's notion of open and closed social relationships (Weber, 1947, p. 139) to identify different job structures characterized by different matching processes.[1] The degree of closure, in turn, is seen as determined by the bargaining power of employers and employees. We shall, therefore, refer to the employment relationship as the crucial determinant of the matching process and its earnings outcome.

Employment relationships are social relationships created in the production of goods and services between an employer (or his agent) and an employee. We concentrate on employment relationships typical of capitalist production in which the employer appropriates the output from the production process and has complete possession over the nonhuman means of production. Our analysis will focus on the consequences for the earnings determination process and other labor market processes of variation in control over the job by the employer versus the employee. Two aspects of control over the job may be distinguished. One is control over the activities of the job, resulting in more or less autonomy for the employee; the other is control over access to the job, resulting in a more or less closed employment relationship. These two dimensions may vary independently. Particularly, control over access to the job will be considered crucial, because it influences the nature of competition among employees.

The degree of control over access is a continuum. At one extreme, the employee "owns" the job and no one else can get access unless the current incumbent voluntarily leaves it and a vacancy is established. The length of the employment is then completely

controlled by the employee, and the employment relationship is closed to outsiders. At the other extreme, the employer may replace the incumbent at any time. The employment contract is reestablished in every short interval of time, and the employment relationship is completely open to outsiders.

The employment relationship is established in a process assumed to involve purposive action as employers and employees where both parties are attempting to maximize earnings. The earnings of the employer are determined by the value of the product of the job-person combination in relation to costs of production. The value of production is a question of quantity produced, prices of products and quantity produced. Quantity produced in turn reflects the performance of the employee and the technology used, including the technical division of labor adopted. For purposes of this analysis, the main variable of interest is the performance of the employee and the main costs of production of interest are the wages paid to the employee and the costs of supervision.

The performance of employees or the quantity of labor supplied will be taken as determined by such attributes of the employees as their skills, abilities, and effort. The employer's return from production evidently depends on his or her ability to obtain the highest output at the lowest costs. While numerous factors may influence the overall level of wages, the employer's ability to minimize costs of production depends not only on the overall level of wages paid but also on the ability to tie variations in wages paid to variations in the employee's productivity. The main argument of this chapter is that the mechanisms the employer can use to relate wages to performance depend on the employment relationship, particularly the employee's control over access to the job, and that these different mechanisms identify important differences in labor market structures relevant also for labor market processes other than earnings.

The orthodox economic theory identifies a particular set of mechanisms for relating the productivity of employees to their earnings. We shall first consider these mechanisms and

the employment relationships needed for these mechanisms to be effective.

The Neoclassical Theory of Earnings Determination

In the economic theory, a wage rate is generated by a labor market as a result of the demand and supply schedules of labor. Demand for labor varies with the derived demand for products, as reflected in their value. The link between wages and the value of products is established through the concept of marginal productivity, since profit-maximizing firms will be in equilibrium when the value of the marginal product equals the marginal cost or price of labor as a factor of production. This should produce different wage rates for identical labor supply because of differences in demand. However, the neoclassical theory emphasizes supply differences as a source of differences in wage rates and earnings, in particular those supply differences resulting from different skills and other individual characteristics related to an employee's productive capacity.

Differences in skills, according to human capital theory, determine different levels of productive capacity resulting in different wage rates. If skills were acquired at no cost, those wage differentials would soon be competed away, since the overall level of wages would be equalizing skill acquisition. But skills are acquired at costs. These costs are partly direct in the form of tuition and living expenses and partly opportunity costs in the form of earnings forgone. No one should undertake training if the returns from this training, in the form of increased earnings accumulated over the working life, are not at least equal to the costs of training.

If only skills acquired through training are relevant, earnings differentials would be exactly off-setting the differences in training costs. However, it is usually recognized that earnings differentials also capture variations in ability, where ability is used to refer to such characteristics as IQ, motivation, and creativity. Ability may be incorporated in the theory

by recognizing that persons with different abilities have different investment costs and hence need different earnings to induce the undertaking of training. In addition, some aptitudes may be innate and scarce; these will command a rent because of their fixed supply. Finally, some variation in earnings can be attributed to different opportunities for financing training, particularly as a result of the unequal distribution of parental wealth in combination with the unwillingness of lenders to take collateral in human capital.

The basic proposition derived from the neoclassical theory is then that differences in earnings reflect differences in the productive capacity of persons as a result of their training, abilities, and training opportunities. There may be transient variations in earnings as a result of differences in derived demand in combination with market imperfections, but the basic source of inequality in earnings is unequal endowments in productive capacities among persons. In other words, identical persons are assumed to obtain almost identical earnings, regardless of the characteristics of the jobs they are in.

This theory can be used to account for a number of features of observed earnings attainment processes. Most importantly, it provides an explanation for the relation between education and earnings that interprets education as a source of marketable skills. Also, the theory predicts growth patterns for earnings, where earnings increase rapidly in the younger years and then gradually reach a stable level, with growth after entry into the labor market explained by investment in on-the-job training. Empirically, the theory fares well in accounting for variations in earnings among persons, using schooling and time in the labor force (as a proxy for on-the-job training and experience) as the main independent variables (Mincer, 1974).

The economic theory also emphasizes supply in accounting for other market processes. Most importantly, unemployment is seen as mostly voluntary, except in certain population groups (youngsters, blacks) where minimum

wage laws make it impossible for employers to pay the market wage.

The focus in human capital theory on the supply side—that is, on characteristics of persons—reflects the job structure assumed in the theory—that is, one of a competitive and perfectly functioning labor market. To distinguish the neoclassical theory of the earnings determination process from the alternative model of the matching process that will be formulated later in the chapter, we will refer to the neoclassical theory as the *wage competition* model (following Thurow, 1975) to emphasize the focus on competition among employees for wages. . . .

A competitive labor market that determines wage rates is one where employers make wage offers and workers bid for employment on the basis of their productivity. The match is made when the value of the marginal product demanded equals the wage rate of the employee. This presupposes that employees paid more than their value can be replaced by others who are willing to work at the wage rate that equals marginal productivity, whereas employees who are paid less than their value can get access to jobs where the wage rate reflects their productivity. Only when the employment relationship is completely open will such a clearing of the market through wage rates be possible. Closed employment relationships, where new recruits can only get access if the incumbent leaves, insulate incumbents from competition. Employers cannot resolve discrepancies between productivity and wage rates by threatening to replace or actually replacing the current employee by someone who is more productive at the same wage rate or who is willing to work at a lower wage rate.

It could be argued that the existence of closed employment relationships does not prevent the employer from relating wages to performance, even in the absence of the ability to replace an employee. Most importantly, the employer can use promotion schemes to reward performance and in this way obtain efficient production. This is correct. Our ar-

gument is not that closed employment relationships necessarily prevent efficient production, but that promotion systems represent very different mechanisms for relating wages to performance than the use of competition among employees in open employment relationships where employers make wage offers and employees bid for employment on the basis of their productivity. Promotions can take place only when there is a vacancy in a higher level job and are meaningless as rewards for performance unless jobs at different levels provide different wages, so that wages become attributes of jobs rather than of people. Although a firm with closed employment relationships may operate efficiently because of the overall match between job assignments and performance of employees, the wages for individual employees will reflect the jobs they hold and therefore, not only their performance, but also the rate at which vacancies appear, the organization of jobs, and the seniority of employees. A very different labor market structure exists from the one assumed in the neoclassical theory when wages are tied to jobs and not to individual variations in performance. . . .

Vacancy Competition

When employees have control over access to the job, others can only get access to the job when incumbents leave. Hence, a vacancy must exist for a person to get access to a job. We will refer to the resulting matching process as *vacancy competition*. We do not wish to argue that this is the only alternative matching process to the wage competition model described by neoclassical economics. At least one other alternative employment relationship can be identified: This is the often met arrangement when employees are directly involved in the disposition of goods to the market, and the "salesperson" is paid some fraction of total earnings. But such relationships presuppose that jobs are not highly interdependent and that the salesperson is pri-

marily involved in the disposition, rather than in the production, of goods.[2] Vacancy competition in contrast is likely to emerge in closed employment relationships where jobs are interdependent in a technical and social division of labor around production.

In vacancy competition, as in wage competition, employers are assumed to be concerned about hiring the most productive employee at the least cost. But because of the indeterminate length of the employment relationship and the lack of competition among employees over wages, it will not be possible for the employer to link marginal productivity to the wage rate. This has important consequences for (a) the determination of who should be hired; (b) the organization of jobs in job ladders; and (c) the determination of earnings. These consequences all follow from the employer's attempt to secure the highest possible return from production when faced with employee control over the job.

In wage competition, the employer can rely on the wage rate as a measure of a person's productive capacity. The employer need only be concerned that the value of marginal productivity equals the wage rate and can be indifferent to the relationship between personal characteristics of employees and their performances. In contrast, in vacancy competition, the employer should be very much concerned about the relationship between personal characteristics and productive capacity, because once hired the employee cannot be easily dismissed. Furthermore, it is a person's potential performance that will be of concern, including the person's ability to fulfill the training requirements of jobs. Previous experience, education, and such ascriptive characteristics as race and sex will be used as indicators of potential performance; the main requirements are that the indicators chosen show some relationship to performance. Based on the information provided by these indicators, the employer will hire the most promising candidate among those available for a job. In other words, access to a vacancy will be determined

by a ranking of job candidates. As proposed by Thurow (1975), the situation may be conceived of as one where a queue of job candidates is established for vacant jobs. A person's position in the labor queue will be determined, not by his or her absolute level of productive capacity, but by the rank order in relation to other job candidates according to characteristics deemed relevant by employers.

As there is a queue of persons for jobs, there will be a rank order or a queue of vacant jobs, where the rank order is established by the earnings provided by vacant jobs, the career trajectories they imply, and such other characteristics as status, pleasantness, and convenience. The matching process, then, is a matching of the queue of persons to the queue of vacant jobs. The highest placed person in the labor queue will get the best job in the job queue. Changes in the supply of persons with certain characteristics (say a change in the distribution of education) and changes in the availability of jobs at different levels of rewards, will change the rank orderings. As a result, whenever there is a change in the labor and job queues, persons with similar characteristics will tend to be hired into different jobs and persons in similar jobs may have different personal characteristics. The organization of jobs into career trajectories (discussed later) will further reinforce these tendencies.

Wage rates in vacancy competition are characteristics of jobs, not of persons. Because employers have no effective way of enforcing a translation of productivity variations into wage rates other than by promotions, wages will tend to become heavily influenced by such institutional forces as collective bargaining and employee desire to preserve traditional relative wage differentials. Internally, wage differentials will reflect the organization of jobs into job ladders.

The creation of job ladders in internal labor markets is, as already mentioned, a way for the employer to create an incentive structure in the absence of open employment relationships. The organization of jobs into promotion schedules further acts as a screening device, inducing low-performance employees to leave on their own decision by denying or delaying promotion in relation to other employees. To be effective, jobs at the same level in the promotion schedule should provide identical earnings, whereas jobs at different levels should provide a differential large enough to induce employees to compete for promotion opportunities. This further reinforces the tendency in vacancy competition for earnings to become a characteristic of jobs so that similar jobs provide similar earnings regardless of characteristics of the incumbents.

Actual promotion opportunities are created when persons leave the firm or a new job is added, setting in motion chains of vacancies (White, 1970). The number of job levels, the distribution of jobs at various levels, the seniority distribution of employees, and the demand for products influencing the creation of new jobs (or the elimination of jobs), all interact to produce promotion schedules governing the careers of employees. These tions result in career lives that are similar to those predicted by human capital theory, even though the mechanisms are quite different (Sorensen, 1977).

In wage competition, employees can change their earnings only by changing their performance. In vacancy competition, changes in earnings are generated by moves in mobility regimes that are chains of vacancies in internal labor markets. There is, in vacancy competition, no automatic correspondence between the creation of promotion opportunities and whatever changes take place in a person's productive capacity. Employees may be promoted without a preceding change in productivity, and a change in productive capacity need not result in a promotion. This means that the cross-sectional association between personal characteristics and earnings will be attenuated, even though personal characteristics are crucial for access to jobs. (A formal derivation of this conclusion and an empirical illustration is presented by Wise, 1975.)

In vacancy competition, variations in earnings reflect variations in job characteristics and the organization of jobs in internal labor

markets. This is in contrast to the situation in the neoclassical model of wage competition, where the neoclassical model of wage competition, the primary source of variation is the variation in personal characteristics that determine a person's productive capacity.

Vacancy competition structures are likely to be similar to the job structures identified as primary jobs (e.g., Doeringer & Piore, 1971). However, the dualist literature has a very descriptive character, and there is also some confusion as to whether the labor market segmentation is a segmentation of jobs or of persons (blacks, poor, and women in the secondary sector, white skilled workers in the primary sector). The main conclusion derived from this literature is that there are good jobs and bad jobs.

Constraints on Growth in Earnings

The two polar models of the matching process suggest different constraints on a person's ability to increase his or her earnings. In wage competition, earnings directly reflect performance and hence the skills and abilities of a person. Increases in earnings then are obtained by increasing the skill level of a person, and the major constraint on growth in earnings will be limitations on acquiring additional human capital. In wage competition markets, the amount of training that can be provided in jobs will be low, since on-the-job training is a major cause of the emergence of vacancy competition (Thurow, 1975). Hence, the major source of income inequality among persons lies outside the labor market—that is, in the educational and other training institutions that produce skill differentiation.

In vacancy competition sectors, the major constraint on the attainment of income is access to jobs. If no job is available, a person will not be able to obtain earnings. Growth in earnings is produced by the utilization of opportunities for mobility to better jobs, and this opportunity structure, not changes in skills, governs the earnings variations over time. The major source of variation in earnings is then the restriction of access to jobs

and the level of derived demand that determines the availability of jobs.

The different constraints on growth in earnings, in wage competition and vacancy competition jobs imply that quite different policies will have to be used in an attempt to increase pretransfer earnings of poverty groups. In wage competition sectors, policies aimed at increasing skill levels either through schooling or—for those already having entered the labor market—through various off-the-job training programs would presumably be effective. In vacancy competition sectors such policies would be quite ineffective since such policies would not make jobs available.

The rather limited success of worker training programs suggests that job vacancy competition indeed is predominant in the U.S. economy. More correctly, the fate of such programs suggests that it is indeed difficult to prepare low-skilled workers for jobs that demand high skill levels, since such jobs tend to be vacancy competition jobs.

Notes

1. The definitions are given in paragraph 10 in the section on "Basic Concepts" in *Economy and Society*, Volume 1. "A social relationship . . . will be known as 'open' to those on the outside, if . . . participation . . . is . . . not denied to anyone who is inclined to participate and is actually in a position to do so. The relationship will be known as 'closed' [if] participation of certain persons is excluded, limited or subject to conditions [Weber, 1947, p. 139]." Weber argues that market relationships are open and gives as an example of a closed relationship the "establishment of rights to and possession of particular jobs on the part of the worker [Weber, 1947, p. 141]." This identification of open relationships with market relationships (for the exchange of labor for wages) and of closed relationships with control over the job by the worker (and the absence of market relationships) will be relied on heavily in this chapter

2. A similar arrangement accounts for the apparent contradiction of the argument presented here exemplified by the existence of wage competition among faculty at elite universities despite tenure. Here the individual scholar, and not the employer (i.e., the university), disposes himself of the products (articles and other contributions) to a competitive market and obtains himself the returns from this activity (i.e., prestige in the profession).

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▶ SOCIAL CAPITAL, NETWORKS, AND ATTAINMENT

MARK S. GRANOVETTER

The Strength of Weak Ties

Most intuitive notions of the "strength" of an interpersonal tie should be satisfied by the following definition: the strength of a tie is a (probably linear) combination of the amount of time, the emotional intensity, the intimacy (mutual confiding), and the reciprocal services which characterize the tie. Each of these is somewhat independent of the other, though the set is obviously highly intracorrelated. Discussion of operational measures of and weights attaching to each of the four elements is postponed to future empirical studies. It is sufficient for the present purpose if most of us can agree, on a rough intuitive basis, whether a given tie is strong, weak, or absent.

Consider, now, any two arbitrarily selected individuals—call them A and B—and the set, $S = C, D, E, \ldots$, of all persons with ties to either or both of them. The hypothesis which enables us to relate dyadic ties to larger structures is: the stronger the tie between A and B, the larger the proportion of individuals in S to whom they will both be tied, that is, connected by a weak or strong tie. This overlap in their friendship circles is predicted to be least when their tie is absent, most when it is strong, and intermediate when it is weak.

The proposed relationship results, first, from the tendency (by definition) of stronger ties to involve larger time commitments. If A–B and A–C ties exist, then the amount of time C spends with B depends (in part) on the amount of time A spends with B and C, respectively. (If the events "A is with B" and "A is with C" were independent, then the event "C is with A and B" would have probability equal to the product of their probabilities. For example, if A and B are together 60% of the time, and A and C 40%, then C, A, and B would be together 24% of the time. Such independence would be less likely after than before B and C became acquainted.) If C and B have no relationship, common strong ties to A will probably bring them into interaction and generate one. Implicit here is Homans's idea that "the more frequently persons interact with one another, the stronger their sentiments of friendship for one another are apt to be" (1950, p. 133).

The hypothesis is made plausible also by empirical evidence that the stronger the tie connecting two individuals, the more similar they are, in various ways (Berscheid and Walster 1969, pp. 69–91; Bramel 1969, pp. 9–16; Newcomb 1961, chap. 5; Precker 1952). Thus, if strong ties connect A to B and A to C, both C and B, being similar to A, are probably similar to one another, increasing the likelihood of a friendship once they have met. Applied in reverse, these two factors—time and similarity—indicate why weaker A–B and A–C ties make a C–B tie less likely than strong

ones; C and B are less likely to be compatible if they do....

To derive implications for large networks of relations, it is necessary to frame the basic hypothesis more precisely. This can be done by investigating the possible triads consisting of strong, weak, or absent ties among A, B, and any arbitrarily chosen friend of either or both (i.e., some member of the set S, described above). A thorough mathematical model would do this in some detail, suggesting probabilities for various types. This analysis becomes rather involved, however, and it is sufficient for my purpose in this paper to say that the triad which is most unlikely to occur, under the hypothesis stated above, is that in which A and B are strongly linked, A has a strong tie to some friend C, but the tie between C and B is absent. This triad is shown in figure 1. To see the consequences of this assertion, I will exaggerate it in what follows by supposing that the triad shown never occurs—that is, that the B-C tie is always present (whether weak or strong), given the other two strong ties. Whatever results are inferred from this supposition should tend to occur in the degree that the triad in question tends to be absent.

Some evidence exists for this absence. Analyzing 651 sociograms, Davis (1970, p. 845) found that in 90% of them triads consisting of two mutual choices and one nonchoice occurred less than the expected random number of times. If we assume that mutual choice indicates a strong tie, this is strong evidence in the direction of my argument. Newcomb (1961, pp. 160–65) reports that in triads consisting of dyads expressing mutual "high attraction," the configuration of three strong ties became increasingly frequent as people knew one another longer and better; the frequency of the triad pictured in figure 1 is not analyzed, but it is implied that processes of cognitive balance tended to eliminate it.

The significance of this triad's absence can be shown by using the concept of a "bridge"; this is a line in a network which provides the only path between two points (Harary, Norman, and Cartwright 1965, p. 198). Since, in

FIGURE 1
Forbidden triad
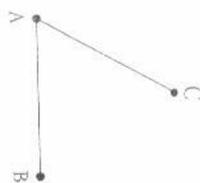
general, each person has a great many contacts, a bridge between A and B provides the only route along which information or influence can flow from any contact of A to any contact of B, and, consequently, from anyone connected indirectly to A to anyone connected indirectly to B. Thus, in the study of diffusion, we can expect bridges to assume an important role.

Now, if the stipulated triad is absent, it follows that, except under unlikely conditions, *no strong tie is a bridge.* Consider the strong tie A-B: if A has another strong tie to C, then forbidding the triad of figure 1 implies that a tie exists between C and B, so that the path A-C-B exists between A and B; hence, A-B is not a bridge. A strong tie can be a bridge, therefore, only if neither party to it has any *other* strong ties, unlikely in a social network of any size (though possible in a small group). Weak ties suffer no such restriction, though they are certainly not automatically bridges. What is important, rather, is that all bridges are weak ties.

In large networks it probably happens only rarely, in practice, that a specific tie provides the *only* path between two points. The bridging function may nevertheless be served locally. In figure 2a, for example, the tie A-B is not strictly a bridge, since one can construct the path A-E-I-B (and others). Yet, A-B is the shortest route to B for F, D, and C. This function is clearer in figure 2b. Here, A-B is, for C, D, and others, not only a local bridge to B, but, in most real instances of diffusion, a

FIGURE 2
Local bridges. (a) Degree 3: (b) Degree 13. Straight line = strong tie; dotted line = weak tie.

(a)

(b)
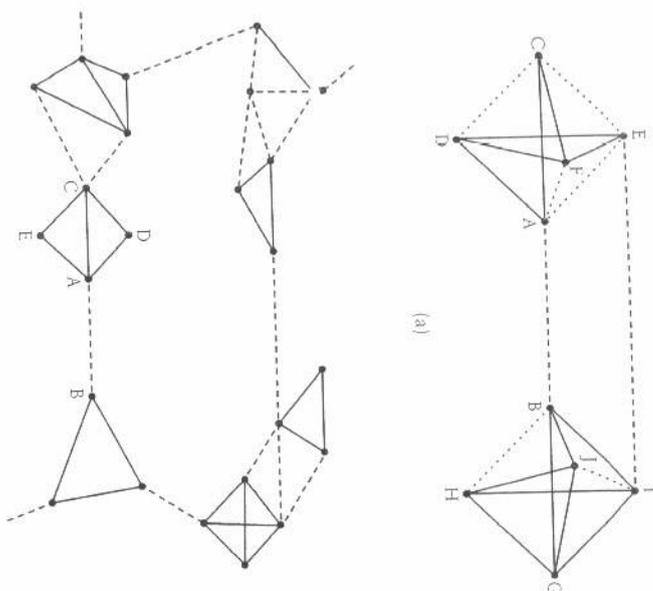
much more likely and efficient path. Harary et al. point out that "there may be a distance [length of path] beyond which it is not feasible for u to communicate with v because of costs or distortions entailed in each act of transmission. If v does not lie within this critical distance, then he will not receive messages originating with u" (1965, p. 159). I will refer to a tie as a "local bridge of degree n" if n represents the shortest path between its two points (other than itself), and n > 2. In figure 2a, A-B is a local bridge of degree 3, in 2b, of degree 13. As with bridges in a highway system, a local bridge in a social network will be more significant as a connection between two sectors to the extent that it is the only alternative for many people—that is, as its degree increases. A bridge in the absolute sense is a local one of infinite degree. By the same logic used above, only weak ties may be local bridges.

Suppose, now, that we adopt Davis's suggestion that "in interpersonal flows of most any sort the probability that 'whatever it is' will flow from person i to person j is (a) directly proportional to the number of all-positive (friendship) paths connecting i and j; and (b) inversely proportional to the length of such paths" (1969, p. 549). The significance of weak ties, then, would be that those which are local bridges create more, and shorter, paths. Any given tie may, hypothetically, be removed from a network; the number of paths broken and the changes in average path

length resulting between arbitrary pairs of points (with some limitation on length of path considered) can then be computed. The contention here is that removal of the average weak tie would do more "damage" to transmission probabilities than would that of the average strong one.

Intuitively speaking, this means that whatever is to be diffused can reach a larger number of people, and traverse greater social distance (i.e., path length), when passed through weak ties rather than strong. If one tells a rumor to all his close friends, and they do likewise, many will hear the rumor a second and third time, since those linked by strong ties tend to share friends. If the motivation to spread the rumor is dampened a bit on each wave of retelling, then the rumor moving through strong ties is much more likely to be limited to a few cliques than that going via weak ones; bridges will not be crossed....

I will develop this point empirically by citing some results from a labor-market study I have recently completed. Labor economists have long been aware that American blue-collar workers find out about new jobs more through personal contacts than by any other method. (Many studies are reviewed by Parnes 1954, chap. 5.) Recent studies suggest that this is also true for those in professional, technical, and managerial positions (Shapero, Howell, and Tombaugh 1965; Brown 1967; Granovetter 1970). My study of this question laid special emphasis on the nature of the tie between the job changer and the contact person who provided the necessary information.

In a random sample of recent professional, technical, and managerial job changers living in a Boston suburb, I asked those who found a new job through contacts how often they saw the contact around the time that he passed on job information to them. I will use *saw the contact* as a measure of tie strength. A natural a priori idea is that those with whom one has strong ties are more motivated to help with job information. Opposed to this greater motivation are the structural arguments I have been making: those to whom we are weakly tied are more likely to move in circles differ-

ent from our own and will thus have access to information different from that which we receive.

I have used the following categories for frequency of contact: often = at least twice a week; occasionally = more than once a week but less than twice a week; rarely = once a year or less. Of those finding a job through contacts, 16.7% reported that they saw their contact often at the time, 55.6% said occasionally, and 27.8% rarely (N = 54). The skew is clearly to the weak end of the continuum, suggesting the primacy of structure over motivation.

In many cases, the contact was someone only marginally included in the current network of contacts, such as an old college friend or a former workmate or employer, with whom sporadic contact had been maintained (Granovetter 1970, pp. 76–80). Usually such ties had not even been very strong when first forged. For work-related ties, respondents almost invariably said that they never saw the person in a nonwork context. Chance meetings or mutual friends operated to reactivate such ties. It is remarkable that people receive crucial information from individuals whose very existence they have forgotten....

From the individual's point of view, then, weak ties are an important resource in making possible mobility opportunity. Seen from a more macroscopic vantage, weak ties play a role in effecting social cohesion. When a man changes jobs, he is not only moving from one network of ties to another, but also establishing a link between these. Such a link is often of the same kind which facilitated his own movement. Especially within professional and technical specialties which are well defined and limited in size, this mobility sets up elaborate structures of bridging weak ties between the more coherent clusters that constitute operative networks in particular locations.

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NAN LIN

Social Networks and Status Attainment

Status attainment can be understood as a process by which individuals mobilize and invest resources for returns in socioeconomic standings. These resources can be classified into two types: personal resources and social resources. *Personal resources* are possessed by the individual who can use and dispose of them with freedom and without much concern for compensation. *Social resources* are resources accessible through one's direct and indirect ties. The access to and use of these resources are temporary and borrowed. For example, a friend's occupational or authority position, or such positions of this friend's social resource. The friend may use his or her position or network to help ego to find a job. These resources are "borrowed" and useful to achieve ego's certain goal, but they remain the property of the friend or his or her friends.

The theoretical and empirical work for understanding and assessing the status attainment process can be traced to the seminal study reported by Blau and Duncan (1967). Their major conclusion was that, even accounting for both the direct and indirect effects of ascribed status (parental status) and achieved status (education and prior occupational status) remained the most important factor accounting for the ultimate attained status. The study thus set the theoretical baseline for further modifications and expansions. All subsequent theoretical revisions and expansions must be evaluated for their contribution to the explanation of status attainment beyond those accounted for by the Blau-Duncan

paradigm (Kelley 1990; Smith 1990). Several lines of contributions since then, including the addition of sociopsychological variables (Sewell and Hauser 1975), the recasting of status into classes (Wright 1979; Goldthorpe 1980), the incorporation of "structural" entities and positions as both contributing and attained statuses (Baron and Bielby 1980; Kalleberg 1988), and the casting of comparative development or institutions as contingent conditions (Treiman 1970), have significantly amplified rather than altered the original Blau-Duncan conclusion concerning the relative merits of achieved versus ascribed personal resources in status attainment.

In the last three decades, a research tradition has focused on the effects on attained status of social resources. The principal proposition is that social resources exert an important and significant effect on attained statuses, beyond that accounted for by personal resources. Systematic investigations of this proposition have included efforts in (1) developing theoretical explanations and hypotheses, (2) developing measurements for social resources, (3) conducting empirical studies verifying the hypotheses, and (4) assessing the relative importance of social resources as compared to personal resources in the process of status attainment....

Contributions of social network analysis to status attainment can be traced to the seminal study conducted by Mark Granovetter (1974), who interviewed 282 professional and managerial men in Newton, Massachusetts. The data suggested that those who used interpersonal channels seemed to land more satisfactory and better (e.g., higher income) jobs. Inferring from this empirical research, substantiated with a review of job search studies, Granovetter proposed (1973) a network theory for information flow. The hypothesis of "the strength of weak ties" was that weaker ties tend to form bridges that link individuals to other social circles for information not likely to be available in their own circles, and such information should be useful to the individuals.

Based on these studies, a theory of social resources has emerged (Lin 1982, 1990). The theory begins with an image of the macro-social structure consisting of positions ranked according to certain normatively valued resources such as wealth, status, and power. This structure has a pyramidal shape in terms of accessibility and control of such

resources: The higher the position, the fewer the occupants; and the higher the position, the better the view it has of the structure (especially down below). The pyramidal structure suggests advantages for positions nearer to the top, both in terms of number of occupants (fewer) and accessibility to positions (more). Individuals within these structural constraints and opportunities take actions for expressive and instrumental purposes. For instrumental actions (attaining status in the social structure being one prime example), the better strategy would be for ego to reach toward contacts higher up in the hierarchy. These contacts would be better able to exert influence on positions (e.g., recruiter for a firm) whose actions may benefit ego's interest. This reaching-up process may be facilitated if ego uses weaker ties, because weaker ties are more likely to reach out vertically (presumably upward) rather than horizontally relative to ego's position in the hierarchy.

However, Granovetter never suggested that access to or help from weaker ties would result in better statuses of jobs thus obtained (1995:148). Clues about the linkage between strength of ties and attained statuses came indirectly from a small-world study conducted in a tri-city metropolitan area in upstate New York (Lin, Dayton, and Greenwald 1978). The task of the participants in the study was to forward packets containing information about certain target persons to others they knew on a first-name basis so that the packets might eventually reach the target persons. The study found that successful chains (those packets successfully forwarded to the targets) involved higher-status intermediaries until the last nodes (dipping down in the hierarchy toward the locations of the targets). Successful chains also implicated nodes that had more extensive social contacts (who claimed more social ties), and yet these tended to forward the packets to someone they had not seen recently (weaker ties). The small world study thus made two contributions. First, it suggested that access to hierarchical positions might be the critical factor in the process of status attainment. Thus, the possible linkage between strength of ties and status attainment might be indirect: The strength of weak ties might lie in their accessing social positions vertically higher in the social hierarchy, which had the advantage in facilitating the instrumental action. Second, the study implicated behavioral rather than a paper-and-pencil exercise, as each step in the packet-forwarding process required actual actions from each participant. Thus, the study results lend behavioral validity to those found in previous status attainment paper-pencil studies.

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Structural Holes

R O N A L D   S .   B U R T

Some people enjoy higher incomes than others. Some are promoted faster. Some are leaders on more important projects. The human capital explanation is that inequality results from differences in individual ability. The usual evidence is on general populations, as is Becker's (1975) pioneering analysis of income returns to education, but the argument is widely applied by senior managers to explain who gets to the top of corporate America—managers who make it to the top are smarter or better educated or more experienced. But, while human capital is surely necessary to success, it is useless without the social capital of opportunities in which to apply it.

Social capital can be distinguished in its etiology and consequences from human capital (e.g., Coleman, 1990; Bourdieu and Wacquant, 1992; Burt, 1992; Putnam, 1993; Lin, 1998). With respect to etiology, social capital is a quality created between people, whereas human capital is a quality of individuals. Investments that create social capital are therefore different in fundamental ways from investments that create human capital (Coleman, 1988, 1990). I focus in this paper on consequences, a focus in network analysis for many years (Breiger, 1995). With respect to consequences, social capital is the contextual complement to human capital. Social capital predicts that returns to intelligence, education, and seniority depend in some part on a person's location in the social structure of a market or hierarchy. While human capital refers to individual ability, social capital refers to opportunity. Some portion of the value a manager adds to a firm is his or her ability to coordinate other people: identifying opportunities to add value within an organization and getting the right people together to develop the opportunities. Knowing who, when, and how to coordinate is a function of the manager's network of contacts within and beyond the firm. Certain network forms deemed social capital can enhance the manager's ability to identify and develop opportunities. Managers with more social capital get higher returns to their human capital because they are positioned to identify and develop more rewarding opportunities.

The Network Structure of Social Capital

Structural hole theory gives concrete meaning to the concept of social capital. The theory describes how social capital is a function of brokerage opportunities in a network (see Burt, 1992, for detailed discussion). The manager acting on the structural hole argument draws on several lines of network theorizing that emerged in sociology during the 1970s, most notably, Granovetter (1973) on the strength of weak ties, Freeman (1977) on betweenness centrality, Cook and Emerson (1978) on the power of having exclusive exchange partners, and Burt (1980) on the structural autonomy created by network complexity. More generally, sociological ideas elaborated by Simmel (1955) and Merton (1968), on the autonomy generated by conflicting affiliations, are mixed in the structural hole argument with traditional economic ideas of monopoly power and oligopoly to produce network models of competitive advantage. In a perfect market, one price clears the market. In an imperfect market, there can be multiple prices because disconnections between individuals, holes in the structure of the market, leave some people unaware of the benefits they could offer one another. Certain people are connected to certain others, trusting certain others, obligated to support certain others, dependent on exchange with certain others. Assets get locked into suboptimal exchanges. An individual's position in the structure of these exchanges can be an asset in its own right. That asset is social capital, in essence, a story about location effects in differentiated markets. The structural hole argument defines social capital in terms of the information and control advantages of being the broker in relations between people otherwise disconnected in social structure. The disconnected people stand on opposite sides of a hole in social structure. The structural hole is an opportunity to broker the flow of information between people and control the form of projects that bring together people from opposite sides of the hole.

Information Benefits

The information benefits are access, timing, and referrals. A manager's network provides access to information well beyond what he or she could process alone. It provides that information early, which is an advantage to the manager acting on the information. The network that filters information coming to a manager also directs, concentrates, and legitimates information received by others about the manager. Through referrals, the manager's interests are represented in a positive light, at the right time, and in the right places.

The structure of a network indicates the redundancy of its information benefits. There are two network indicators of redundancy. The first is cohesion. Cohesive contacts—contacts strongly connected to each other—are likely to have similar information and therefore provide redundant information benefits. Structural equivalence is the second indicator. Equivalent contacts—contacts who link a manager to the same third parties—have the same sources of information and therefore provide redundant information benefits.

Nonredundant contacts offer information benefits that are additive rather than redundant. Structural holes are the gaps between nonredundant contacts (see Burt, 1992: 25–30, on how Granovetter's weak ties generalize to structural holes). The hole is a buffer, like an insulator in an electric circuit. A structural hole between two clusters in a network need not mean that people in the two clusters are unaware of one another. It simply means that they are so focused on their own activities that they have little time to attend to the activities of people in the other cluster. A structural hole indicates that the people on either side of the hole circulate in different flows of information. A manager who spans the structural hole, by having strong relations with contacts on both sides of the hole, has access to both information flows. The more holes spanned, the richer the information benefits of the network.

Figure 1 provides an example. James had a network that spanned one structural hole. The hole is the relatively weak connection between the cluster reached through contacts 1, 2, and 3 and the cluster reached through contacts 4 and 5. Robert took over James's job and expanded the social capital associated with the job. He preserved the connection with the cluster in James's network but expanded the network to a more diverse set of contacts. Robert's network, with the addition of three new clusters of people, spans ten structural holes.

Information benefits in this example are enhanced in several ways. The volume is higher in Robert's network simply because he reaches more people indirectly. Also, the diversity of his contacts means that the quality of his information benefits is higher. Each

cluster of contacts is a single source of information because people connected to one another tend to know the same things at about the same time. Nonredundant clusters provide Robert with a broader information screen and, therefore, greater assurance that he will be informed of opportunities and impending disasters (access benefits). Further, since Robert's contacts are only linked through him at the center of the network, he is the first to see new opportunities created by needs in one group that could be served by skills in other groups (timing benefits). He stands at the crossroads of social organization. He has the option of bringing together otherwise disconnected individuals in the network when it would be rewarding. And be-

cause Robert's contacts are more diverse, he is more likely to be a candidate for inclusion in new opportunities (referral benefits). These benefits are compounded by the fact that having a network that yields such benefits makes Robert more attractive to other people as a contact in their own networks.

Control Benefits

The manager who creates a bridge between otherwise disconnected contacts has a say in whose interests are served by the bridge. The disconnected contacts communicate through the manager, giving the manager an opportunity to adjust his or her image with each con-

FIGURE 1
Illustrative manager's networks^a
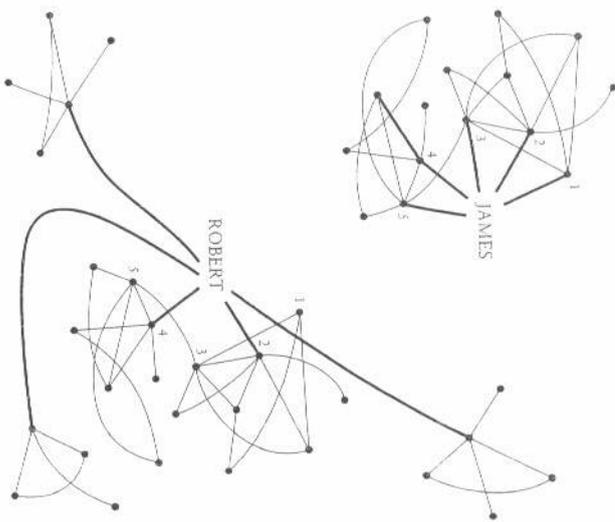
^a Thick lines represent a manager's direct contacts.

tact, which is the structural foundation for managerial robust action (Padgett and Ansell, 1993). Simmel and Merton introduced the sociology of people who derive control benefits from structural holes: The ideal type is the *tertius gaudens* (literally, "the third who benefits"), a person who benefits from brokering the connection between others (see Burt, 1992: 30–32, for review). As the broker between otherwise disconnected contacts, a manager is an entrepreneur in the literal sense of the word—a person who adds value by brokering the connection between others (Burt, 1992: 34–36; see also Martinelli, 1994). There is a tension here, but not the hostility of combatants. It is merely uncertainty. In the swirling mix of preferences characteristic of social networks, where no demands have absolute authority, the *tertius* negotiates for favorable terms. Structural holes are the setting for *tertius* strategies, and information is the substance. Accurate, ambiguous, or distorted information is strategically moved between contacts by the *tertius*. The information and control benefits reinforce one another at any moment in time and cumulate together over time.

Networks rich in structural holes present opportunities for entrepreneurial behavior. The behaviors by which managers develop these opportunities are many and varied, but the opportunity itself is at all times defined by a hole in the social structure around the manager. In terms of the structural hole argument, networks rich in the entrepreneurial opportunities of structural holes are entrepreneurial networks, and entrepreneurs are people skilled in building the interpersonal bridges that span structural holes.

Predicted Social Capital Effect

Managers with contact networks rich in structural holes know about, have a hand in, and exercise control over the more rewarding opportunities. They monitor information more effectively than it can be monitored bureaucratically. They move information faster,

and to more people, than memos. These entrepreneurial managers know the parameters of organization problems early. They are highly mobile relative to people working through a bureaucracy, easily shifting network time and energy from one solution to another. More in control of their immediate surroundings, entrepreneurial managers tailor solutions to the specific individuals being coordinated, replacing the boiler-plate solutions of formal bureaucracy. There is also the issue of costs: entrepreneurial managers offer inexpensive coordination relative to the bureaucratic alternative. Managers with networks rich in structural holes operate somewhere between the force of corporate authority and the dexterity of markets, building bridges between disconnected parts of the firm where it is valuable to do so. They have more opportunity to add value, are expected to do so, and are accordingly expected to enjoy higher returns to their human capital. The prediction is that in comparisons between otherwise similar people like James and Robert in Figure 1, it is people like Robert who should be more successful.

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FIGURE 4

Family stability and children's attainment. (Estimates are based on four nationally representative surveys: the National Longitudinal Survey-Youth Cohort (NLSY), the Panel Study of Income Dynamics (PSID), the High School and Beyond Study (HSB), and the National Survey of Families and Households (NSFH). The bars represent "predicted values" based on models that control for race, parents' education, number of siblings, and region of residence at age sixteen.)

a. High school dropout (males and females)

Proportion

```
0.30
0.20
0.10
0.00
      NLSY    PSID    HSB    NSFH1
```

Legend: ■ Intact   □ Nonintact

b. Teen premarital birth (females)

Proportion

```
0.30
0.20
0.10
0.00
      NLSY    PSID    HSB    NSFH1
```

c. Idleness (males)

Proportion

```
0.30
0.20
0.10
0.00
      NLSY    PSID    HSB
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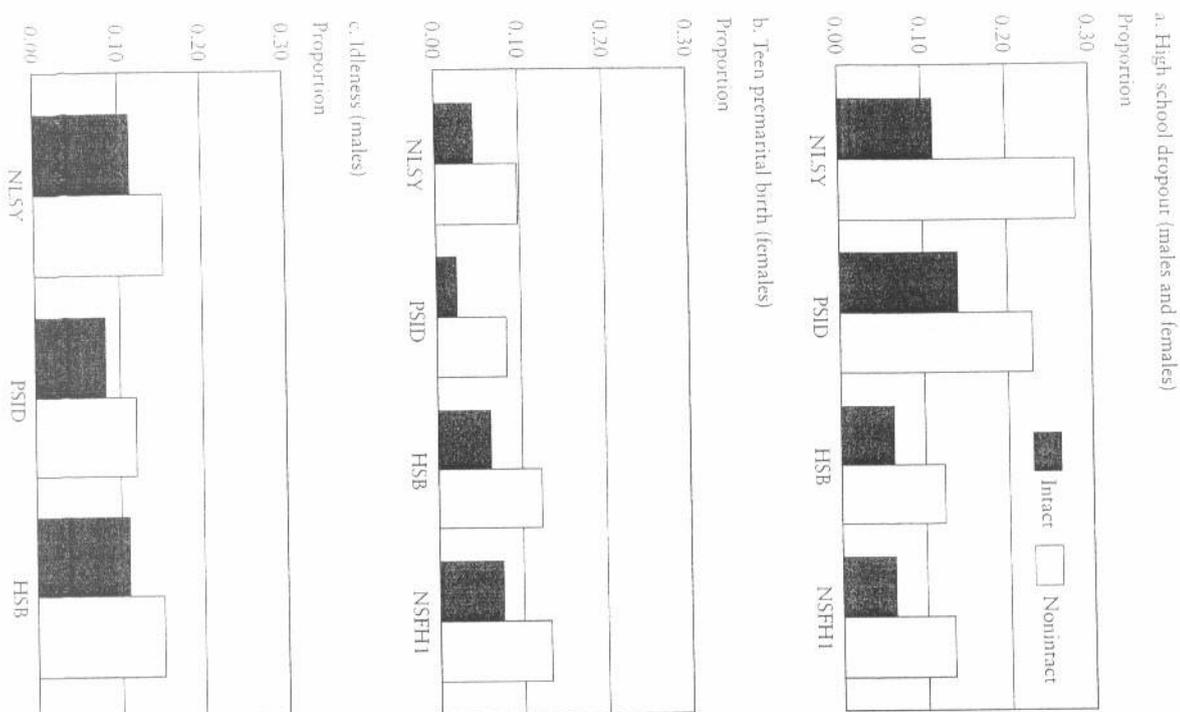
Intergenerational Correlations in Welfare Participation

The research on intergenerational welfare participation suggests common patterns across generations. Peter Gottschalk (1992) finds that although a substantial proportion of the daughters of welfare recipients do not receive welfare themselves as adults, their risk of welfare receipt is substantially greater than the risk of daughters whose mothers did not receive welfare.

The probability that a nonblack daughter has a child and receives welfare is .261 if the mother received welfare, whereas it is only .066 if the mother never received welfare. The comparable figures for blacks are .486 and .136. McLanahan (1988) finds that coming from a family that received 50 percent or more of its annual income from welfare while the daughter was between the ages of twelve and sixteen has the strongest effect among whites, while a simple measure of welfare receipt during the ages twelve to sixteen has the strongest effect for blacks.

Because of the lack of data on full welfare histories of both generations, few studies attempt to construct measures of long-term welfare use in both generations. Greg Duncan, Martha Hill, and Saul Hoffman (1988) measure welfare dependence as heavy use, defined as receiving welfare continuously for a three-year period. They find that 64 percent of the women whose families were highly dependent during their adolescence (defined as ages thirteen to fifteen) did not use welfare themselves between the ages of twenty-one and twenty-three. Only 20 percent were heavy welfare users themselves. When the analyses are adjusted for differences in the background of the individuals (income and family structure), the relationship between family of origin's welfare use and children's welfare use declines but remains positive.

Moffitt (1992) reviews these and other studies and concludes that there is strong evidence of strong correlations between parental welfare receipt and daughter's welfare receipt, even though this preliminary re-search has not yet explained the causes of the strong intergenerational correlation. Because families receiving welfare are poor—indeed, poverty is a condition of welfare receipt—we would expect children from welfare families to have higher rates of poverty and welfare use as adults than children from nonpoor, nonwelfare families. Intergenerational correlation, therefore, does not necessarily indicate a causal relationship. Daughters and their mothers may simply share characteristics that increase the probability of their both receiving assistance.[17] For example, if both the mother and the daughter grow up in neighborhoods with poor-quality schools, both will be more likely to have lower earnings and, hence, a greater need for income assistance. In this case, taking the mother off of welfare will not lower the probability that the daughter will receive assistance. Changing the quality of the school the daughter attends, however, will raise her income and, in turn, lower the probability that she receives public assistance.

* * *

We have focused on two broad issues: (1) the extent to which individuals and families are poor for long periods of time, and (2) the extent to which the experiences of individuals as children are associated with their economic situation as adults or, more specifically, the extent to which poverty and welfare use are passed on across generations.

The results regarding the first issue suggest that a majority of the poor remain poor for short periods of time, and that a majority of welfare recipients receive welfare for only a few years. There is, however, a minority who experience long-term poverty or welfare dependence. By most accounts, nevertheless, temporary dips into poverty and short-term participation in welfare are much more common than long-term spells of poverty and dependence.

The results regarding the second issue—whether poverty and welfare dependence are passed along from generation to generation—also suggest that the media and some scholars

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RICHARD BREEN AND JOHN H. GOLDTHORPE

RATIONAL ACTION APPROACHES TO MOBILITY AND ATTAINMENT

Explaining Educational Differentials: Towards a Formal Rational Action Theory

Introduction

In the light of recent research in the sociology of education, which has involved extensive over-time and cross-national analyses (see esp. Shavit and Blossfeld 1993; Erikson and Jonsson 1996b), it would seem that the following empirical generalizations can reliably be made and constitute *explananda* that pose an evident theoretical challenge.

Over the last half-century at least, all economically advanced societies have experienced a process of educational expansion. Increasing numbers of young people have stayed on in full-time education beyond the minimum school leaving age, have taken up more academic secondary courses, and have entered into some form of tertiary education.

Over this same period, *class* differentials in educational attainment, considered net of all effects of expansion per se, have tended to display a high degree of stability, i.e. while children of all class backgrounds have alike participated in the process of expansion, the pattern of association between class origins and the relative chances of children staying on in education, taking more academic courses

or entering higher education has, in most societies, been rather little altered. Children of less advantaged class origins have not brought their take-up rates of more ambitious educational options closer to those of their more advantaged counterparts.

It has, though, to be recognized that this latter generalization is not entirely without exception. In one national case at least, that of Sweden, there can be little doubt that class differentials in educational attainment have indeed declined over several decades (Erikson and Jonsson 1993); and, while some conflict of evidence remains, a similar decline has been claimed for The Netherlands (De Graaf and Ganzeboom 1993) and for Germany (Müller and Haun 1994; Jonsson, Mills and Müller 1996). Thus, any theory that is put forward in order to explain the more typical persistence of class differentials should be one that can at the same time be applied *mutatis mutandis* to such 'deviant' cases.

It would in addition be desirable that such a theory should be capable of yet further extension in order to account for a third regularity that has emerged from the research referred to.

Over a relatively short period—in effect, from the 1970s onwards—*gender* differentials in levels of educational attainment, favouring males over females, have in nearly all advanced societies declined sharply and, in some instances, have been virtually eliminated or

even reversed. In other words, while the process of educational expansion has not in the main led to children from less advantaged family backgrounds catching up with those from more advantaged backgrounds in their average levels of attainment, in families across the class structures of contemporary societies daughters have tended rather rapidly to catch up with sons.

In an earlier paper (Goldthorpe 1996), a theory of persisting class differentials in educational attainment, sensitive to the further requirements previously indicated, was developed from a 'rational action' standpoint. In this further paper, our aim is to refine this theory and to express it in a formal model. In this way we would hope to clarify its central arguments and in turn the wider implications that it carries. Since such attempts at the formalization of theory are still not very common in sociology, the paper may also serve to stimulate discussion of the merits or demerits of this kind of endeavour. Readers interested in the more general *problematik* in the context of which the theory was initially conceived are referred to the earlier paper. In the remainder of this introductory section we set out certain 'background' assumptions of our subsequent exposition that will not be further discussed. The more specific assumptions on which our model rests will be introduced, and their significance considered, as the paper proceeds.

We assume, to begin with, that class differentials in educational attainment come about through the operation of two different kinds of effect which, following Boudon (1974), we label as 'primary' and 'secondary'. Primary effects are all those that are expressed in the association that exists between children's class origins and their average levels of demonstrated academic ability. Children of more advantaged backgrounds are in fact known to perform better, on average, than children of less advantaged backgrounds on standard tests, in examinations, etc. Primary effects, as will be seen, enter into our model but, fortunately, in such a way that we need not take up

the vexed and complex question of the extent to which they are genetic, psychological or cultural in character. It is, rather, secondary effects that for us play the crucial role. These are effects that are expressed in the actual choices that children, together perhaps with their parents, make in the course of their careers within the educational system—including the choice of exit. Some educational choices may of course be precluded to some children through the operation of primary effects: i.e. because these children lack the required level of demonstrated ability. But, typically, a set of other choices remains, and it is further known that the overall patterns of choice that are made, are in themselves—over and above primary effects—an important source of class differentials in attainment.

We then further assume that, *in their central tendencies*, these patterns of educational choice reflect action on the part of children and their parents that can be understood as rational, i.e. they reflect evaluations made of the costs and benefits of possible alternatives—e.g. to leave school or to stay on, to take a more academic or a more vocational course—and of the probabilities of different outcomes, such as educational success or failure. These evaluations, we further suppose, will be in turn conditioned by differences in the typical constraints and opportunities that actors in different class positions face and in the level of resources that they command. However, what we seek to dispense with is any assumption that these actors will also be subject to systematic influences of a (sub)cultural kind, whether operating through class differences in values, norms or beliefs regarding education or through more obscure 'subintentional' processes. Not only do we thus gain in theoretical parsimony, but we would in any event regard the 'culturalist' accounts of class differentials in educational attainment that have so far been advanced, as in various ways unsatisfactory (see further Goldthorpe 1996).

Finally, two other assumptions, regarding the structural context of action, should also

be spelled out. On the one hand, we do of course suppose the existence of a class structure, i.e. a structure of positions defined by relations in labour markets and production units. And, in addition, we need to assume that within this structure classes are in some degree hierarchically ordered in terms of the resources associated with, and the general desirability of the positions they comprise. On the other hand, we suppose an educational system—i.e. a set of educational institutions that serve to define the various options that are open to individuals at successive stages in their educational careers. And here, too, we have a more specific requirement. That is, that this system should possess a diversified structure that provides options not just for more or less education but also for education of different kinds, and that in turn entails individuals making choices at certain 'branching points' that they may not be able later to modify, or at least not in a costless way. It might be thought that this latter requirement will tend to limit the applicability of our model to educational systems of the more traditional European, rather than, say, the American variety, i.e. to ones where the type of school attended is likely to be more consequential than the total number of years spent in education. However, we would argue that, on examination, educational systems such as that of the USA, turn out to be more diversified than is often supposed, so that children do in fact face educational choices that involve considerations that go beyond simply 'more' or 'less': for example, in the American case, with the choice at secondary level between academic and vocational tracks. It is further of interest to note how two American authors have specified in this regard the divergence between assumptions that we and they would share and those of most economists working within the 'human capital' paradigm. While for the latter education appears as a 'fungible linear accumulation', like a financial investment', a more realistic view would be that educational systems, the American included, 'offer an array of choices

and constraints that defy . . . simple linear formulations' (Arum and Hout 1995, 1).

A Model of Educational Decisions

The model that we present is intended to be generic: that is, as one applicable in principle to the entire range of decisions that young people may be required to make over the course of their educational careers as regards leaving or staying on or as regards which educational option to pursue. However, in the interests of simplicity, we will here set out the model as it would apply just to the choice of leaving or continuing in education. The salient elements of the exposition are shown in Figure 1 by means of a decision tree. Here we assume that pupils must choose whether to continue in education—i.e. follow the 'stay' branch of the tree—to the completion of a further level (as, say, in the decision of whether or not to continue to A-level after GCSE) or to leave and enter the labour market, i.e. follow the 'leave' branch. Continuing is then indicated by the node labelled P in Figure 1, while failing the examination is indicated by the node labelled F. Leaving is indicated by node L.

In deciding whether to continue in education or leave, parents and their children, we suppose, take into account three factors. The first of these is the cost of remaining at school. Continuing in full time education will impose costs on a family which they would not have to meet were their child to leave school: these include the direct costs of education and earnings forgone. We can therefore express these costs relative to the costs of leaving by setting the latter to be zero and the former as $c > 0$. The second factor is the likeli-

FIGURE 1
Single decision tree

Stay   π   1 – α   W*
  1 – π   α   S*
  P
  β₁   S*
  F   β₂   W*
  1 – β₁ – β₂   U*
leave   γ₁   S*
  L   γ₂   W*
  1 – γ₁ – γ₂   U*

hood of success if a pupil continues in education. Since we distinguish only between success and failure, subjective beliefs about the chances of success at the next stage of education can be captured in our model by a single parameter, which we label π. This parameter measures the subjective conditional probability of passing the relevant examination given... The third factor is then the value or utility that children and their families attach to the three educational outcomes rep-

resented by P, F and L in Figure 1. In our model this factor is expressed in terms of beliefs about the chances of access that each outcome affords to three possible destination classes.

For the purposes of our exposition, we take these classes as being the service class or salarial of professionals, administrators and managers (S* in Figure 1), the working class (W*) and the underclass, (U*)—the class, say, of those with only a precarious place in the labour market and in only the lowest grades of employment if not unemployed. However, it should be emphasized that nothing of significance attaches to this choice of classes, except that, as earlier noted, we need to have a hierarchical ordering. Thus, the service class is regarded as comprising the most advantaged and most desirable positions and the underclass the least advantaged and least desirable, with the working class falling in-between. This ranking of classes is, moreover, assumed to be universally recognized or, at all events, not to vary across the population in any socially structured way.

As we have said, each of the three possible educational outcomes in our model has attached to it subjective probabilities of access to each of the three possible destination classes. So, as Figure 1 shows, for pupils who remain at school and pass their examination, node P, the probability of access to the service class is given by α. There is no path linking this educational outcome to the underclass. This means that anyone who reaches this particular outcome is believed to be certain to avoid this class. It follows, therefore, that the probability of entering the working class, conditional on having been educationally successful, is given by 1 – α. At the other two outcome nodes, F and L, there is a positive probability of entering all three destination classes. So, for the outcome F (remaining at school and failing) the probability of entering all three destination classes. So, for the outcome F (remaining at school and failing) the probability of access to the service class is given by β₁, the probability of access to the working class by β₂, and the probability of access to the underclass by 1 – β₁ – β₂. For the L outcome the corre-

sponding probabilities are then given by the γ parameters.

We repeat that these are all subjective probabilities. Just as with π, the values for our various α, β and γ parameters reflect people's beliefs, in this case, about the returns to various educational outcomes conceptualized in terms of access to more or less desirable locations in the class structure. In principle, therefore, these parameters could vary widely across individuals and families. Again, though, we assume a societal consensus in regard to a set of beliefs that then serve as conditions on the parameters in question and that may be stated as follows:

i. $\alpha > \beta_1$ and $\alpha > \gamma_1$. It is generally believed that remaining at school and succeeding affords a better chance of access to the service class than does remaining at school and failing or leaving school. Our model does not require that we make any assumptions about the relative magnitude of β_1 and γ_1. It could, for example, be the case that a young person's chances of access to the service class are improved simply by acquiring more years of education, even if this does not lead to examination success. Alternatively, such time spent in education may be wasted in the sense that leaving school and embarking earlier on a career will yield a better chance of access to the service class.

ii. $\gamma_1 + \gamma_2 > \beta_1 + \beta_2$. Remaining at school and failing increases the chances of entering the underclass. This means that there is a risk involved in choosing to continue to the next level of education.

iii. $\gamma_2/\gamma_1 > 1$; $(\gamma_2/\gamma_1) \geq (\beta_2/\beta_1)$. Those who leave school immediately have a better chance of entry to the working class than to the service class. This may or may not be the case among those who remain at school and fail though, if it is, their odds of entering the working class rather than the service class are no greater than for those who leave school immediately.

iv. $\alpha > 0.5$. Staying on at school and passing the examination makes entry to the service class more likely than entry to the working class.[1]

In the interests of realism, especially as regards (ii) and (iii) above, it ought to be noted that 'leaving' and entering the labour market need not in most educational systems be equated with a definitive ending of the individual's educational career. Taking this option could in fact lead to further vocational courses pursued in conjunction with employment.

The Generation of Class Differentials

Given the model previously outlined, we can now turn to the question of explaining why differences exist across classes in the proportions of young people who make one kind of educational decision rather than another. For ease of exposition here we consider only two classes of origin, the service class, S, and the working class, W. In all of what follows we assume that these classes differ in only two ways. First (and it is here that we give recognition to 'primary' effects) children of the two classes differ in their average ability. Ability is taken to be normally distributed within each class with means $a_s > a_w$ and variance given by σ_a^2. Secondly, the two classes have different levels of resources, r, which they can use to meet c, the costs of education. Resources are taken to have a logistic distribution with mean values $r_s > r_w$ for the two classes and a common dispersion parameter, σ_r^2. Through out, we make no other assumptions about differences between the classes. In particular, and as earlier noted, we do not suppose any class-specific cultural values or social norms nor any class differences in the subjective α, β and γ parameters of our model.

We then propose three mechanisms through which class differentials in educational attainment may arise at the level of 'secondary' effects. Of these three, we would wish to stress the particular importance of the first, since this provides an account of how these differ-

entials may be created and sustained through the apparently 'free' choices made by those in less advantaged classes. Our second and third mechanisms can be understood as accentuating the differing patterns of choice that derive from this initial source.

Relative Risk Aversion

We begin with an assumption regarding aspirations: that is, that families in both classes alike seek to ensure, so far as they can, that their children acquire a class position at least as advantageous as that from which they originate or, in other words, they seek to avoid downward social mobility. This means that the educational strategy pursued by parents in the service class is to maximize the chances of their children acquiring a position in this class. In terms of our model their strategy is to maximize the probability of access to S^*. For working-class parents the implication is that they should seek for their children a place in either the working or the service class, since either meets the criterion of being at least as good as the class from which they originate. In terms of our model their strategy is then to maximize the probability of access to S^* or W^*, which is the same as minimizing the probability of access to U^*. This establishes families in both classes as having identical *relative risk aversion*: they want to avoid, for their children, any position in life that is worse than the one from which they start.

To see the consequence of these two strategies, maximize $pr(S^*)$ for those of service class origins and minimize $pr(U^*)$ for those of working-class origins—assume, for the moment, that continuing in education is costless ($c = 0$). Then we find that whether or not a pupil believes it to be in his or her best interests to continue in education rather than leave depends on the value p_i (where i indicates the ith pupil) given by

$$p_{is} = \frac{\pi_i \alpha + (1 - \pi_i)\beta_1}{\pi_i \alpha + (1 - \pi_i)\beta_1 + \gamma_1}$$ (1)

for the ith service class pupil and p has

$$p_{iw} = \frac{\pi_i + (1 - \pi_i)(\beta_1 + \beta_2)}{\pi_i + (1 - \pi_i)(\beta_1 + \beta_2) + (\gamma_1 + \gamma_2)}$$ (2)

for the ith working class pupil. Here we have allowed π to vary between class pupils but we have assumed the values of α, β and γ to be common to all. If p takes a value greater than one-half this indicates that the expected returns to remaining at school exceed those of leaving. Thus, without taking account, as yet, of the costs of pursuing the former strategy, pupils for whom $p_i > 0.5$, can be said to prefer to remain in education. Even if subjective expectations of future success, as captured by π, do not differ between the two classes it will nevertheless be the case that, given conditions (1) to (4), $p_{is} > p_{iw}$ for any value of π less than one.[2]

Proof: $p_{is} > p_{iw} \; \forall \, \pi \leq 1$ if and only if

$$\frac{\pi\alpha + (1 - \pi)\beta_1}{\gamma_1} > \frac{\pi + (1 - \pi)(\beta_1 + \beta_2)}{(\gamma_1 + \gamma_2)}$$ (3)

Taking the first term on the left hand side of (3) we have

$$\frac{\pi\alpha}{\gamma_1} = \frac{\pi}{\frac{1}{\alpha}\gamma_1} > \frac{\pi}{\gamma_1 + \gamma_2}$$ (3a)

Taking the second term on the left hand side of (3) we have

$$\frac{(1 - \pi)\beta_1}{\gamma_1} \geq \frac{(1 - \pi)(\beta_1 + \beta_2)}{(\gamma_1 + \gamma_2)}$$ (3b)

by conditions (ii) and (iii). Together (3a) and (3b) imply (3) which in turn implies $p_s > p_w$ as required.

This result establishes that if continuing in education is costless and there are no class differences in the subjective probability parameters α, β, γ and π, children from middle-class backgrounds will more strongly 'prefer' (in the sense of perceiving it to be in their best interests) to remain in school to a further level of education rather than leave.

The proportions in each class who prefer to stay are derived as follows. Assume that p has

an unspecified distribution with means in each class p_{is} and p_{iw} and dispersion parameters σ_{ps} and σ_{pw}. Because $p_{is} > p_{iw}$ for any common value of π, and assuming, for the moment, no class difference in the distribution of π, it follows that $p_s > p_w$. Then, given that only those pupils for whom p exceeds one-half prefer to stay at school, the proportions in each class preferring this outcome are given by the area under the unspecified distribution function above the point

$$z_s = \frac{\frac{1}{2} - p_{is}}{\sigma_{ps}}$$

for the service class and analogously for the working class.

Differences in Ability and Expectations of Success

Thus far we have been assuming that the option of continuing in education is open to all pupils. But, of course, this is often not the case and successive levels of education may only be open to those who meet some criterion, such as a given level of performance in a previous examination. Let us assume, for the sake of simplicity, that this criterion can be expressed directly in terms of ability, so that, for example, a pupil may only continue in education if his or her ability level exceeds some threshold, k: i.e. we impose the condition that a must be greater than k. Recalling our assumption regarding primary effects that the mean level of ability is higher in the service class than in the working class but that both have the same variance in ability, it follows that the proportion of service-class children who meet this condition exceeds the proportion of working-class children.

However, we might also suppose that pupils' own knowledge of their ability helps shape the subjective probability they attach to being successful in the next stage of education, which we labelled π. So we can write π'_i and π''_i the re-

$$= g(a),$$ where g indicates that π is a function of a. If we then denote by π'_i and π''_i the re-

quired minimum subjective probabilities compatible with continuing in education (these are the smallest values of π, for which $p_i > 0.5$) we can write the probability of continuing in education as

$$pr(a_i > k)\, pr(\pi_i > \pi^* \mid a_i > k)$$

$$= pr(a_i > k, \pi_i > \pi^*)$$ (4)

If

$$pr(g(a_i) > \pi^*) \leq pr(a_i > k)$$

$$= pr(a_i > k, g(a_i) > \pi^*)$$

then (4) reduces to

$$pr(\pi_i > \pi^*).$$

If pupils' expectations about how well they will perform at the next level of education are upwardly bounded by how well they have performed in their most recent examination—for example, if there are no pupils who, although they have failed to exceed the threshold k are nevertheless sufficiently optimistic about their future examination performance to wish to continue in education—then ability differences will be wholly captured in differences in the subjective parameter π. This will cause the average value of π to be lower among working-than service-class pupils because of the class difference in average ability levels.

Differences in Resources

Thus far we have assumed education to be costless. If we relax this assumption we need to take account of class differences in the resources that families in different locations in the class structure can devote to their children's education. Assume, therefore, that pupils can continue in education if and only if $r_i > c$ where r_i is the level of resources available for children's education in the ith family. Given that service-class families have, on average, greater resources than working-class families ($\bar{r}_s > \bar{r}_w$) and that resources within each class, it follows that the proportion of service-class pupils for whom this resource requirement is met will

exceed the proportion of working-class pupils.

We have now suggested three mechanisms which, taken together, give rise to class differentials in the proportions of children who choose to stay on in education. Our first mechanism shows how, solely because of the relative risk aversion that is seen as being common across classes, there will be a stronger preference among service- than working-class pupils for remaining in education given that no costs attach to doing so. Our second mechanism then allows for class differences in average ability levels and in educational success), which further widen class differences in the value of p and thus in the strength of the preference for staying on in education. Finally, our third mechanism takes account of the costs of continuing in education and allows for a further source of class differentials, the average resource levels available to meet these costs. The effect of this is to promote class differences via the proportion of families in each class whose resources exceed the costs of their children continuing in education or, more simply, who can afford to allow their children to continue....

Explaining Empirical Generalizations

We may now seek to apply our model to the explanation of the empirical generalizations that were set out in the Introduction, beginning with that of the widely observed persistence of class differentials in educational attainment in the context of an overall increase in educational participation rates. To account for the latter trend is fairly easy: the relative costs of education have declined over time in all economically advanced countries. As the period of compulsory schooling has been extended, the costs of successively higher levels of education have been reduced through the abolition of fees, the introduction of maintenance grants, soft loans, etc. In our model this change is treated via mechanism (iii)—class differences in resources—and is captured in a decline in the size of the parameter c. This will lead to an increase in the proportions of children from both service- and working-class origins continuing in education, providing, of course, that the preference for continuing (given by our p parameter) does not decline. However, far from p declining over time it is more plausible to believe that there is a widespread increase in the desire to remain in full-time education as educational credentials come to take on increasing importance in the labour market and in securing a relatively advantaged class position. Indeed, in so far as education is regarded as a 'positional' good, p_i could be expected to rise steadily simply as a consequence of educational expansion itself.

At the same time our model can provide an explanation of how, within a context of educational expansion, class differentials may none the less persist. To see this, recall that class differences in educational attainment are usually measured by odds ratios which compare the odds of continuing in education versus leaving for pairs of origin classes. Under our model, the odds ratio between the service and the working class is equal to

$$\frac{\phi_S/(1-\phi_S)}{\phi_W/(1-\phi_W)}$$

where we use ϕ_S to mean the proportion of service class pupils who remain in education and similarly for ϕ_W. It is then possible to show (see Breen and Goldthorpe 1997, 300–2) that, given a decline over time in c, together with an increase in the proportion of both service- and working-class pupils who consider it in their best interests to remain in education, the odds of continuing in education increase by a roughly constant amount for each class, and so preserve a similar constancy in the odds ratio. This tells us that, under these circumstances, a uniform decline in the costs of education, i.e. uniform across classes, will result in the odds for children of all classes choosing to continue being multiplied by something like a common factor. So

if, for example, some level of education is made free of charge (in the sense that fees are no longer levied) class differences in participation (as measured by odds ratios) at this level will remain more or less unchanged even though the overall participation rate will increase.

Our model also sheds some new light on the concept of 'maximally maintained inequality' in education (Raftery and Hout 1990; Hout, Raftery and Bell 1993). These authors argue that class differences in educational attainment will only begin to decline when participation in a given level of education reaches saturation. In our model, such a reduction will occur once c declines to the value at which all members of the service class have resources that exceed it. At this point, all service-class families will possess resources that exceed the costs of remaining in education and thus the proportion in this class who choose to continue in education will be equal to the proportion who perceive it to be in their interests (i.e. for whom $p > 0.5$). Further reductions in c will then have no influence on the numbers of service-class children who choose to continue but will still increase the proportion of working-class children who do so. Under these conditions, the relevant odds ratio could be expected to move towards unity.[3] However, it should be recognized that, as understood in terms of our model, maximally maintained inequality does not imply that a decline in class differentials can only commence at the point at which all children of more advantaged class origins continue in education. Rather, this effect occurs once all such children whose p_i is greater than one-half continue, in other words, once all those who perceive it to be in their best interests to continue are able to act accordingly. It is true that in some instances the achievement of this latter condition will, in fact, give rise to 100 percent continuation among children of more advantaged classes.[4] But further declines in c, even if they lead to $r_{jw} > c$ for all members of the working class, will not lead to equality in the proportions continuing in education in each class so long as there still remains a class difference in the proportion who prefer to continue.

It further follows from our model that class differentials in educational attainment will also respond to changes in the costs of education which, rather than being uniform, have a variable impact across classes. Such changes could be brought about directly through the selective subsidization of young people according to their class of origin, as occurred, for example, in some post-war Communist societies. However, essentially the same effect could follow from a general reduction in inequality of condition between classes. Specifically, if class differences in resources, r, become smaller, our model would predict that differentials in educational attainment, as measured by odds-ratios, would in turn decline.

It is then in this way that the model may be seen as applying to the national case that most obviously deviates from the typical pattern of persisting class inequalities in education, i.e. that of Sweden, in which, as earlier noted, a narrowing of such inequalities over the post-war decades is well attested. There is indeed further extensive evidence (for reviews, see Erikson and Jonsson 1996a; Goldthorpe 1996) that in this same period the average incomes levels of different classes in Sweden became more equal, while the degree of economic insecurity experienced by members of the working class was steadily reduced. And through time-series analysis, correlations can in fact be established between these latter tendencies and the growing equality in educational outcomes that are at all events consistent with the hypothesis of a causal influence (Erikson 1996).

As against the constancy in class differentials in educational attainment, to which exceptions are few, the decline in gender differentials that has occurred in virtually all advanced societies since the 1970s must appear as rather dramatic. Because gender differentials arise within, rather than between, families, neither changes in the costs of education nor in inequalities in resources among

families are appropriate to explaining their reduction. In the light of our model, this may rather be seen as resulting from shifts in the perception of educational returns that have been prompted by changes in women's labour market participation. It would be fair comment to say that the pattern of returns to different educational decisions that we have thus far envisaged would, for most of the 20th century, be more applicable to young men than to young women. Until quite recently, it is likely that educational decisions in the case of girls were shaped in the main by the expectation that their primary social roles would be those of wife and mother, and that their class position—in terms of the class position of the family into which they would marry—would therefore be determined more by whom they married than by how they themselves fared in the labour market. In so far as this were the case, then the relative returns to education for women would be somewhat different to those we have supposed in the exposition of our model: at all events, the returns associated with any particular educational decision would be less highly differentiated than for men. So, for example, young women of service-class origins could be thought best able to retain their position in this class through marriage; but to meet young service-class men did not necessitate that they themselves should acquire the educational qualifications that led to a service-class occupation. Rather, their qualifications had to be such as to provide them with employment that would bring them into contact with potential service-class husbands, and this requirement might be met through only relatively modest levels of educational attainment, leading to a job as, say, a secretary or nurse. And within both the home and the educational system alike, as much emphasis was indeed placed on the acquisition of social and domestic skills as on skills that would have value in the labour market.

Such a flatter 'gradient' in the returns to different educational pathways would, if incorporated into our model, have two consequences. First, the proportion of women choosing to remain in education at each decision point would be smaller than the propor-

tion of men; and second, class differentials would tend to be less among women than among men. The former result follows from the lesser incentive to continue in successively higher levels of education that would be held out to women of all class origins alike; the latter comes about because the magnitude of the differences among those choosing to remain in education (for given values of ability and resources) is directly proportional to the variation in returns associated with the various possible educational outcomes. If we consider equations (1) and (2) shown earlier, then as the difference between, say, α_s, β_1 and γ_1 diminishes, so the difference between p_{is} and p_{iw} will also diminish.

Over the past 20 years, we would suggest, the pattern of returns to education for women has drawn closer to that for men, as rates of women's labour market participation and, especially rates for married women, have increased and as a woman's own employment has taken on greater significance in determining the standard of living enjoyed by her family and further, perhaps, her own class position. In other words, our model as expressed in Figure 1 has come increasingly to apply to women: the 'gradient' in their returns to education has steepened. According to our model, then, such a change should have two effects: gender differentials in educational attainment should decline, as indeed they have, and at the same time the magnitude of class differences among women should increase.

Conclusions: Theoretical Implications of the Model

As regards the theoretical implications of our model, we would see these as being of main significance in their bearing on explanatory strategy. The model represents children and their families as acting in a (subjectively) rational way, i.e. as choosing among the different educational options available to them on the basis of evaluations of their costs and benefits and of the perceived probabilities of more or less successful outcomes. It then ac-

counts for stability, or change, in the educational differentials that ensue by reference to a quite limited range of situational features. For example, in the case of persisting class differentials, the explanatory emphasis falls on similarly persisting inequalities in the resources that members of different classes can command in the face of the constraints and opportunities that their class positions typically entail. Class differences are also recognized, but not—as we have emphasized—class differences of a (sub)cultural character.

To the extent, then, that our model holds good, i.e. that it can provide an adequate account of the regularities we have considered and that its further empirical implications are not rejected—the relatively parsimonious strategy of the rational action approach is supported; and, we might add, in an area in which 'culturalist' theories of one kind or another have hitherto enjoyed great popularity—even if not great explanatory success (see Goldthorpe 1996). In turn, the case for attempting to pursue this strategy in other areas of sociological enquiry is strengthened.

Finally, though, we would wish to allude to certain theoretical implications that might be regarded as following from our model but that do not in fact do so. To begin with, we are not required to suppose that, in making educational choices, children and their parents in fact go through the processes of ratiocination that the model might appear to attribute to them. We do take it to be the case that the actors in question have some knowledge of how their society works, have some concern for their own, or for family interests, and seek to use the former to promote the latter. But we can at the same time accept that the decisions they make may only rarely result from any entirely explicit procedures, rather than, say, 'emerging' over a period of time and, in all probability, reflecting also various non-rational influences. What underlies our approach is the idea that it is rational considerations that are, not the only, but the main common factor at work across individual instances, and that will therefore shape individual patterns

of educational choices in aggregate and, in turn, the regularities that constitute our explanandum. Our model then aims to represent these considerations in an 'idealized' way, so as to capture the key generative processes involved, rather than to represent decision-making as it actually occurs at the level of particular families.

Further, while we do not in explaining class differentials in education invoke systematic variation in values or derived norms, this does not mean that we have to deny their very existence. Thus, in so far as class-specific norms may be identified—which is an empirical issue—we could recognize them as serving as guides to rational action that have evolved over time out of distinctive class experience and that may substitute for detailed calculation when educational choices arise. Understood in this way, such norms could conceivably be of some explanatory significance as inertial forces in cases where the structure of constraints and opportunities or the distribution of resources is changing. But what we would in fact expect, and the decline in general would in fact expect, at least by analogy, that norms, in being essentially epiphenomenal, would rather quickly come into line with patterns of action that display a rational adaptation to the new circumstances that have come into being.

In sum, our model implies an explanatory strategy that is undoubtedly 'reductionist' so far as the relation of norms to rational action is concerned (see Elster 1991). However, we do not in this regard seek what Popper (1972: Ch. 8) has criticized as reduction by fiat, but only reduction in so far as it is warranted by the empirical support that our theoretical arguments can obtain in the particular area in which they have been applied.[5]

Notes

1. Strictly speaking the mathematics of our model require a slightly weaker condition, namely that $\alpha \geq \gamma_i / (\gamma_1 + \gamma_i)$. This imposes a condition on the magnitude of the difference in the chances of

access to the service class as between remaining at school and passing the examination and leaving immediately. The conditional probability of access to the service class for those who leave immediately should not be greater than $\gamma_1 + \gamma_2$ times the conditional probability of access to the service class for those who remain at school and pass the examination. However, because of condition (iii), condition (iv) will always be met if $\alpha > 0.5$.

2. Note that, whereas p_{iW} can take any value between zero and one depending on the value of π, if $\beta_i \geq \gamma_i$ then p_{ib} will always exceed one-half for all values of π.

3. Though empirically this will be observed only if the proportion of service-class children who consider it in their best interests to remain in education does not change for other reasons. For example, given an increase over time in the importance of educational qualifications in obtaining jobs we might see changes in the relative values of the α, β and γ parameters causing the proportion for whom $p_{ib} > 0.5$ to increase in both classes. Under these conditions a narrowing of the odds-ratio will not necessarily follow.

4. In our model this will be the case for the service class if (in addition to conditions (i) to (iv)) $\beta_i \geq \gamma_i$ but it need not be so if this inequality does not hold.

5. Elster (1991) criticises several different versions of the argument that action taken in conformity with social norms is reducible to rational action. However, his efforts to show that no version entails that such a reduction is always possible are of greater philosophical than sociological interest. One could entirely agree with Elster, yet still wish to maintain that, in a particular instance of sociological explanation, a reductionist view could in fact be upheld; or, more generally, that it is good strategy to start from a reductionist position and to modify it only in so far as the evidence requires.

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Rational Choice and the TSL Model of Occupational Opportunity

Introduction

Logan (1996b) introduces a new statistical method, the two-sided logit (TSL) model, for studying the empirical determinants of occupational opportunity and choice in a general labor market. Applying this model gives estimates of the importance of individual workers' attributes in determining opportunities for employment in broad occupational categories, and of the importance of job characteristics in determining workers' choices of occupations. In this paper I consider the TSL model from a rational-choice perspective, which was not developed in the original introduction (1996b).

I consider the model as a relatively complete, but still empirically estimable, representation of rational choice in the occupational context. As Hechter (1994) notes, rational choice models in principle make choice a function of both objective and subjective elements, which for the worker are respectively external constraints on job availabilities and the worker's own preferences for types of job. Hechter emphasizes that preferences depend on both instrumental and immanent properties of the alternatives, and that stable, internalized preferences for these properties can usefully be called instrumental and immanent values. But most empirical

work, he says, simplifies the choice situation in such a way that immanent and instrumental values become irrelevant, leaving differences in constraints as the sole explanation of differences in behavior. TSL, by contrast, retains much more of the full context of choice, by making the constraints facing actors a matter for estimation, and by allowing both instrumental and immanent properties of alternatives to be considered. In retaining these aspects of choice, the TSL model seems particularly suited for extra-economic, sociological explanations of opportunity and choice. . . .

The Two-sided Logit Model

The TSL model proposed in Logan (1996b) is now described. The model has two sides, one for workers and one for employers. Each employer may employ more than one worker, while each worker takes at most one job. In an idealization of the actual process by which matches occur, employers initially evaluate workers before deciding whether to make job offers, using this utility function:

$$U_j(i) = \beta_j^* x_i^* + m_j + \varepsilon_{ij} \qquad (1)$$

Here β_j is a row vector of employer j's preferences for relevant characteristics of workers, and x_i^* is a column vector of worker i's observed values on those characteristics. In addition, the equation also includes a scalar quantity m_j to represent the net effect of any systematic contributions to i's utility for mak-

ing a hire which are unrelated to *i*'s characteristics. Generally speaking, these are market *influences*, which are considered exogenous factors with respect to the matching situation of the modeled employers and workers. It is assumed that the value of *m* cannot be observed directly by the researcher. The term e_{1ij} is a random disturbance representing utility-relevant factors which are not known to the observer (i.e. the researcher), but which are known to employer *j* and influence its evaluation of *i*.

The model specifies that employer *j* makes a decision regarding *i* by comparing (1) with the utility of *not hiring i*:

$$U_j(\neg i) = b_j + s_j + \varepsilon_{0ij} \quad (2)$$

Here b_j is the baseline utility the employer would obtain without an additional hire, and $s \geq 0$ is a strategic increment over this baseline utility which the employer may require before making an offer.[1] The strategic increment keeps the employer from offering a job to the first applicant who would make any addition whatsoever to its utility; how the employer might set its value is discussed later.

The quantities on the right side of (2) do not depend on the characteristics of worker *i*, but may depend on the characteristics of employer *j* itself; therefore they are *j*-subscripted rather than *i*-subscripted. Neither b_j nor s_j is directly observable. The term ε_{0ij} is a random disturbance indicating influences on the utility of not hiring *i* which are unknown to the observer.

When expression (1) is greater in value than expression (2), employer *j* makes a job offer:

$$o_{ij} = \begin{cases} 1 \text{ if } U_j(i) > U_j(\neg i) \\ 0 \text{ otherwise} \end{cases} \quad (3)$$

The dummy variable o_{ij} is 1 when employer *j* makes an offer to *i*, and 0 otherwise. This model of employer *j*'s decision is called a random utilities model because it represents the decision as a function of utilities which have

random components, the disturbance terms in (1) and (2).

The individual's choice of his/her most preferred offer from the available set is in turn specified as a second random utilities model. The utility which *i* would obtain from the job offered by *j* is defined as:

$$V_i(j) = \alpha z_j + v_{ij} \quad (4)$$

for *j* = 0, 1, . . . , *J*. Vector z_j contains the observed characteristics of an offered job when *j* > 0, while it contains the characteristics of unemployment when *j* = 0. Vector α_i contains the preferences of the individual, and v_{ij} is a random disturbance representing unknown influences on the utility. The decision rule for *i* which offers the highest utility.

In practice it is not possible to estimate a separate utility function for each individual. If $V_i(j) = \alpha z_{ij} + v_{ij}$ is substituted for (4), then dummy variables representing the individual's membership in different groups can be introduced in interaction with the original z_j variables to estimate preferences which vary among groups.

Equations (1) through (4), together with the decision rules given for employers and workers, and with particular distributional assumptions for the disturbances, lead to a model of the probability each worker has of accepting a job with each employer.[2] Because of the decision rules, this probability has the following two interpretations:

$$P(A_{ij}) = \text{probability that worker } i \text{ will accept job } j$$
$$= \text{probability that worker } i \text{ prefers job } j \text{ to all other jobs available to him or her, and that employer } j \text{ prefers } i \text{ to all other workers available to it.} \quad (5)$$

The second interpretation of $P(A_{ij})$ is valid because the joint pattern of preferences it describes requires *i* to accept *j*'s job under the rules, and *i* will not accept *j*'s job unless the joint pattern holds.

The model requires observations of **x**, **z**, and the observed outcome matching (*i*, *j*), but does not require observations of *m*, b_j, s_j, or the pattern of offers made to each worker by

employers. For computational reasons, this model cannot be applied directly to data on individual jobs, but instead must be estimated using the average characteristics of jobs in occupational categories. Logan (1996a) describes an EM algorithm used to obtain maximum likelihood estimates of parameters with such data, and Logan (1996b) discusses the estimates and their interpretation in more detail. Note that the estimates of the workers' preferences may be estimated downwardly biased when the model is estimated on average occupational characteristics, though this should not affect the qualitative results from the model.

Table 1 reproduces TSL estimates for women and men from the 1972–80 General Social Survey data, as analyzed in Logan (1996b). Five occupational categories are used in the models: professional; managerial; clerical and service; manufacturing blue collar; and other blue collar. Unemployment, defined here as the state of being without a formal job, is a sixth outcome category. In the models shown, workers rate employers by the prestige and autonomy of offered jobs, and employers rate workers by years of education, age and race (non-white = 1). The estimates use the mean prestige and autonomy in occupational categories as data on the employers, and individual-level measures on the workers. In addition to the preference coefficients appearing in the preceding equations, the TSL method estimates employer-specific intercept terms, β_{j0}, centered here to represent the tendencies of employers to hire white workers with average values of education and age. The asterisks indicate the strengths of evidence for particular coefficients according to the BIC criterion described in Raftery (1995).

Panel A of Table 1 shows estimates of the preferences of men and women for job prestige and autonomy (as measured by occupational category means). The implication of the estimates is that, in the 1970s, women preferred autonomy more than prestige, by comparison with the pattern seen for men. The preference coefficients of autonomy for women and men were .143 and .034 respec

tively, while the coefficients of prestige were .037 and .099.[3]

Panel B of Table 1 presents estimates of the preferences of employers hiring in each of the five occupational categories. As might be expected, employers in different categories appear to differ in their preferences, with professional and managerial employers strongly valuing education, for example, while manufacturing blue-collar employers show a distaste either for formal education itself or for some quality of workers which covaries with education. Only employers of male managers show strong preferences regarding age or race. Age is valued as a characteristic of managers, perhaps because experience and/or accumulated financial capital is a prerequisite for many jobs. However, non-white race is a property of workers which employers of managers seem strongly to avoid. Logan (1996b) discusses these results in more detail, giving several specific meanings which can be attached to the magnitudes of the estimates.

Depiction of Rational Choice

This section considers how the model just described corresponds to a standard rational-choice framework. As Hechter (1994) observed, rational-choice theory involves both objective and subjective components from the point of view of the actor. The objective component is a set of external constraints on the actor's choices, while the subjective component is the actor's utility, which determines his/her preferences among alternatives. Actors may value either instrumental or immanent goods in choosing among alternatives, instrumental goods being means for obtaining other things which are valued for themselves, the immanent goods. When the rational-choice model is considered in this basic form, the provision that actors may value immanent goods allows for the possibility that such non-economic influences as norms, habits, traditions and value-rational motives may be important influences on the choices of alternatives, regardless of market values.

TABLE 1
Two-sided Logit Estimates of Employers' and Workers' Preferences (1972–80 General Social Survey)

A. Workers' preferences for job characteristics (α coefficients):

	Women (N = 2632)	Men (N = 2149)
Prestige	.037** (5.22)	.099** (9.95)
Autonomy	.143** (11.64)	.034 (3.21)

B. Employers' preferences for worker characteristics (β coefficients):

	Prof.	Mgmt.	Clerical/Service	Mfg. Blue	Other Blue	Prof.	Mgmt.	Clerical/Service	Mfg. Blue	Other Blue
Intercept	-2.605** (15.87)	-2.570** (20.19)	.304 (1.86)	-.174 (0.47)	-3.078** (18.41)	-1.831** (15.82)	-6.22** (5.10)	-5.24* (4.02)	1.123 (2.23)	1.011 (3.56)
Education	.988** (12.23)	.228** (5.46)	.242* (4.19)	-1.068** (4.25)	-.140 (2.59)	.674** (14.87)	.349** (9.91)	.138 (3.21)	-.735** (4.58)	-.449** (4.64)
Age	.011 (0.65)	.036 (2.05)	.011 (0.81)	.007 (0.16)	.005 (0.21)	.027 (1.87)	.091** (6.64)	-.005 (0.28)	.032 (0.69)	.007 (0.20)
Non-white	.214 (0.72)	-1.155 (-2.46)	.723 (2.82)	1.382 (1.19)	.174 (0.45)	-.529 (1.90)	-1.570** (5.02)	.096 (0.36)	-.228 (0.39)	-.819 (2.15)

Notes: Absolute values of t = (est./s.e.) in parentheses. * = strong evidence of effect: $|t| > \sqrt{\ln N + 6}$; ** = very strong evidence: $|t| > \sqrt{\ln N + 10}$.

Source: Logan (1996b).

However, in most empirical applications, Hechter says, this threefold determination of choice by constraints, immanent values and instrumental values is radically simplified through 'the typical value assumption' of rational-choice theory. The assumption is that actors value alternatives on the basis of instrumental goods, such as money, which may then be exchanged for immanent goods of intrinsic value. The power of this assumption lies in the fact that all instrumental (but not all immanent) goods are held to value all instrumental (but not all immanent) goods positively and equally, since by definition they can be exchanged for immanent goods. This granted, it becomes unnecessary to measure the common value placed on instrumental goods, and rational-choice models may be expressed as functions of constraints only, a great simplification over the fundamental threefold model. Hechter lists several fruitful branches of applied rational-choice theory which he says rely on this reduction, and also considers circumstances which may undercut or support it in use. He does not consider the possibility of applied rational-choice models which preserve the threefold structure.

Imposing assumptions such as the typical value assumption is a primary means by which strong rational-choice theories are derived from the basic rational-choice framework. Such strong assumptions are undoubtedly sometimes necessary to simplify deductions and generate predictions. However, the typical value assumption is nothing less than the assertion that everything is for sale, since only if all immanent goods can be obtained through exchanges for instrumental goods will the assumption be persuasive. This may seem close enough to reality for the economist, but gives pause to the sociologist.

The TSL model is less a theory of occupational attainment, something obtained by making restrictive assumptions on the basic framework, than an attempt to translate the framework into an estimable model directly. This is not to say that no assumptions are ultimately required for estimation, but that the model mathematically represents the indepen-

dent contributions of constraints, immanent values and instrumental values. The assumptions needed for estimation arise from data and computational requirements but do not reduce the threefold framework of rational choice to a single principle.

Constraints on choice in the TSL model can be considered from either the worker's or the employer's side of the model. For the worker, constraints are imposed by the choices of employers not to make certain jobs available. The model of these constraints is given in the combination of equations (1) and (2) implied by decision rule (3). Both exogenous market forces, m_j, and the characteristics of the worker him/herself, x_i, help determine the worker's preferences. On the other hand, from the employer's side of the model it is the decisions of workers which create constraints on hiring. These constraints are affected by the characteristics of the employer's offered job, z_j, as well as by workers' preferences, α_i, as equation (4) shows. The constraints each side faces are therefore functions in part of the other side's preferences.

Unlike models making the typical value assumption, TSL allows the preferences of workers and employers to be functions of any mix of characteristics of the alternatives, whether instrumental or immanent, or both. The example in Table 1 shows just such a mix. Prestige, as Hechter specifically mentions, may be considered an instrumental good, at least in part, since it can be used to obtain other goods. Autonomy, by contrast, is an immanent good, something to be enjoyed on the job, but not to be exchanged in another context for a different good.

Employers derive instrumental goods from their employees indirectly, in the form of increased production. To the extent that certain properties of workers increase production, they have instrumental value. Education may be such a property. But other properties of workers, such as congeniality in the work situation or racial or ethnic similarity to present workers, may have little instrumental or production value, and be valued instead primarily as immanent goods. Education and race,

arguably instrumental and immanent properties, appear together in the model of Table 1.

Asking what the TSL model would look like it the typical value assumption were imposed may help clarify the issue. Say, then, that it is decided that to a useful approximation all workers prefer jobs according to their instrumental characteristics; this would drop autonomy from the model as irrelevant a priori. Then, if it is further held that the value placed on instrumental characteristics is common to all workers, there is no need to estimate a coefficient for prestige (or other instrumental characteristics). Instead, the occupational categories could be ranked in unambiguous ascending order by their average instrumental utilities. Equation (4) would disappear, replaced conceptually by the proviso that all workers prefer higher utility occupations according to the universally shared ranking. Under this condition, the TSL model can be shown to reduce mathematically to a sequential logit model (Logan 1996b). Only the firms' preferences in equations (1) and (2) would affect the attainment of workers, and their effects would be as constraints on workers' choices, which to the workers would appear objective.

No statistical model, TSL included, seems capable of distinguishing the mode of valuation by data analysis alone, that is, whether a particular characteristic has instrumental or immanent value to the actor. The best TSL can do is to detect the relative influences of measured characteristics on matching behavior, leaving it for the analyst to interpret which values are instrumental and which immanent, as earlier.

In summary, TSL is a relatively complete representation of rational choice in the occu-

pational attainment situation, containing the three fundamental elements described by Hechter. TSL's two-sided approach contains a duality between constraints and preferences, so that one side's preferences become the other side's constraints. It is only while looking at the choice situation from the point of view of a particular side that constraints seem purely objective.

Notes

1. Strictly speaking, (2) is only a utility when $s_z = 0$, since a non-zero s_z represents no actual increment to the baseline utility. However, I will refer to (2) as a utility whether or not $s_z = 0$, for convenience.

2. The key assumptions are that the disturbances are independent across firms and workers, and that they have type I extreme value (Gumbel) distributions. See Logan (1996b) for details.

3. The coefficients are interpreted more concretely as the log-odds that a unit difference in the value of a job characteristic will produce a concordant difference in a worker's rankings of two otherwise similar opportunities.

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Observations on the Study of Social Mobility and Inequality[1]

Although classical discussions of social mobility focused on the macro-level connections among mobility, social inequality, and the potential for society-wide class conflict (e.g., Sorokin [this volume]), modern mobility research tends to dwell on an important but more limited set of individual-level relationships. How rigid is the connection between social origins and destinations, and how does this vary across time and place? Who gets ahead in the world of work? What mechanisms link social statuses and positions early in life to those that come later? The readings in this section illustrate some of the key approaches to questions of this sort. They cover well-established lines of investigation of occupational mobility and the process of socioeconomic attainment, as well as new work on social networks, the dynamics of poverty, and models of rational action. A main line of development during the past 20 years has been the growth of "structural" approaches to stratification, which attempt to break away from abstract occupational categories and single-dimensional approaches to work hierarchies. These contributions are based on empirically grounded categories of social class that stress the authority position of work roles (Wright 1997; Erikson and Goldthorpe [this volume]; classifications of work roles by labor market sector (e.g., Piore [this volume];

Doeringer and Piore 1971); taxonomies of work governed by the types of organizations where it is done (e.g., Baron and Bielby 1980, 1984); more detailed examinations of occupations (Sorensen and Grusky, 1996); models of how social mobility depends on job vacancies in organizations (Sorensen and Kalleberg [this volume]; White 1970) or in the economy as a whole (Keyfitz 1973; Sorensen 1977); and models of how workers and employers are matched (Mortensen 1988; Logan [this volume]). (See Baron 1994 for a more thorough review of these developments.)

Given our abiding curiosity about who gets ahead and the fairness of the process, the centrality of work to most adult lives, and the fundamental role of the economy in society, politics, and culture, it is understandable that stratification research emphasizes the labor market, including its rewards, institutions, and formal and informal organization. Yet this emphasis, by itself, leads to an incomplete view of how social stratification and inequality are generated. This essay focuses on aspects of social mobility and inequality not emphasized in other articles in this section. I first discuss other key institutions of stratification on which substantial research relevant to mobility and inequality has been done and then sketch an agenda for future work that I believe will enrich our understanding of how inequality is generated. In so doing I argue for (1) a richer form of institutional analysis of

This is an original article prepared for this book.

stratification that focuses on families and households, schooling, and spatially structured hierarchies at the local, national, and global levels; (2) the development of more sophisticated models of human behavior related to stratification as it unfolds in these institutional settings; and (3) the development of dynamic models that link these two levels of analysis.

Other Institutions of Stratification

At the most elementary level, to focus exclusively on work institutions and economic mobility overlooks the stratification of the large nonworking part of the population, including (1) children and teenagers; (2) "working-age" persons who do not hold jobs because they are homemakers, caregivers, students, disabled, incarcerated, independently affluent, or simply unable to find work; and (3) retired persons who are past the conventional working age. Although some of these persons are linked to the labor market because they worked recently or because of family ties to a worker, many have no connection to work organizations and live entirely outside of the resources that individuals bring to the labor market (see below). A further consequence of focusing on the labor market is that we tend to regard stratification as fundamentally about the movement and distributions of individuals, even when we acknowledge the causal importance of the structure of labor markets, jobs, and social networks (Baron 1994). This reflects our preoccupation with our own epoch, in which jobs belong to individuals, rather than families, neighborhoods, or other communal units. Although these supra-individual units cannot be employed, they can nonetheless be stratified, and their structural features may have substantial effects on stratification. Indeed, because they

"survive" beyond the lifetimes of biological individuals, these units, in concert with work institutions, maintain and transform systems of inequality. I elaborate on these observations below by considering in turn two institutions, families and schools, that play an especially important role in stratification systems.

Families, Households, and Social Stratification

In most empirical studies of social mobility and attainment, "family background" is viewed as a multidimensional index of individuals' resources or statuses at an early stage of life and is derived from measurements of their parents' characteristics. Family relationships are typically measured at the individual level and viewed as a personal trait rather than an aspect of social structure. Yet this emphasis minimizes the ways in which family demography and organization are interdependent with social stratification. Consider the following connections between family and stratification:

1. The size and structure of the family of orientation affect educational and occupational attainment, even among families with similar socioeconomic characteristics. Children's school performance and ultimate educational attainment vary inversely with sibship size in most societies, presumably because per capita resources are scarcer in large families (Blau and Duncan 1967; Blake 1989; but see Shavit and Pierce 1991). Parents also affect their offspring through the timing of fertility: offspring born to older parents go farther in school than those born to younger parents (Mare and Tzeng 1989). Family structure, as defined by the number of parents present in a household, also affects offsprings' educational attainments and other outcomes in early adult life (e.g., McLanahan and Sandefur 1994). Children raised by single mothers fare worse than children raised in two-parent families. The effect of fathers' so-

cioeconomic characteristics on the success of their sons may also be weakened in single-mother households inasmuch as absent fathers make less of a difference to the socioeconomic standing of the household than those who are present. Finally, depending on the strength of kin relationships, adult relatives such as grandparents or fathers-in-law may affect the socioeconomic success of young persons. The evidence for grandparent effects on achievement is largely negative for the contemporary United States (e.g., Warren and Hauser 1997), but one can envision rules of inheritance in which such effects may be important. In Brazil, fathers-in-law exert a substantial influence on the economic success of their sons-in-law, even when the characteristics of fathers are controlled (Lam and Schoeni 1993).

2. The association between the socioeconomic characteristics of parents and offspring is just one out of a large number of possible socioeconomic associations between pairs of kin, which include siblings, spouses, individuals and their parents-in-law, cousins, and grandparents and grandchildren. Although the association between the socioeconomic characteristics of each of these kin pairs contains information about the possible "transmission" of status from one family member to another or the socioeconomic "barriers" within the population, each association also depends on the strength and meaning of the kin relationship. The association between father's and son's occupation, for example, is a measure of the rigidity of the social stratification system, but it also reflects the general strength of the bond between father and son. In populations in which many boys live apart from their fathers for some of their childhood, the association between father's and son's occupation may be weaker than in populations in which two-parent households are universal (Biblarz and Raftery 1993). Likewise, variation in educational homogamy between husbands and wives reflects, to some degree, variation in the social barriers to marriage across educational lines, but it also may result from variation in the meaning, organization, and timing of

marriages (Oppenheimer 1988; Mare 1991). When comparing socioeconomic associations between kin across societies or over time, it is important to realize that the rigidity of systems of stratification is affected in part by the strength of kin ties, which may in turn be affected by demographic and cultural factors normally viewed as outside of social stratification per se. By the same token, the rigidity of social stratification, as indicated by the association between the socioeconomic characteristics of kin, may have a large effect on bonds of kinship more generally.

3. Social mobility research emphasizes the roles of individuals as economic producers. Yet we should consider the distribution of resources among consumer units as well. (See Szelényi [this volume] for a fuller discussion of units of analysis in stratification.) Inasmuch as consumption is carried out in households, trends in income and consumption distribution must be assessed, at least in part, at the household level, the unequal distribution of resources within families and households notwithstanding (e.g., Karoly 1994; Lazear and Michael 1988; Mayer and Jencks 1993). This suggests that we should broaden mobility research to include movement among poverty, income, or consumption strata at the family or household level (e.g., Musick and Mare 1999). Yet the formation of families and households is not exogenous to the social mobility process. Decisions about when to leave the parental home; whether, when, and whom to marry; how many children to have; and, in older ages, with whom to live are interdependent with socioeconomic success and mobility (as well as the network of available kin and friends). Socioeconomic success or failure often cause individuals to form or dissolve couples, families, or households. In short, our units of analysis in the study of stratification may be created by the very processes that we seek to understand. Despite the good efforts of social scientists to unravel this puzzle, few clear solutions to these problems have been found.

4. It is families rather than individuals that provide demographic continuity of social

stratification from one generation to the next. In the occupational mobility table, the distribution of sons' or daughters' occupations on the one hand and occupational or earnings attainment on the other imply, for a well-defined population at a particular time. Because parents are known only by the offspring who report on them, however, the distribution of parents' occupations has no clear time or population reference. The distribution of the occupations depends on both a sequence of occupation distributions that existed at a variety of times in the past and on differentials in level and timing of fertility across occupation groups (Duncan 1966). Thus the family backgrounds of individuals are created by both the socioeconomic levels of parents and a set of decisions about whom to marry (which establish the distribution of father's and mother's socioeconomic characteristics), how many children to have (which establish sibship size), and whether to remain married (which establish family and household structure). The stratification scholar should therefore bear in mind that socioeconomic reproduction combines intergenerational social mobility with demographic reproduction, including differential fertility, fertility timing, mortality, assortative mating, and family stability (for example, Mare 1997a; 1997b; Musick and Mare 1998).

Educational Stratification

As Blau and Duncan (1967) illustrate in their "Basic Model" of stratification, educational attainment is a pivotal mechanism governing social mobility and socioeconomic attainment. It is the first socioeconomic "outcome" for a cohort of persons entering adulthood and a key determinant of later success in the labor market. The importance of educational stratification and the socioeconomic "returns" to schooling is twofold. First, in most societies, variation in educational attainment accounts for a large part of the association between the socioeconomic characteristics of parents and their offspring. That is, schooling "transmits" most of the effect of family background on later socioeconomic achievement.

Second, however, the moderate-sized correlations between social background and education on the one hand and between education and occupational or earnings attainment on the other imply that education introduces substantial variation in socioeconomic attainment that cannot merely be reduced to variation in family backgrounds. This interpretation of the role of schooling applies irrespective of how it actually affects economic standing, whether through the accumulation of human capital (Becker 1962), through socialization for the workplace (Bowles and Gintis 1976), through a "signal" of otherwise hidden potential productivity (Spence 1974), or through the establishment of a queue that, for whatever reason, employers use to match workers to positions (e.g., Thurow 1975; Sørensen 1977).

In Blau and Duncan's model, educational attainment is viewed as a status, the cumulation of an individual's educational experience. The schooling process, however, in fact comprises a series of transitions between successive levels of schooling that are structured by the family, peer group, school, labor market, and cultural influences that may change while an individual remains in school (Mare 1980; 1981). This view is implicit in the distinction between sponsored and contest mobility systems, which differ essentially in whether students are selected (by social class or ability) early or late in the schooling process (Turner [this volume]). It is also the empirical counterpart to behavioral models of decisions about whether to continue in school (Breen and Goldthorpe [this volume]; Breen 2000). By viewing schooling as a series of transitions (e.g., attendance in high school given completion of elementary school, high school graduation given high school attendance), one can see which stages of schooling depend most on socioeconomic background and at which stages intercohort changes in socioeconomic effects occur (Mare 1980; 1981).

Analyses of school transitions also show how the effects of family background on total educational attainment may decline over time because of (1) secular growth in educational

attainment, combined with (2) a tendency for the effects of parents' socioeconomic characteristics to be weaker at later stages of schooling. These two empirical tendencies, taken together, imply that growing fractions of birth cohorts face transitions that are only weakly dependent on social origins (Mare 1981). This approach is especially suited to the cross-national comparison of systems that may vary in the meaning of total years completed but nonetheless make broadly comparable institutional distinctions, such as those among primary, secondary, and post-secondary schooling (Shavit and Blossfeld 1993; Rijken 1999). Breen and Jonsson (in press) extend the analysis of school transitions to nations that have multidimensional educational hierarchies (e.g., Sweden) in which students make transitions within and between parallel academic and vocational streams.

The analysis of school transitions also leads to a reappraisal of how parents' educational attainments affect those of their offspring. In contrast to the linear relationships between parents' and offspring's schooling in Blau and Duncan's model, families may try to ensure that children go *at least* as far as their parents, implying that parental educational attainment constitutes a threshold for the attainment of offspring. The avoidance of downward educational mobility is central to Breen and Goldthorpe's [this volume] model of educational decision making. Whether parents have completed a particular school transition does in fact strongly affect whether their offspring make that transition, over and above the effect of parents' level of completed schooling (Mare and Chang 1998).[2]

The Future of Stratification Research

Many breakthroughs in stratification research have resulted from innovative adaptation of technical methods that refine and expand the purview of the field and lead to superior formulation of research questions. Examples of these innovations include log-linear models, which make it possible to operationalize the distinction between absolute and relative rates of occupational mobility; structural equation models, which elucidate the causal pathways by which family, school, and labor market experiences are connected; event history methods, which reveal the time dependence of socioeconomic events and statuses; and multilevel analyses, which clarify the interdependent causal processes that occur among individuals, families, neighborhoods, schools, or nations. Innovation in stratification research also comes from major social changes, such as women's increased participation in the paid labor force, the rapid growth in single-parent households, the fall of communism in Eastern Europe, and the emergence of private markets in China. These developments spawn the revision of empirical models of mobility, attainment, and inequality (e.g., Bernhardt, Morris, and Handcock 1995; McLanahan and Sandefur 1994; Róna-Tas 1994; Walder, Li, and Treiman 2000). Future innovations in stratification research, including the ones called for in the remaining sections of this essay, are also likely to come from both technical innovation and ongoing social change. As shall be evident, the suggestions that follow also reflect the view that progress in the field requires attending not only to the institutional forces at work, but additionally to the role of human agency as it plays out in the context of these institutional constraints.

Agency and Endogeneity in Behavioral and Statistical Models

The emphasis in sociological research on mobility and inequality has been to describe stratification phenomena in demographic and social structural terms and to eschew models of human agency. In our standard models, individuals are not viewed as purposive agents, but rather as passive beings, heavily constrained by socializing agents, social networks, and large-scale forces. By virtue of this passive conception of human behavior, the

causal ordering of variables is assumed to follow their temporal order (e.g., family and schooling factors are causes of occupational status or earnings), and structural positions are assumed to cause individual attitudes, behaviors, and resources (e.g., labor market sector is a cause of earnings). These simplifying causal assumptions work hand in hand with the assumed lack of purposive behavior. Purposive behavior, in contrast, creates the possibility that events or statuses that are realized in a temporal sequence may in fact be jointly determined by prior decisions. Likewise, it creates the possibility that individuals choose (or self-select into) structural positions because of the anticipated benefits connected to those positions.

These issues are pervasive in the analysis of socioeconomic achievement. Consider two examples:

1. A large estimated negative effect of sibship size on educational attainment is almost universal. That sibship size is usually fixed well before a young person leaves school makes it appear that size of sibship is a cause of educational attainment, if by "cause" one means that an intervention to lower average family size would, *ceteris paribus*, raise average levels of education. But an alternative interpretation is that, when women or couples plan their fertility, they take account of their expectations about the kinds of costs they will bear and investments they will make in their children. In the parlance of family economics, they make a "quality-quantity tradeoff" in balancing their level of fertility with the advantages that they will provide their children (Becker 1991; Caldwell, Reddy, and Caldwell 1988). By this interpretation, basic stratification models must be revised to allow for the joint determination of sibship size and offspring's education.

2. Perhaps the most extensively studied relationship in social science is the effect of educational attainment on earnings or wages. Whether schooling embodies human capital (or is merely a signal to employers of otherwise hidden attributes of workers, it is typically assumed that, at the margin, positive increments to schooling raise the wages of workers. Yet linear models of the effect of education on earnings may give misleading estimates of the economic return to schooling. If individuals decide whether to continue in school with expectations about the wages that alternative amounts of schooling will bring, then educational attainment and their relationship to wages are jointly determined, and their relationship can only be correctly assessed by models that take school decision making, expected wages, and ultimate wages into account (Willis and Rosen 1979). Similar issues arise in the relationship between academic tracking and student achievement (Gamoran and Mare 1989) and between labor market sector or occupation and earnings (Cain 1976; Sakamoto and Chen 1991). Each of these relationships raises hard questions of behavioral theory and model specification for which standard statistical approaches do not suffice. For the purpose of describing the joint distributions of socioeconomic variables, these problems can often be ignored. To understand the causal mechanisms that underpin stratification at the individual level, however, more sophisticated structural models must be developed.

The largest obstacle to model development in sociology is the absence of well-developed theories of human behavior. Absent strong theoretical assumptions, it is usually impossible to make much headway on estimating complex relationships among stratification variables. Within economics, the assumption of utility maximization guides the development and estimation of models for intergenerational processes, family decision making, and income determination (Becker 1991). For good reasons, however, few sociologists are willing to accept these models uncritically. Instead, insofar as sociologists acknowledge the role of purposive action and its consequences for empirical research on stratification, they tend to adopt more informal approaches (e.g., Gamoran and Mare 1989). Although this is preferable to ignoring purposive behavior altogether, it is questionable how far one can go

in the absence of stronger theory. One promising line of work, which eschews theories based on utility maximization but provides a formal structure for the interpretation of market phenomena, is empirical models for two-sided matching processes (Roth and Sotomayer 1990). Logan (this volume; 1996a; 1996b) proposes statistical models for matching workers to jobs. These models represent the mutually restrictive effects of employer preferences on the behavior of workers and worker preferences on the behavior of employers, show how worker characteristics are rewarded in the market and how the characteristics of jobs attract workers, and lead to a substantially revised assessment of how labor market structure affects achievement. The power of these models derives from the assumption that job-worker matches are approximately in equilibrium, which implies that workers and employers strive to make the best match that they can, but not necessarily one that maximizes an assumed utility function. These models have broad potential applicability to stratification phenomena, including intergenerational and intragenerational occupational mobility, assortative mating, ethnic competition in the labor market, and educational stratification.

Spatial Issues in Mobility and Inequality

The field would also profit from exploring how spatially structured hierarchies at the local, national, and global levels provide the context within which such purposive behavior plays out. At the dawn of the current era of stratification research analysts turned away from local community studies and focused instead on national systems of mobility and inequality. Assuming that individuals were not confined by local hierarchies and mobility opportunities, researchers obtained national-level data with measurements that followed, as far as possible, national statistical agency guidelines (Pfautz and Duncan 1950; Blau and Duncan 1967). The contextual properties and even the identity of regions and local communities became marginal to the main line of mobility investigation and, when these factors were recognized, they were inevitably treated as exogenous "background" characteristics of individuals. These nation-level studies have been conducted in many countries, thereby permitting relatively systematic cross-national comparisons and multilevel investigations of processes at both the nation and individual levels (Tieman and Ganzeboom 1999). These developments have crystallized into paradigmatic spatial assumptions of contemporary stratification research, namely, that subnational geographic variation is of minor importance to stratification, geography may affect how individuals and societies define the boundaries of stratification systems, and nation states are independent cases in comparative analysis.

As useful as these simplifying assumptions may have been for the development of national and comparative research, they should be reassessed. Economic globalization implies that national labor markets are increasingly interdependent. International migration of labor, often tied to the prospects for socioeconomic mobility in both origin and destination countries, creates demographic links between national systems of stratification. These developments undermine the assumption that nations are independent entities and that nation of residence is exogenous to the process of social stratification. Although nations are becoming increasingly interdependent, some are, de facto or de jure, also splitting up. The breakups of the Soviet Union and Czechoslovakia are obvious examples, but geographically concentrated minorities in other nations, such as Canada or Spain, often advocate some form of (spatial) separatism. We need, therefore, a more flexible approach to the definition of geographic units. Whether research conclusions are robust to alternative assumptions about geographic boundaries, and national interdependencies should be topics for empirical research rather than fixed assumptions.

We can also benefit from the reincorporation of space into the analysis of single societies. A substantial literature explores the possibility of "neighborhood effects" on individual socioeconomic outcomes (e.g., Jencks and Mayer 1990). Although the effects of neighborhoods reported in this literature are often weak or poorly specified, geographic location is nonetheless highly relevant to social stratification. In recent decades in the United States, residential segregation among socioeconomic groups has increased (Jargowsky 1997), suggesting a stronger interdependence of residential mobility and social mobility at the individual level and neighborhood segregation and inequality at the population level (Quillian 1999). The links among these phenomena, however, are not well understood. Studies of social mobility and attainment, of residential mobility, and of residential segregation occupy largely distinct literatures. Empirical and theoretical research that attempts to elucidate the links among these processes has the potential of revealing important mechanisms through which inequality is generated.

From Micro-Level to Macro-Level Processes of Stratification and Inequality

The final and most ambitious agenda for the field involves developing models that specify how micro-level processes and behavior are parlayed into macro-level change. Much contemporary mobility research involves little more than micro-level accounting for the success and failure of individuals in the labor market, even when researchers give primacy to macro-level organizational, network, and market mechanisms.

By its very nature, this type of research, taken alone, cannot tell us much about how and why systems of stratification are maintained and evolve. Nor can it reveal much about the determinants of inequality, an inherently aggregate concept. A partial exception is studies that analyze system-

atic variations across countries and over time in social mobility and the process of socioeconomic attainment (Treiman and Ganzeboom 1999). Yet despite the concern of comparative scholars with change in stratification systems, they are typically guided by general propositions, such as those linking industrialization and stratification, that discriminate poorly between cross-section and temporal variation (Treiman 1970). The resulting studies typically do not examine how the stratification process itself may affect other societal-level conditions, and they treat macro-level influences as empirically separate from and irreducible to the behavior and characteristics of individuals. As a result, these studies pay scant attention to the *dynamics* of change in stratification or inequality; that is, they are exercises in comparative statics, rather than efforts to elucidate the ways in which an existing regime of stratification may hold the seeds of transformation into a subsequent regime. This limitation of comparative studies arises, in part, because the process of socioeconomic attainment, as typically conceived, is not a closed system; technological, political, and demographic factors impinge on stratification in ways that we typically regard as exogenous rather than as consequences of past regimes of mobility and inequality alone. This limitation also arises because we have a very weak understanding of the dynamics of stratification systems.

One limited attempt to embed social mobility within a dynamic context is the study of demographic and socioeconomic reproduction. This is an effort to account for changes in the distributions of socioeconomic characteristics through the use of models of renewal in heterogeneous populations, combined with information on intergenerational mobility across social strata (e.g., Kremer 1997; Mare 1997a; 1997b; Preston and Campbell 1993). These models elucidate the mechanisms through which social mobility and demographic processes—including differential fertility, mortality, marriage, and immigration—may effect changes in socioeconomic hierarchies. They also provide an explicit link be-

tween the behaviors of individuals and aggregate features of populations. The limitation of these models, however, is that they are narrow in scope and, in their current state of development, ill-suited to the analysis of the effects of market constraints, technology, and work organization. Nonetheless, they illustrate the sort of analysis that will be needed if we are to understand the dynamics of stratification and inequality.

From Social Mobility to Social Inequality

The classical motivation for mobility studies (e.g., Sorokin [this volume]) involved tracing out connections between social mobility and social inequality. I am thus suggesting a return to this concern and correspondingly increased appreciation that social mobility and social inequality are linked by a welter of conceptual and empirical relationships. Consider, for example, the following:

1. When inequality is high, there is much more at stake in the study of mobility than when inequality is low.

2. The pattern of social inequality may influence rates of mobility: For example, when many persons are self-employed and hence have substantial capital investments in their job, intergenerational mobility may be lower than when most persons work for wages (Simkus 1984).

3. The impact of inequality on people's lives and their likely response to inequality depends on whether they regard their positions in the stratification system as more or less permanent (Sombart [1903]1976; Sorokin [this volume]; Sibley 1942).

4. Mobility itself may change inequality through supply and demand in the labor market. When a change in mobility patterns affects the relative numbers of workers trained for various positions, the relative wages of these skill groups may change and, in turn, change em-

ployers' demands for workers of varying types and the resulting job and wage distributions (Freeman 1971; 1976).

5. Intragenerational job and wage mobility may affect earnings inequality through the creation of "transitory" variance in earnings (versus the variance in work-ers' "permanent" earnings). Inequality in earnings at any time is greater in markets where workers make frequent moves than in markets with limited labor mobility (Gottschalk and Moffit 1994).

The articles in this section do not attend adequately to relationships of the foregoing sort. In view of the interdependence of mobility and inequality, not to mention the dramatic and poorly understood growth in inequality in Western industrial societies during the past quarter century (Levy and Murnane 1992; Morris and Western 1999), one hopes that future stratification studies will redress this imbalance.

The scientific understanding of stratification will grow if we take a broad view of the institutional and demographic mechanisms that govern mobility and inequality, welcome new efforts to blend formal behavioral theories with empirical analysis, think flexibly about the ways that spatial relations create and reflect inequalities, and look for ways to study the dynamic relationships between individual behavior and the characteristics of populations and institutions. This is a tall order, but we must face these challenges if we are to move beyond the question of who gets ahead to the broader issue of how systems of social mobility and inequality are generated.

Notes

1. David Grusky, Judith Seltzer, and Donald Treiman made very helpful comments on an earlier draft of this essay. This work was supported by the John D. and Catherine T. MacArthur Foundation and by the Council on Research of the UCLA Academic Senate.

2. Space limitations preclude discussion of the various ways in which social stratification also occurs within schools. Academic tracking, for example, can broaden or narrow pre-existing inequalities in academic achievement among students and thus affect variation in ultimate educational attainment (e.g., Gamoran and Mare 1989; Kerckhoff 1993).

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Part V
The Consequences
of Stratification

Lifestyles and Consumption Patterns

Interests, Attitudes, and Personalities