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Abstract

In a highly complex occupational structure with a great deal of mobility of men among jobs, the process of matching men to jobs is by no means automatic, but determined by complex mechanisms that may produce discrepancies between jobs and men: discrepancies that are a likely source of negative job attitudes. This paper focuses on the mechanisms that produce discrepancies between men's skills and the requirements of jobs, and discrepancies between men's aspirations for status and income and the wages and prestige a job provides. The paper outlines a number of concepts relevant for the analysis of the occurrence of such discrepancies: characteristics of the production of skills and aspirations, characteristics of jobs such as the nature of competition they generate and the flexibility of tasks, and characteristics of the labor market such as the rate of change in job content, employment levels, and the distribution of information about job opportunities. Finally the paper attempts to specify some of the organizational characteristics that determine the strength of the relationship between actual discrepancies between job and men and job attitudes.

Jobs, Training, and Attitudes of Workers

INTRODUCTION

Jobs are roles occupied by individuals in the economic sector of society, that is, a set of activities that are carried out in the production of goods or services. In industrialized society, jobs are usually conceived of as entities separate from the individuals who occupy them. This distinction can of course also be made analytically in non-industrialized society, but it is not a distinction of much importance since in nonindustrialized society jobs and men are tied together from birth for the vast majority of the population. Jobs in primitive society are not a matter of choice, they are not left and entered in succession, and they do not in general exist independent of persons as they may be conceived to do in industrialized society. In other words, a distinction between jobs and men has no empirical relevance in nonindustrial society, for job and man are one throughout the life cycle.

Industrialization, in particular increased functional differentiation, changes the relation between jobs and men completely. The distinction no longer is only a possible analytic one, but one that has important implications for social life. The industrial production process creates a whole set of new jobs, jobs that are defined primarily by their relation to other jobs in a division of labor. Such jobs are not tied to particular persons; they exist primarily by virtue of their relation to other jobs and can be eliminated and created independently of who occupies them or may occupy them. Interdependent jobs, typical of the industrialized society, do have an existence independent of individuals and we may therefore legitimately ask such questions as, What is the relation

between jobs and men and, What are the characteristics of the process by which they are matched?

The classic analyses of the interdependence among jobs and the ensuing separation of jobs and men are given by Durkheim and Marx. For Durkheim (1933), the interdependence among jobs created by the division of labor of course meant the formation of dependency among persons and thus a basis for what he calls "organic solidarity." Much less emphasis is placed on negative consequences of the division of labor, but one of the anomic forms of the division of labor, according to Durkheim, (1933), is precisely a consequence of the separation of jobs and men. This separation may result in a mismatch of men and jobs with disintegrative consequences, or:

"For the division of labor to produce solidarity, it is not sufficient, then, that each have his task; it is still necessary that this task be fitting to him." (Durkheim 1933; p. 375)

This possible discrepancy between men and jobs is recognized to be a source of conflict, especially class-conflict, by Durkheim. But in his brief treatment of the topic he is more concerned with pointing to the remedies for such conflicts, i.e. the creation of equality of opportunity and effective administration of justice, than in analyzing the discrepancies and their causes and consequences in more detail. Clearly, the integrative consequences of the interdependency among jobs is of primary concern.

For Marx, in contrast, the separation of jobs and men is of fundamental significance for capitalist society.

"The social character of activity, and the social form of the product, as well as the share of the individual in production are here opposed to individuals as something alien and material; this does not consist in the

behavior of some to others, but in their subordination to relations that exist independently of them...." (Marx, 1971:74)

In the Marxist view, this alientation of man through the separation of jobs and men is of fundamental importance for the transformation of a society that has such relations of production into the communist society, and the interdependence among jobs certainly is not seen as an integrative force in society.

While Durkheim in the above quotation clearly points to the problem of the match between jobs and men, he saw the existence of a mismatch as a deviant case. He argues at length in The Division of Labor for the flexibility of man and against the possible negative consequences of an increased specialization. In contrast, Marx saw a discrepancy between the nature of man and the roles they occupy in the production process as the typical situation for the worker in capitalist society, which can be overcome only by the collective dominance of the production process.

These two very different conceptions of the nature and magnitude of the problem caused by the separation of men and jobs share a recognition of the fundamental change in the relation between men and jobs caused by the division of labor and the associated interdependence of jobs. However, neither Marx nor Durkheim analyzed in much detail the exact nature of the relation between men and jobs and the possible variation in this relationship. For Durkheim a discrepancy was the atypical case of minor importance in his analysis; for Marx nondiscrepancy was an impossibility in capitalist society, which could be overcome only by changing this society.

The purpose of this paper is to analyze in some detail the relation between jobs and men, in particular the correspondence between skills and aspirations of men, on one hand, and the requirements of jobs and the return they provide, on the other. When jobs and men were tied together over a lifetime, training for jobs was provided in the family and geared to the job a person inevitably would obtain; aspirations and expectations regarding jobs likewise were not problematic. With industrialization, training for jobs and the expectations persons form about opportunities for jobs no longer can be assumed to match actual jobs. An important part of the training for jobs takes place in schools only loosely connected with the labor market, and even training acquired on the jobs does not ensure the availability of actual jobs. Expectations regarding jobs and the status and income desired from them are formed on the basis of predictions based on less-than-perfect information regarding job-opportunities, and possibilities for discrepancies between aspirations and achievements will exist.

Several recent studies have attempted to account for a considerable level of job dissatisfaction among both blue-collar and white-collar workers in terms of the separation of men and jobs (Sheppard and Herrick, 1972, HEW 1972, Berg, 1970). The existence of such dissatisfaction indicates that there are limits to this flexibility of man that Durkheim so strongly believed in, but the fact that not everybody is dissatisfied at all times also points to a variation in job-attitudes that is not accounted for by Marx's claim for a universal alienation of workers in capitalist society. However, empirical research has not attempted to systematically develop a theory that will account for a variation in

job attitudes in terms of the structural factors that influence the matching of jobs and men. We need to go further than to observe that an important cause of negative job attitudes lies in the separation of jobs and men, in order to account for such variation. The present paper therefore will attempt to outline how variation in structural factors may account for a variation in job-attitudes.

The next section will present a list of the most important types of discrepancies between jobs and men. We shall then analyze the mechanisms that produce discrepancies between jobs and men. Finally, we will outline some of the variables that may specify the effect of a discrepancy between jobs and men on job attitudes and job-behavior (turn-over, productivity, etc.).

TYPES OF DISCREPANCIES BETWEEN MEN AND JOBS

Men come to jobs with expectations regarding the level of income and status they would like to obtain and with a set of skills acquired in earlier jobs and in schools. They may also have expectations regarding their autonomy over work, career opportunities, and other aspects of the job, but we shall, in this paper, primarily focus on men's aspirations and skills in relation to the status and income a job provides and the skills it calls for.

The matching of jobs and men may result in (1) a discrepancy between actual earnings and status and the person's aspiration, or (2) a discrepancy between skills possessed and skills required, or (3) both. Discrepancies between men's skills acquired through training and experience and those required by jobs may be further subdivided. We

may classify skills of persons and activities of jobs by their level of complexity and by their type. Thus, on the one hand, we may order jobs with respect to the complexity of activities embodied in them, an ordering that would be done by using the amount of training it takes for an average person to master the job. But jobs may also be arranged horizontally, according to the type of skill required. Similarly, persons may be ordered according to their level of skills and arranged according to the type of skills possessed.

Such an arrangement of jobs and persons results in two types of discrepancies. (1) A discrepancy between the level of skills required by the job and the level of skills possessed by the person. (2) A discrepancy between the type of skills demanded by the job and the type of skills the person has acquired. The first type of discrepancy represents two subtypes: either under- or overtraining according to whether the level of skills possessed is higher or lower than the level of skills required. The second type of discrepancy is a form of mistraining for the job, or skill malfit.

The different types of discrepancies are interrelated. Aspirations for income and status will ordinarily be dependent on the level of training an individual has acquired. Overtraining and unfulfilled aspirations are therefore likely to go together, whereas it is less likely that under-training will be associated with unfulfilled aspirations. Mistraining is likely to be remedied through on-the-job training that will result in lower earning, at least when this on-the-job training is potentially transferable to another job, and training costs therefore will be borne by the individual. Unfulfilled aspirations are therefore a possible indirect consequence of mistraining.

It should also be noted that it might be the case that the creation of one type of discrepancy is a consequence of an attempt to reduce another type. Thus, overtraining may be a price paid for fulfillment of income and status aspirations; or conversely, lack of fulfillment of aspirations may be a price paid for avoiding a discrepancy between skills required and skills possessed.

These various types of discrepancies are assumed to have an impact on a person's job attitudes; that is, actual discrepancies between job and man are a source of perceived discrepancies between what a person would like his job to be and what he perceives it to be. The perceived discrepancies in turn are used prominently as a measure of job satisfaction (Porter, 1961; Wilenski 1966; Locke 1969; Wanous and Lawler 1972). The relation between actual and perceived discrepancies should not be taken as automatic, though. Later in this paper, we shall discuss some of the variables that may specify the effect of actual discrepancies between jobs and men on job attitudes.

The various types of discrepancies have different effects on job attitudes. Overtraining implies that the job is boring and may be expected to lead to both dissatisfaction and lack of involvement on the job. Undertraining on the other hand may result in a lack of involvement, since the job is too demanding, but is not likely to lead to a perception of the job being boring. Unfulfilled aspirations are more likely to lead to negative attitudes toward the employer than toward the job as such, and may in fact coexist with positive attitudes toward the job.

The dynamics of the impact of discrepancies between men and jobs also will differ according to which type of discrepancy we focus upon. The negative impact of undertraining and mistraining can be alleviated

by training on the job and therefore are less likely to be a permanent feature of the work situation. Unfulfilled aspirations may get resolved by a lowering of the level of aspirations and thus also may have a transient negative impact. Overtraining on the other hand is likely to result in more permanent negative attitudes for only deterioration of skill on the part of the individual will eventually bring about a match between man and job.

Only empirical research will clarify the exact nature of the relationship between the various types of discrepancies and job-attitudes. For the purposes of this paper we shall therefore not attempt to speculate further on the nature of the relationship.

The next section will undertake the main task of the paper, which is to outline the mechanisms through which jobs and men get matched and mismatched. This section will then enable us to make some predictions as to where discrepancies will occur. However, the magnitude of the effect of these mismatches may be assumed to depend on a number of factors--among these, the opportunities for leaving the job again and the expected possibilities for promotion that may result in overtraining being regarded as a necessary evil. After the outline of the mechanisms for matching of jobs and men, we shall therefore discuss some of the factors that may specify the effect of a discrepancy between men and jobs on the job attitudes.

THE MATCHING OF JOBS AND MEN

We described in the preceding section several types of discrepancies that may arise between the skills and aspirations of men, and the type and complexity of tasks in a job, and the earnings and status of a job.

These discrepancies arise in the matching of jobs and men. This section will outline some of the mechanisms that may produce such discrepancies, that is, we will outline how men and jobs come to be matched and mismatched in a labor market.

The matching process has not been of great interest to sociologists, despite their interest in the study of social mobility, which represents the movement of men among jobs. The strong emphasis on intergenerational mobility and status attained seems to have directed research away from a concern for the process through which individuals come to occupy certain jobs. In economics the matching process has been treated as a special instance of the provision of factors of production--the factor being labor until recently the process has been analyzed theoretically as the outcome of a competitive process where individuals maximize earnings and employers maximize efficiency in production. A large body of empirical research exists in labor economics on labor market behavior and the motives and preferences of individuals and employers. We shall not summarize this research, but our outline of the major features of the matching of jobs and men will rely on some of the main results.

There are three main sets of characteristics to consider when accounting for the outcome of the matching of jobs and men. Characteristics of men, characteristics of jobs, and characteristics of the matching process itself. We shall consider the three groups in turn.

Characteristics of Men

Men acquire skills through schooling and on-the-job training and form aspirations and expectations concerning the employability of their

skills and the status and income they would like to obtain. Both will be discussed in this section. We shall specify the characteristics of skills of interest in the present context and some of the mechanisms that produce variations in the distribution of skills. A major distinction has already been introduced, that between level and type of skills, but a more precise definition is needed and other distinctions are also of interest.

In general, skills refer to whatever motoric aptitudes and knowledge that are relevant for carrying out a task embodied in a job. Skills are learned, and learning takes time and may involve other costs: instructional materials, lower productivity, and teachings costs. The training costs of obtaining a given set of skills, regardless of who bears the actual costs (the individual, the public, or the firm) will be used extensively in the following to classify skills. The actual training costs incurred by an individual will, of course, vary not only with the set of skills acquired but also with characteristics of the individual, such as his ability, and with the efficiency of the training process. We shall ignore the latter variations in the remainder of the paper and refer to training costs as the costs of training an average individual.

Training costs will be directly proportional to the complexity or level of skills, and in turn can be used as a measure of skill level. Skill level then would be given by the costs of training an average person to that level. The actual use of such a measure would present several problems. A major component of costs would be earnings or productivity forgone while in training, a quantity that in general would be hard to obtain, and for certain groups, like primary school children,

would be hard to conceive of. An alternative measure of skill level, perhaps the most obvious, is training time. Here the difficulty is to take into account a variation in efficiency of training that should be adjusted for when assigning measures of skill level to persons.

Despite the difficulties of operationalization, the relationship between training costs and skill level shall be used extensively in the following. This is because training costs will determine the size of investments a person makes in training and these costs therefore will influence a person's aspirations. Training costs, to the extent they are borne by employers, should be minimized by a profit maximizing employer. They are therefore important also for the behavior of the employer in the process of matching jobs to men.

Persons may be mismatched to jobs not only because the level of skills does not correspond to the complexity of the job, but also because the type of skills a person has does not correspond to the type of skills demanded by the job. While level of skill at least can be expressed as an ordinal variable, type of skill can only refer to some nominal classification. This classification may be based on a number of principles. A likely principle is to classify skills according to the activities for which they are used. A classification of activities into occupations therefore could also serve as a classification of skills. A number of characteristics of occupational activities that may be used for such classifications are given in the Dictionary of Occupational Titles.

The likelihood of skill malfit, that is, a discrepancy between type of skills possessed and type of skills demanded, clearly depends on the relative frequency with which certain types of skills and jobs occur.

The more specialized a person's skills, the fewer jobs in general will exist that match these skills. Should a person with very specialized skills be out of a job, the more likely it therefore is, other things being equal, that a skill malfit will occur. The distinction between general and specialized skills is an important one not only for predicting the occurrence of mistraining, but also for the occurrence of overtraining and unfulfilled aspirations. This follows simply from the fact that if mistraining occurs because a person cannot employ his specialized skills, then the job that is obtained is likely to be at a lower skill level and does not match with respect to status and income the investments made in the unemployed person's specialized skills.

Skills are specialized to the extent that they are not transferable to other tasks than the ones they were acquired to carry out. A measure of the degree of skill specialization for a person would therefore be the costs of retraining that person for another task, controlling, of course, for the similarity between tasks. Some basic skills--reading, writing, arithmetic, and some degree of motoric coordination--are general skills because they are nearly universally required. For that reason, they are also nearly universally possessed. On the contrary, some of the most important general skills, the skills necessary for efficient learning, or "the ability to learn," are unevenly distributed. Similarly, knowledge of abstract principles of method and theory that may be applied to a variety of tasks, is not evenly distributed.

Overall we should expect a positive relation between the level of skills and the degree to which skills are specialized. But at a given level, there may be considerable variation in the degree of skill

specialization. High school graduates may have had considerable vocational training in high school, or they may have had little or none and mainly possess skills relevant for the acquisition of more skills in higher education. Liberal Arts graduates have few skills that are directly employable, but other college graduates--nurses and engineers, for example--possess skills highly linked to specific tasks, and persons having these skills may in fact have a monopoly on such tasks.

The degree of specialization of skills is important because it influences both the likelihood of a discrepancy occurring between a person and a job and the consequences of such a discrepancy. At a given level of skills, the more specialized a person's training, the lower we will expect the level of general skills to be. This means that it will be more costly to acquire new skills for there is far less general knowledge to transfer. This will make mistraining more permanent, and is likely to increase the likelihood for unfulfilled aspirations, especially if the person has to pay for part of the training himself, for example, in earnings forgone.

Skills are mostly acquired in schools and on-the-job, but some are acquired in the family particularly general skills. According to status-attainment research (see, for example, Blau and Duncan 1967), skills acquired in the family seem most important for the acquisition of more skills, as a major influence of family background on status is an indirect one, through education. Few specialized skills are acquired in the family in industrial society, as a result of the development described in the introduction. However, in some sectors, farming, for example, specialized training in the family may still be important.

The marked growth in educational attainments, especially in recent years, appears to signify a large increase in the degree to which schools provide training for skills needed in the labor market. However, this growth can be in response to other functions performed by the educational system: cultural, custodial and recreational. The amount of time spent in the latter pursuits may have grown more than the direct amount of time spent in the teaching of employable skills. Nevertheless the increased attendance, especially to higher levels of education clearly means an increased differentiation and specialization of skills provided by schools.

The output of the educational system will be a distribution of skills which may be characterized by level and types of skills and by degree of specialization. This distribution of skills cannot be assumed to correspond to the actual demand for skills. Schools are in general oriented less toward satisfying general cultural considerations and student demands, which are determined by abilities and interests that, even if based on employment considerations, may derive from false predictions about employment opportunities. The distribution of the output will of course not be completely independent of the labor market, especially in the long run. But the relationship seems rather complicated. For example, there appears to be a general tendency toward cycles in the demand for specialized education, such as for engineers, that reflects the time lag between actual employment opportunities and students' response to them.

Obviously then, the educational system may produce a distribution of skills greatly at variance with the requirements of jobs. There is evidence that a large proportion of the labor force in fact, does not use skills acquired in schools other than the basic ones. However,

regardless of the actual employment opportunities for skills created in schools, for most students there will presumably be an expectation that their skills are employable, the more so the longer they have spent acquiring them and the more specialized they are.

Training not provided by the family and schools is given on the job. Even if quite specialized skills are given by schools, some on-the-job training will take place--minimally, learning about the location of tools, the lines of communication, for example. In contrast to schooling, on-the-job training will not be given unless there is an actual need for it. However, technological change, change in consumer demand, and mismanagement of the firm may make skills obsolete. The more skills are tied to the speicfic job in which the individual received his training, the more the skills will become obsolete. But even general on-the-job training will, at least, tie skills to the family of jobs, the industry in which training occurred.

The distinction between general and specialized education is a much greater one than that between special and general on-the-job training. This latter distinction is relevant not only with respect to how much training ties a person to a specific job, but is also important for whether the costs of the training are covered by the individual or the firm. If the training is general, at least to the extent that skills can be transferred to other jobs, then the worker is likely to bear the costs, primarily through lower wage, for otherwise the firm that provides the training will be subsidizing other firms (Becker 1964). That the worker covers the costs of training, in turn is likely to be important for his aspiration level.

The level of aspiration for status and income can in general be expected to depend on the amount of training a person has undertaken, that is, the level of skills he possesses. No rational being should undertake any training unless the future return he will receive as a result of this training will exceed the costs of the training. However, a number of factors will determine the exact relationship between costs of training and levels of aspirations. Most persons form their actual aspirations under the influence of friends and parents on the basis of information on what other persons with the same level of skills obtain. Since the actual relationship between earnings status and training will vary over time, a person's aspirations may be based on erroneous predictions, and not be obtainable.

In sum, the educational system will produce a cohort of entrants into the labor force that may be characterized by the level, type and degree of specialization of skills and by their aspirations for status and income. Because of time lags and the isolation of the educational system from the labor market, the distribution of skills and aspirations will generally be somewhat at variance with the requirements of jobs, and their status and earnings may be greatly so. But there will nevertheless be expectations on the part of students that their skills may be employable. On-the-job-training further modifies the distribution of skills and even though such training would not be undertaken without a need for it, technological change and the decline of firms and industries may make skills acquired on the job unemployable. The more general a person's training the larger the family of jobs for which this may be relevant, and the more efficient the acquisition of new skills can be. The more specialized a person's skills, the more serious one

should therefore expect a discrepancy between the demand and supply for skills to be. However, the more specialized a person's training, the greater the competitive advantage he has for jobs he is prepared for. The degree to which potential discrepancies results in actual discrepancies between jobs and men will depend, furthermore, on characteristics of jobs and the matching process, to be discussed next.

Characteristics of Jobs

As individuals can be characterized by the level and type of skills they have acquired, so jobs can be classified according to the level and type of skills they demand. The measurement and classification of level and type of skills demanded by jobs will parallel that done for individuals. Complexity of jobs thus, again, may be measured either by the amount of time it would take to train somebody to carry out the job or by training costs. Training costs is an important characteristic of jobs, not only because of its use as a measure of level of skill demanded, but also because in many other ways training costs affect the outcome of the process of matching men to jobs. One of these ways is the role of training costs in determining the level of status and income a job will provide.

It is important to distinguish between potential costs, which would be the costs of training someone who only possesses the most basic skills, and actual costs, which would depend on the prior training of the job candidate. Employers minimize actual training costs by hiring someone who already has the necessary skills because of schooling or prior job history. The more complex the skills needed, the more the supply of persons will diminish; and the less training that is necessary the higher the wages

employers will therefore be forced to pay. This ensures a rough correspondence between a person's level of skills and the earnings he obtains. A similar supply and demand argument has been formulated by one branch of stratification theory (Davis & Moore 1946) to account for status differences among jobs (footnote in Davis & Moore). The resulting relation between the complexity of jobs and the earnings and status will also contribute to the creation of a rough correspondence between the level of skill a person obtains and the complexity of the job.

The distribution of jobs according to type and level of skills and according to earnings and status constitutes the major features of the occupational structure. It is the match between this structure and the distribution of persons according to skills and aspirations that determines the frequency of the various kind of discrepancies between men and jobs. We already argued that it is not reasonable to assume that only those skills will be acquired and only those aspirations formed that match the occupational structure, for much training takes place in institutions outside the labor market, and changes in occupational structure may make obsolete even those skills acquired in the labor market. Similarly, it appears impossible to argue that the occupational structure is determined by the supply of skills. Rather the major determinants can be seen as the derived demand for goods and services and the technological structure, though some minor modifications could be brought about by the supply of certain skills, as argued by Treiman (1970).

Not only will the overall distribution of jobs be relevant, but also the rate of change in this distribution and in the employment level. This is because rate of change and employment level will determine the distribution

of job opportunities, that is, jobs available for persons seeking employment. A discussion of these labor market characteristics and how they affect the outcome of discrepancies between jobs and men is given in the next section.

Aside from labor market characteristics, there are two characteristics of individual jobs that will be important for the outcome of the matching process. One characteristic is the degree to which the tasks of a job are prescribed independently of the incumbent, the other the degree to which incumbents are insulated from competition from persons not in the job. We shall refer to the first characteristic as task flexibility, and discuss this concept first.

Task Flexibility. We argued in our discussion of skills that the more specialized a person's skills, the more likely a discrepancy between skills and job. A parallel characteristic of jobs having the same relation to the likelihood of skill malfit, is the degree of task flexibility, that is, the degree to which variation is allowed in how a job may be carried out. The extreme example of a job with high task flexibility is the job of an artist, who can define himself the tasks of a job and is, in fact, rewarded for individual differences. To a lesser extent, the scientist, the manager, and certain professionals may have jobs of the same nature. The extreme example of a task-inflexible job is the assembly line job, where tasks may be prescribed in minute detail. Clearly the more task-inflexible a job, the more likely will be skill malfit, other things being equal.

Jobs differing in task flexibility are not randomly distributed throughout the economic sector of society, but are associated with

particular technologies and organizational structures. A knowledge of the concomitants of jobs that are likely to be involved in skill discrepancies will therefore aid in predicting the occurrence of mismatches between job and men.

The type of technology used by the organization has been related to its degree of task flexibility. Perrow (1967) argues for example that whether the task structure will permit the worker discretion over his performance of the task is dependent on the number of exceptional cases encountered in the work. Organizations with routine technologies therefore are more likely to have task-inflexible jobs. Support for the relation between routine technology and task flexibility is provided by Hage and Aiken (1967), Blauner (1964) and Pugh et al. (1969).

Another, less obvious, determinant of task flexibility is the degree of complexity of the organization. Child (1973) found that complexity is the best predictor of formalization and thus task inflexibility. High levels of complexity require high levels of coordination and control that may be achieved via codifying jobs and not allowing dissension within jobs. The degree of complexity of an organization in turn is influenced by such factors as type of technology, size (Pugh et al. 1969), and the degree of uncertainty present in the organization's environment (Thompson 1967).

The managerial philosophy of the organization's leadership exerts an independent effect on the degree of task flexibility found in an organization. Commitment to Tayloristic principles of scientific management will produce inflexible jobs even when there are no technological or organizational reasons for specifying jobs this way.

Persons with highly specialized skills who are forced to take a task-inflexible job of a different type than the one they are prepared for, are the most likely to experience skill malfit. Persons with highly specialized skills may have an additional problem when seeking jobs: if these skills are acquired in a particular job, they may not be employable in any other job. Hence it may be impossible to obtain a job for which retraining is not needed, with overtraining and unfulfilled aspirations as possible consequences. The degree to which specialized skills needed for a job can be acquired outside of the job is important in the outcome of the matching of jobs and men, as it determines the nature of the competition process, to be discussed next.

Job and Wage Competition. If all specialized skills were acquired in jobs and no skills were transferable from one job to another, then no complete match between a person's skills and the requirements of the job would be possible without some retraining. Furthermore, since specialized skills would not be transferable, a person would not receive a return on his specialized skills but only on his general skills, that is, on his ability to learn. Unfulfilled aspirations for persons having to shift jobs therefore also is a likely consequence of such a system of jobs, unless all training is paid for by the employer.

The case of no skill transferability is an extreme one. The degree to which specialized skills can be acquired outside the job, or, in other words, the extent to which actual training costs may be eliminated by hiring a suitable job candidate, is however an important characteristic of

jobs. If specialized skills only can be acquired in the job, then persons' general skills will be decisive for who gets the job. If specialized skills can be acquired outside of the job, then these specialized skills will determine who gets the job. This characteristic of jobs, in turn, is important for whether the matching of jobs and men follow the "job-competition" or the "wage-competition" model. This distinction is suggested by Thurow (Thurow 1969, Thurow and Lucas 1972); we hope to demonstrate in the next section that the distinction is of great importance in predicting which types of discrepancies between men and jobs will occur under various conditions.

In the job competition model, a job can only be entered if it is vacant, whatever the reason: because it is a new job, or the previous incumbent entered another job, or he retired. A vacancy is necessary because no one outside the job can replace the incumbent unless he vacates the job, as the candidates are less qualified for it and training costs will have to be incurred by the employer or the employee. This means that the matching process will be the outcome of two sets of factors: the distribution of persons according to the level of general skill, and the distribution of vacant jobs according to their desirability. Individuals can be ordered according to their general skills (as determined by background and schooling) in a labor queue, and jobs can similarly be ordered in a job queue according to their desirability, for example, in terms of the earnings they return. The highest ranked individual in the labor queue will get the best job in the job queue that is vacant, because employers then will minimize training costs; and the lowest ranked person gets the worst job, irrespective of the specialized skills and experiences.

A person's relative position in the labor queue rather than his absolute level of skills will then determine which job he gets, for the outcome of the matching process is determined by the distribution of vacant jobs, not the distribution of all jobs.

In the wage-competition model, it is a person's actual skills, not his relative position on a labor queue, that determine which job he will obtain. A job need not be vacant in order for a person to obtain it. If he has the appropriate skills and is willing to work at lower wages than the incumbent, or if his productivity is greater, then a profit-maximizing employer should hire the candidate and lay off the incumbent. The earnings a person obtains will therefore be a direct function of his skills and the number of persons with similar skills. The distribution of vacant jobs need not influence the matching process, and the distribution of men and jobs will be determined by the distribution of all jobs and all men according to skill level.

Wage competition is the model of the matching process suggested by neoclassical economics. It is more likely to occur if skill requirements in general are low because then anybody outside a job may replace the incumbent of the job. At higher skill levels, wage competition is more likely if schools or other training agencies provide for specialized skills. Also wage-competition may exist within a job family where skill requirements are similar, so that entrance into the job family is governed by job-competition, while matching of persons to jobs within the job-family follows wage-competition for those who already are trained. Thus job-competition may determine who gets into a craft occupation and wage-competition may determine the matching for those already in. Finally it could be argued that wage-competition is likely to prevail in task-flexible

jobs because there will be less emphasis on specialized skills that can be acquired only in the job. However, in all these instances where there is a presumption of wage-competition, job competition may in fact exist. Wage-competition is not very comfortable for job incumbents, for they may at any moment be replaced by a person willing to work at lower wages or more qualified for the job. Hence there will be a strong incentive to increase job security and earnings. This is done by unionization, by establishment of tenure rules, or by attempts to restrict the supply of qualified job candidates by restricting entrance into training agencies (such as schools of medicine). These various mechanisms will all result in job-competition rather than wage competition, even when there is a presumption for wage competition.

Finally, the "sociology of wage relations" (Thurow, 1972), that is, a tendency to uphold relative wage differences among occupations despite changes in competition, will have as a result that job competition will prevail.

Thurow and Lucas (1972) present evidence that the job-competition model is prevailing in the American labor force. The implications of job competition for the matching of jobs and men therefore will be emphasized in the following discussion of the various determinants of discrepancies between jobs and men.

Other characteristics of jobs will be important in subsequent discussions. The degree to which jobs are organized in careers thus will be argued to be important for how strongly a discrepancy between job and man affects job attitudes. Similarly, the organizational setting of a job will be important for the existence of alternative sources of satisfaction, such as frequent contact with co-workers, and therefore

also influences the extent to which discrepancies between jobs and men influence job attitudes.

The Matching Process

In the preceding sections we defined several types of discrepancies between jobs and men: 1) discrepancies between a person's level of aspiration for status and income and the status and income obtained in a job; 2) discrepancies between the level and 3) type of skills possessed by the person and those demanded by the job. Next we outlined a number of characteristics of men and jobs relevant for the matching process that determines the occurrence of such discrepancies. We shall now try to tie these various points together in order to come up with predictions regarding the frequency of the various types of discrepancies. This can only be done in a very broad way, since a large number of variables will interact in producing the phenomena we are interested in, but the mechanisms outlined below should nevertheless be useful as guidelines for research.

Characteristics of men, jobs, and the labor market will determine who will get hired into which job. In addition to the characteristics of men and jobs already considered, we shall consider more general characteristics of the labor market, such as the level of employment and the rate of technological change, and the characteristics of persons, such as their level of information, and their mobility constraints, such as the cost of moving to a different geographic area. However, we shall first tie together the previous discussion on characteristics of jobs and men.

It is useful for this task and the one that follows to assume that individuals will attempt to avoid discrepancies of any kind. For example,

while they may compromise and sacrifice income aspirations for an avoidance of a skill discrepancy, they should not seek out such discrepancies. This assumption implies that the degree of control persons have over their employment situation will determine the likelihood that a discrepancy actually occurs. There are two components to the level of control: (1) the degree to which persons can choose between alternative employment opportunities when seeking a job, and (2) their job security, the degree to which they can decide themselves when to leave a job. The two components will often vary together but, as we shall see, the nature of the matching process, whether it is job-competition or wage competition, may interact with the relation between control over job-choice and control over the decision to leave.

With respect to control over the choice of jobs, persons with maximum control are able to choose the employment that fits their skills and fulfill their status and income aspirations. Persons with no control are forced to take whatever employment is available regardless of how it meets their skills and aspirations, or go unemployed. It follows that forces that determine a person's level of control may be used as predictors of the frequency of discrepancies.

A person's level of control is determined by the number of opportunities for employment available to him. The more opportunities there are, the more control a person has over the choice of employment. But the more opportunities there are for suitable employment, the more likely it also is that persons in a job have high job security since the demand for skills then will be high and the supply low. This is one reason why control over the choice of employment will vary with the control

over the decision to leave a job. Another reason is that control over choice of employment may be seen as causally related to control over the decision to leave. Finding employment is a process in time. The greater the job security, the less dependent a person will be on the actual opportunities for alternative employment at any given point in time, and therefore the greater control, he will have over the choice of employment.

A person's level of control over his employment situation depends on the level of his skills and their degree of specialization, and the nature of the competition process, job- or wage-competition. We are concerned with three types of discrepancies between jobs and men: mis-training, overtraining, and unfulfilled aspirations. We shall just outline how the nature of the competition process interacts with skills in a rather intricate way in producing these discrepancies. Subsequently we shall treat the more general characteristics of the labor market that affect the level of control.

Skill Malfit. In general the more specialized a person's skills, the fewer opportunities there are for alternative employment and the lower his control over choice of employment. The relationship depends however on the nature of the competition process of the job, which also will determine the relationship between degree of specialization and control over the decision to leave a job. In wage competition a person with specialized skills has as alternative employment opportunities all jobs for which his skills are suitable, regardless of whether they are filled or not, since he may obtain a filled job if he is willing to work at a lower wage. With respect to job competition, only jobs that are vacant are available as alternative employment and even for those, it is unlikely

that he will be able to find employment for his specialized skills, since most specialized skills in such jobs are acquired on the job. While, on the other hand, job security will be low in wage-competition jobs, control over the decision to leave will be larger in job-competition jobs, since the job incumbent is insulated from competition from persons outside of the job and at least some of the specialized skills acquired on the job represent an investment by the employer.

It follows that the potential for mistraining or skill malfit will increase the more specialized a person's skills, more so in job-competition than in wage-competition jobs. This holds true for persons seeking employment. For incumbents, the likelihood of getting to experience mistraining is lower, however, for persons in job-competition jobs as they are less likely to be forced out of their jobs. The fewer opportunities in job-competition jobs for suitable employment of the kind of specialized skills a person has acquired are thus compensated for by greater job security in these jobs. Should a person be forced to leave a job-competition job anyway, the consequences are likely to be more serious than if employment takes place in wage-competition jobs.

Independently of the interaction between the nature of the competition process and the degree of skill specialization, the degree of task flexibility of the job will determine how serious the consequences of skill malfit will be, in the manner discussed earlier.

Overtraining. For a given overall level of skills, there will be an inverse relation between specialized skills and general skills, modified however by the fact that high level of general skills may be necessary

for obtaining high levels of specialized skills; otherwise the acquisition of these specialized skills would be extremely costly. The relation between a person's level of skills and his control over his employment situation again depends on the nature of the competition process. In job competition, persons are hired on the basis of their general skills; and hence the higher the level of these skills, the greater the control. This will also hold for job incumbents; since the higher their level of general skills, the lower the actual training costs and the more valuable a person will be to his employers and therefore the greater control a person has over the decision to leave. In wage-competition, however, persons are hired for their special skills. The level of general skills is therefore largely irrelevant, both for control over the choice of jobs and for job security, in wage-competition jobs. A college graduate trained as a plumber has little advantage for plumber jobs, over a high school graduate trained as a plumber, less so the less additional specialized training a plumber needs to take on a plumber job, that is, the more pure the wage-competition is.

It follows that the higher a person's general skills are, relative to his overall skill level, the greater is the potential for overtraining in wage-competition jobs. In job-competition jobs, the opposite holds true, since in these a person cannot expect to find employment for his specialized skills.

Aspirations. Status and income aspirations are strongly influenced by a person's skill level. It follows that the relation between level of skills and control over employment, just discussed, is relevant for

the occurrence of unfulfilled status and income aspirations, too. The relation between skills and the wages and status obtained also depends on the nature of the process of competition for jobs. In job-competition jobs, the higher a person's specialized skills relative to his general skills, the less likely it is that his wages and status will correspond to his overall skill level, and the greater the potential for a discrepancy between aspirations and actual returns. In wage-competition jobs, the opposite again will be found; that is, the higher a person's general skills relative to his specialized skills, the greater the potential for a discrepancy between aspirations and actual returns on a person's overall skill level. This is, of course, a serious problem for persons who for some reason are forced to leave a job-competition job. The easiest job to obtain will be a wage-competition job for such jobs are not insulated from competition. However these jobs are those that are least likely to provide an adequate return on a person's overall level of skill.

Information and Personal Constraints. Personal characteristics other than the nature of skills in interaction with the nature of the competition process are relevant for the level of control persons have over their employment situation and the potential for the various types of discrepancies. A person's actual employment opportunities depend on his information about which jobs are available and suitable for his skills and aspirations. It is well known (Parnes 1954) that job-seekers to a large extent depend on information gathered through friends and relatives. There is thus a general tendency to have much less than perfect information about employment opportunities, which increases the potential for discrepancies between men and jobs. Furthermore, characteristics of available jobs, such as their status and wages, are more

easily known than their skill requirements. Even if a person has no preference for avoiding unfulfilled wage aspirations at the expense of skill discrepancies, lack of information may lead to choices of employment that force skill discrepancies on a person. The employee's control over the decision to leave a job will, in turn, be important for whether a skill discrepancy created by lack of information may get alleviated through subsequent job-shifts.

Even if suitable employment opportunities exist and a person knows about them, he may not be able to obtain such jobs if his mobility for some reason is constrained. The cost of moving to another geographical area is one such constraint. Married women are often constrained by the employment of their husbands. Discrimination, whether against certain races, ethnic groups, or other minorities, can be seen as barriers to mobility that reduce a person's possibility for taking advantage of existing employment opportunities. Whether they are caused by personal attributes, such as marital status and geographic location, or by structural forces, such as discrimination, these barriers reduce a person's control over his employment situation and therefore increase the potential for discrepancies between skills and aspirations of persons, and task and returns of jobs.

Labor Market Characteristics. High employment levels will in general increase a person's control over his employment situation. More employment possibilities are available for persons seeking jobs, and job-incumbents have more control over the decision to leave. Persons will be able to obtain better paying and higher status jobs, and the potential for mistraining and overtraining should be reduced. However, high labor demand may increase the potential for undertraining because less qualified individuals may be hired into more complex jobs. Overall, high employment levels should

reduce the potential for most discrepancies between jobs and men that we find in society.

Low employment levels will have the opposite effect. Persons seeking jobs will have fewer opportunities for employment, persons in jobs will more likely to be forced out of their jobs. In job-competition jobs the job security will be higher but the consequences of a lay-off may be more drastic since the specialized skills acquired in jobs are less likely to be employable elsewhere, and a lay-off is likely to result in some degree of mistraining. Aspirations for income and status are more likely to be unfulfilled: in job-competition because persons are likely to be forced to take lower level jobs; in wage competition because wages will decrease with the decreased demand. It should be noted, though, that as long as a person can obtain a job in the job category for which he is trained in wage-competition jobs, his status aspirations may still get fulfilled. Similarly overtraining is more likely to be found with low demand for labor, especially so in job-competition jobs, while in wage-competition jobs the complexity of the job skill may be appropriate to a person's skill level even if he is forced to work at lower wages.

Technological change creates and eliminates jobs, and may change the content of existing jobs. The higher the rate of change in job-content, the more favored are persons with high general skills, for the training costs for such persons are lower. Persons with specialized skills will see their employment opportunities reduced, for a high rate of change in job-content will tend to eliminate jobs for which wage-competition is possible. Hence, the rate of change in job-content will influence the likelihood of discrepancies between men and jobs, the more so the more

specialized a person's skills and the lower his level of general skills.

Changes in the supply of persons with certain skills may occur relatively independently of the demand for skills, especially when training agencies, such as schools, are isolated from the labor market, and the rate of change in job-content is high. The degree to which the production of skills takes place independently of the labor market demand for skills obviously will influence the potential for discrepancies. For wage-competition jobs, changes in the supply of specialized skills will influence wages, and these changes in wages in turn may produce unfulfilled aspirations if the result is a lowering of wages. These wage changes in turn can be seen as signals that may influence the future supply of skills. If the production of skills is isolated from the labor market, or if student preferences, not related to employment possibilities, are important, the time lag for adjustments may be considerable or an equilibrium may never be achieved.

For job-competition jobs a supply of general skills is important. An increase in the supply of higher level skills will however not necessarily change the labor queue because this is an ordering of persons when relative and not absolute skill levels are important. For a given job-queue, that is, a distribution of jobs according to their desirability, this means that an increase in the supply of high level general skills will result in lower level jobs going to persons with high level skills. However persons with lower level skills will be forced to take even lower level jobs. Hence the wage and status differential between skill levels may remain constant even though there are changes in the distribution of general

skills. An increase in college graduates will result in lower level jobs to college graduates but since college graduates are preferred to high school graduates because of their lower training cost they will force high school graduates down to lower level jobs than the ones they occupied before the increase in the number of college graduates. An increase in persons with high level general skills will then increase the potential for overtraining in the labor force. If aspirations for wages and status are based mainly on comparison with other groups, this development may not result in unfulfilled aspirations, but if aspirations are based directly on the amount of training received, unfulfilled aspirations will occur.

The effects of a change in the supply of general skills in job-competition markets are effects mainly on those seeking jobs. Job-incumbents have higher job security in job-competition jobs. However should a person be forced out of his job in job-competition jobs, his situation is clearly determined by when he enters the labor queue. In a situation where there is a general rise in educational attainments, this means that the older a worker is the lower his relative position in the labor queue will be in relation to what it was when he entered the labor force. This may be compensated somewhat by a credit given to his greater overall experience, but it is nevertheless likely that older workers will be at a serious disadvantage.

SPECIFICATION OF THE EFFECTS OF MEN-JOB DISCREPANCIES

In the preceding section we considered a number of mechanisms that will influence the extent to which discrepancies between men and jobs occur. However, the existence of a discrepancy between the skills of a person and the requirements of a job will have an effect on job attitudes

dependent on other characteristics of the person's work situation. This section will discuss some of the characteristics that may specify the magnitude of the effect of a discrepancy between men and jobs. We will be concerned mainly with specifying the effect of skill discrepancies; unfulfilled aspirations may be assumed to have an effect on job attitudes that develop quite differently from the effect of a skill discrepancy. Thus, unfulfilled aspirations probably have the highest impact at the beginning of the unemployment and are likely to get alleviated by a lowering of aspirations over time if the person remains in the same job.

A resolution to any discrepancy between man and job is to quit the job. Therefore, the opportunities for quitting the job may be crucial for the effect of a discrepancy on job attitudes. This is especially the case if the discrepancy represents overtraining, since it is possible that undertraining and mistraining may get alleviated through on-the-job training.

The possibilities for quitting the job depend on the opportunities for other, more fitting jobs. In turn, these opportunities will depend on the employment situation. Thus the employment situation has a double impact on the creation of negative job attitudes. High levels of unemployment will increase the likelihood that discrepancies between jobs and men occur. But in addition it will also increase the likelihood that the discrepancy will persist by reducing the opportunities for alternative jobs. Likewise the amount of information available will not only influence the creation of discrepancies between men and jobs, but lack of information about alternative opportunities will also contribute to the persistence of such discrepancies.

Especially in managerial and some white collar jobs, the effect of a discrepancy between skills and tasks may be reduced as a consequence of jobs being organized in succession in careers. Careers often include initial jobs where there is a discrepancy between a person's level of skills, given by his formal education, and the tasks required by the job. Such jobs may be necessary to undertake in order to either acquire specialized skills on the job or simply as a waiting period before more demanding jobs are vacated higher up in the organizational hierarchy. Since overtraining in these instances is a necessary evil, its effect on job attitudes may be slight.

In most instances promotion opportunities are dependent on the skill and age distribution of persons at the same level and higher up in the organization. Although overtraining generally may have a reduced effect on job attitudes in jobs that form the first ladders of a career, the magnitude of this reduction is likely dependent on perceived promotion possibilities.

Persistent discrepancy between men and jobs that are not alleviated by job shifts or on-the-job training may change the nature of job attitudes from negative to neutral, but resigned. We should therefore expect in older workers more of a lack of job-involvement and less directly negative attitudes.

The general context in which a discrepancy exists will be of importance. Comparisons with the employment of people with similar level and type of skill should influence the extent to which a mismatch between a person and a job leads to negative attitudes. A given type of discrepancy will follow. If it is only an isolated instance, negative attitudes and active seeking of alternative employment should be more likely.

Alternative sources of satisfaction of course will play a role in determining the impact of a discrepancy on job attitudes. Frequent possibilities for interaction with other co-workers that may lead to satisfying interpersonal relationships thus may compensate for a negative impact of attitudes from a skill discrepancy. However, a cohesive work-group may also reinforce the expression of negative attitudes if all workers share a similar discrepancy.

The degree of isolation of the worker from other workers is determined by the organization of the employing firm. A relevant classification of organizations for the present purpose is the one provided by Burns and Stalker (1961) and Hage (1965) into "mechanistic" as opposed to "organic" types. Organic organizations are characterized by a high degree of organic solidarity due to frequent interactions among workers around tasks and a shared commitment to the objectives of the organization that goes beyond technical definitions of tasks. Such organizations are therefore likely to create an environment for the worker in which the impact of a discrepancy between job and man is alleviated.

Organic organizations are however in general characterized by task-flexible jobs, so it is exactly these organizations where discrepancies are least likely to occur. Mechanistic organizations, on the other hand, are characterized by a high degree of task specialization and routine technology. Thus since tasks are likely to be inflexible, discrepancies are very likely to occur. The effect of such discrepancies are likely to be reinforced in such organizations by the lack of interaction among workers that is generated by the task and the lack of commitment to the goal of the organization.

The impact of the various variables mentioned in this section is primarily argued to be an impact on the magnitude of the effect of a skill malfit on workers' attitudes. There are then interaction effects that need to be taken into account in empirical investigations--investigations that clearly are called for in order to strengthen and specify the above arguments.

SUMMARY AND CONCLUSION

Men and jobs are two separate entities in industrial societies and the match between the two is by no means automatic. This means that not all men will obtain jobs that correspond to their skills and experience and provide the status and income they had hoped for. The results of such discrepancies are likely to be negative job attitudes, low job satisfaction, and little involvement in the job. This paper has attempted to identify a number of concepts and mechanisms that are relevant for the analysis of discrepancies between jobs and men. Assuming the link between discrepancies and job attitudes, this task amounts to identifying structural sources of variation in job attitudes.

Three types of discrepancies between jobs and men have been of interest: (1) discrepancies between type of skill possessed by a person and the type of skills demanded by the job; (2) discrepancies between the level of skill a person has and the complexity of the job; and (3) a discrepancy between a person's status and income aspirations and the status and income obtained in the job. A number of characteristics of men, jobs, and the labor market were argued to be important for the occurrence of these three types of discrepancies.

Schools and other training agencies produce a distribution of persons according to level and type of skills. Also there will be a distribution of aspirations, closely related to the distribution of skill level since investments in training and aspirations should be strongly related. This distribution of skills and aspirations is matched to a distribution of jobs according to skills demanded and earnings and status provided. Since the distribution of skills is partly produced by agencies outside the labor force (schools) and since skills acquired in the labor force may become obsolete, the distribution of men according to skills and aspirations cannot be assumed to completely reflect labor force needs exclusively. On the other hand, it also cannot be assumed that the distribution of jobs is determined by the supply of skills. It is argued that the result is a distribution of skills of men in general somewhat at variance with the distribution of jobs.

Characteristics of men, of jobs, and of the labor market will determine the frequency of the various types of discrepancies. In general, we argued that the fewer opportunities a person has the more likely a discrepancy. Therefore, characteristics of persons, jobs, and the labor market that determine the number of opportunities for employment are relevant predictors of discrepancies between jobs and men.

It follows that the more specialized a person's skills, the more likely it is that a skill-malfit will occur. Similarly, other things being equal, the higher the level of skills and the higher the aspiration, the more likely will be overtraining and unfulfilled aspirations.

Jobs will differ with respect to how much variance they allow in skills. Given the degree of specialization of skills, this characteristic--

the task flexibility of a job--will influence how likely skill malfit is. Furthermore, jobs will differ with respect to whether or not specialized skills can be acquired outside of the job. If specialized skills needed for a job can be acquired only on that job, skill malfit will occur for anybody having acquired specialized skills in some other job or in schools. This characteristic of jobs also determines whether access to the job is governed by job-competition or wage-competition. The nature of the competition, in turn, has been argued to be important also for the likelihood of overtraining and unfulfilled aspirations. Generally, overtraining and unfulfilled aspirations are more likely in wage-competition than in job-competition, but the relationship depends on the degree to which a person's overall skill level consists of specialized rather than general skills.

A person's information about job opportunities clearly is important for whether a discrepancy is forced on a person or not. Similarly, any constraints on a person's mobility will increase the likelihood that a discrepancy will occur.

The two major characteristics of labor markets discussed were the level of employment and the rate of change in job contents. The level of employment in general will influence the occurrence of discrepancies by determining the number of job opportunities a person has. The rate of change in job content will influence the likelihood of discrepancies, more so, the more specialized a person's skills.

The impact of a discrepancy between a man and a job on his job attitudes depends on his career orientation, the social environment he is exposed to, the organizational setting and so forth. A brief discussion

of some of these factors that may specify the effect of discrepancies on job attitudes, has concluded the paper.

Clearly this paper leaves a good many problems unresolved, and has not been able to cite empirical evidence for most of the propositions advocated. The paper only represents the beginnings of a theory of structural sources of variation in job attitudes. As alienation of workers has become an increasing concern in recent years, and as better educated workers are forced to accept less interesting jobs, a concern for these structural determinants of satisfaction and dissatisfaction with jobs seems highly appropriate.

REFERENCES

Becker, Gary. Human Capital. New York: Columbia University Press, 1964.

Berg, Ivar. Education and Jobs: The Great Training Robbery. New York: Praeger, 1970.

Blau, Peter M., and Duncan, Otis Dudley. The American Occupational Structure. New York: John Wiley and Sons, 1967.

Blauner, Robert. Alienation and Freedom. Chicago: University of Chicago Press, 1964.

Burns, Tom and Stalker, G. M. The Management of Innovation. London: Tavistock Publications, 1961.

Child, John. "Predicting and Understanding Organization Structure." Administrative Science Quarterly 18 (June 1973):168-85.

Davis, Kingsley, and Moore, Wilbert E. "Some Principles of Stratification." American Sociological Review 10 (April 1945):242-49.

Department of Health, Education, and Welfare. Work in America. Cambridge, Mass.: The MIT Press, 1972.

Durkheim, Emile. The Division of Labor in Society. New York: The Free Press, 1933.

Hage, Jerald. "An Axiomatic Theory of Organizations." Administrative Science Quarterly 10 (December 1965):289-321.

Hage, Jerald, and Aiken, Michael. "Routine Technology, Social Structure, and Organizational Goals." Administrative Science Quarterly 14 (September 1969):366-78.

Locke, E.A. "What is Job Satisfaction?" Organizational Behavior and Human Performance 4:309-36.

Marx, Karl, Grundrisse. Edited by David McClellan. St. Albans, Herts.: Palladin, 1973.

Parnes, Herbert S. Research on Labor Mobility: An Appraisal of Research Findings in the United States. New York: Social Science Council, 1954.

Perrow, Charles. "A Framework for the Comparative Analysis of Organizations." American Sociological Review 32 (1967):194-208

Porter, Lyman W. "A Study of Perceived Need Satisfaction in Bottom and Middle Management Jobs." Journal of Applied Psychology 45 (1961):1-10.

Pugh, D. S.; Hickson, D. J.; Hinings, C. R.; and C. Turner. "The Context of Organizational Structures." Administrative Science Quarterly 14 (March 1969):91-114.

Sheppard, Harold L., and Herrick, Neal Q. Where Have All the Robots Gone? New York: The Free Press, 1972.

Thompson, James D. Organizations in Action. New York: McGraw-Hill, 1967.

Thurow, Lester. Poverty and Discrimination. Washington, D.C.: The Brookings Institution, 1969.

Thurow, Lester , and Lucas, Robert E. B. The American Distribution of Income: Structural Problem. Washington, D.C.: U.S. Government Printing Office, 1972.

Treiman, Donald J. "Industrialization and Social Stratification." Sociological Inquiry 40 (Spring 1970):207-34.

United States Department of Labor, Bureau of Employment Security. Dictionary of Occupational Titles, 3rd. edition. Washington, D.C.: U.S. Government Printing office, 1966.

Wanous, John P., and Lawler, Edward E., III. "Measurement and Meaninging of Job Satisfaction." Journal of Applied Psychology 56 (April 1972): 95-105.

Wilensky, Harold L. "Work as a Social Problem." In Social Problems: A Modern Approach, edited by Howard S. Becker. New York: John Wiley and Sons, 1966.