EDUCATION, JOBS, AND THE U. S. CLASS STRUCTURE

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ABSTRACT

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By

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This study empirically tests two competing interpretations of the role of education, the linkages between formal education and the occupational structure, and the nature of social stratification in the United States. The conventional interpretation, rooted in functionalist theory, maintains that formal education has expanded in order to provide workers with the increasing level of skills required in a modern industrialized society and to create greater equality. A class interpretation, rooted in conflict theory, maintains that the function of education has been to stabilize and legitimize the existing class structure through the inculcation of appropriate attitudes and values. A variety of data are brought to bear on the following issues generated by this theoretical debate:

1. Can the expansion of formal education in the United States be explained in terms of technological advances or changes in the technical skill requirements of jobs?

2. While education has long been associated with income and occupational prestige, is it the noncognitive characteristics or the technical skills inculcated by schools which are rewarded in the occupational structure?

3. Has formal education performed the democratizing function with which it has been credited? More specifically, has the expansion of formal education led to greater economic equality?

4. In light of the answers to the first three questions, to what extent can educational reform contribute to the creation of greater economic equality in the future?

The effect of technological change on job skills and the relationships between the amount of education required to function on the job, the educational requirements established by employers, and the educational attainment of workers are examined by reviewing previous studies which have focused on these issues, government evaluations of changing skill and educational requirements of jobs, and a simulated longitudinal analysis of selected employees within six private corporations. The relative importance of cognitive and noncognitive traits learned in school and subsequently rewarded on the job is evaluated by reviewing studies which have surveyed employers on the kinds of attributes they seek in their employees along with the values these employers attach to formal education, and from a series of personal interviews conducted with recruiters who visited Michigan State University in the Spring of 1975. The extent to which educational expansion has been translated into greater economic equality is analyzed in light of post World War II census data on educational attainment and the distribution of income, wealth, unemployment, and poverty status for various sectors of the population.

The basic findings are: (1) technological change cannot account for the increasing educational requirements of jobs and attainment of workers; (2) it is the noncognitive rather than the cognitive characteristics of workers and values imparted by schooling which are rewarded in the occupational structure; and (3) while educational attainment has become more equal, little change has occurred in the relative economic status of the various income strata and of minorities and women. In light of these findings, it appears that educational reform is not likely

to have a significant impact on social stratification in the United States.

The class perspective provides a more adequate explanatory framework for the evidence presented in this study. The crucial distinction between these two perspectives and the principle reason for the superiority of the latter viewpoint revolves around the issue of class. The conventional perspective portrays American society as basically a democratic system where individuals compete in a free market on the basis of their individual capabilities and are rewarded according to universalistic criteria of performance that are objectively determined and measured. The class perspective maintains that the dynamics of the class structure, rather than characteristics of individuals, are central determinants of the reward structure. Different classes interact in a set of exploitative relationships through which the dominant groups maintain their hegemony. A variety of subjective, ideological mechanisms, including formal educational institutions, serve to counteract those conflicts which are inherent in American society and which threaten existing power relations, in order to maintain the basic class structure of society.

The failure of the many liberal reforms adopted in the 1960s to create greater equality, and the problems with the notion of equality of opportunity as a strategy for creating a more democratic society in general or greater economic equality in particular, are rooted in these misguided assumptions of the conventional perspective from which they emerged. The major policy implication of this study is that to educate, or to somehow otherwise alter the characteristics of individuals will not solve the social problems particularly inequality, of the United

States. Attention must be focused directly on the class structure which generates the distributive process and the patterns which emerge if significant change is to occur.

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Gregory Douglas Squires

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CHAPTER I

INTRODUCTION

Throughout the course of American history formal education has undergone continuous and substantial expansion. Each generation of Americans has spent more years in school than its predecessor. More people have attended school, students have stayed in school for longer periods of time, and more public and private resources have been devoted to education.* The major attractions of schooling have been the greater social and economic rewards which are available to the better educated members of society primarily because of the kinds of jobs for which that education qualifies them.** As a sign in the window of an Oakland, California pool hall once read, "If you don't finish school, how will you know what kind of work you're out of?"[1]

Few people will quarrel with the fact that better educated people generally earn more money, hold better jobs, and have greater access to the perquisites available in our society. But there is much debate over why this is the case. A consensus has not been reached regarding the specific contribution that formal education makes to an individual's ability to enjoy those perquisites (if indeed there is a causal relationship), the precise nature of the relationship between education and the

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*The nature and the extent of this expansion will be summarized in Chapter II.

**Schooling and education of course are not exactly the same thing. However, except where otherwise stated, schooling and education will be used interchangeably to refer to the process of what goes on in formal educational institutions.

larger society, and the causes of inequality in general. This study examines the linkages between an expanding formal educational apparatus and the occupational structure in order to contribute towards the development of a clearer understanding of the role of education in the dynamics of social stratification in the United States.

Education in American Society

Education has long been at the heart of a variety of controversial issues. The role education has played in American history, the functions education should perform in the future (particularly in regards to the issue(s) of equality), the subjects which should be taught in school (vocational education, college prep., etc.), how they should be taught, who should attend school, and even whether or not there should be schools, are just some of the subjects of debate. Social scientists, politicians, journalists, parents, teachers, students, and just about everybody else have contributed to the dialogue which has ranged from rational scientific inquiry to emotional outbursts and sometimes physical violence.

Much of the discourse, however, has centered around two basic competing interpretations of the role of education and the defining characteristics of American society. The specific objective of this study is to evaluate the relative adequacy of these two perspectives in terms of how well they explain the functions education performs in the United States.

The Conventional Interpretation

The conventional interpretation of American education, which shares certain key assumptions with functionalist sociology and neo-classical economic theory, maintains that education has performed two basic

interrelated roles (this interpretation will be discussed in greater detail, with full documentation, in Chapter III). First, it is argued that education has been a democratizing force which has counteracted the inequalities of the larger society. Education has created greater social and economic equality, it has facilitated upward mobility, and it has been an important factor in the reduction of poverty. Secondly, education has provided the nation with the skilled manpower required in a modern industrialized society. As a result of continual technological advances, work has become increasingly complex. More highly skilled jobs are created, the number of unskilled jobs is decreasing, and the level of skills required within occupations is constantly being upgraded. These changes in the nature of work call for changes in the organization of work. Demands for increased productivity, to maximize the quality and quantity of available goods and services have resulted in the bureaucratization of work because bureacracy is considered to be a technically superior form of organization. The net result of these changes is a more productive society in which nearly everyone benefits. In order to further that social and economic progress an increasingly better educated work force is required. Therefore, education has been, and must continue to be expanded.

In the United States, and in other western industrialized societies, it is argued that the distribution of rewards is increasingly based on universalistic criteria of achievement. An individual's contribution to such societies determines the rewards that person will receive. The ability of an individual to contribute is largely determined by the skills he or she possesses, skills which generally are acquired in school. The complementarity between the two basic roles of education increases,

therefore, as society becomes more developed. Because a person's contribution (skills) determines one's rewards, and because these skills are learned in school, education assumes greater importance in determining an individual's role in society and for the further development of society as a whole. The correlation between low educational attainment and unemployment and the correlation between expansion and increasing productivity are often cited as proof that such causal relationships exist. The expansion of formal education is dictated, therefore, by the functional requirements of the social system and for the benefit of most of its constituent elements. From this perspective more schooling is equated with social progress. Education has expanded in the past in order to accomplish desirable social goals and more education in the future is considered to be an effective way to continue such progress.

A Class Analysis

There are indications that the demand for and the expansion of formal education may have peaked. The average annual birthrate has declined since the post World War II "baby boom" and if this should continue, of course, the number of school age people would continue to decline, as would the demand for education.[2] But there is evidence, in addition to population statistics, which indicates that the historical pattern of continuous educational expansion may be changing.

Since 1968, the percentage of high school graduates going on to college in the fall has been dropping.[3] A number of reasons can be cited to account for this drop. Elimination of the military draft may explain part of it. Rising tuition costs keep some students out of college. The increasing unemployment and underemployment of college graduates may have made college less attractive to some.[4] As a result

of recent civil rights legislation and court decisions, educational requirements for employment now must be validated on job related grounds.[5] Several employers have had to eliminate or lower some of their educational requirements. If the federal government should pursue this kind of activity, the pressure to obtain educational requirements may be reduced and a further reduction in college enrollments could result. For a variety of reasons at least some people have begun to question the value of spending more and more years in school. In turn, this has stimulated a re-analysis of the role of education in American society and a serious challenge to the conventional interpretation of that role.

The class perspective (which will be discussed in Chapter IV) challenges the contentions that education has been a democratizing force and that it has expanded in order to meet the rising technical skill requirements of jobs. It is argued that formal education has served primarily as an agency of social control; to reconcile the class conflicts inherent in a capitalist economic system in such a way that the dominant classes could maintain that system and their positions within it. The thrust has been to legitimize and stabilize the existing class structure rather than to promote social change in the direction of greater equality and social mobility. The early development of mass public education and the expansion of education, it is argued, were motivated by the concern, on the part of the economic elites, to indoctrinate the masses to accept their positions in society and the legitimacy of the mode of distribution in that society. Although it has been necessary to equip workers with a minimum level of technical skills, those skills are generally learned informally, on the job. Schools do contribute to the development of technical skills, but a more important

function of formal education has been the inculcation of appropriate personality characteristics so that workers would accept and perform their roles within the social relations of production increasingly characterized by a hierarchical division of labor. Rather than being technologically determined, the division of labor and the bureaucratic organization of work evolved as a means for capitalists to maintain control over workers, the work process, and the profits generated by that process. Changes in the noncognitive requirements of work, which have evolved as a result of the bureaucratization of work, not changes in the technical skill requirements, have created the need for an expanding educational system. Over the years immigrants had to be Americanized, the social relations of production had to be legitimized and the basic structure of capitalism had to be stabilized.

The class perspective acknowledges the relationship between a person's education and his or her income and occupation, and the fact that increasingly higher levels of education are required within the occupational structure, particularly at the upper levels. But the dynamics of these relationships are described in far different terms than in the explanation offered by the conventional interpretation. According to the class analysis employers view educational attainment and credentials as indicators of attitudes and values which are supportive of the social relations of production under capitalism. Those with greater levels of schooling are attractive to employers more because they are considered likely to fit smoothly into the organization than because of any technical ability associated with a given level of education. The correlation between education and income, etc. is also explained, in part, because employers frequently seek out and reward those who are

better educated, again independently of any absolute level of skill associated with any particular amount of education. As the educational attainment of the population increases, so do educational requirements of jobs, frequently in cases where the work performed on the job has not changed. In addition to the belief that better educated people have more throughly internalized the prevailing values and status culture is the assumption that more years of schooling means a better qualified employee in terms of both cognitive and noncognitive terms. Stringent educational requirements are also often established to limit entry into certain occupations for the purpose of maintaining or increasing a scarcity of practitioners, thus protecting the market value of the services offered and the privileged positions of those on the inside.

The allocation of rewards on the basis of educational attainment, a seemingly meritocratic mode of distribution, masks the actual dynamics of the stratification process, according to this perspective. Class and power relationships rather than individual deficiencies and capabilities explain who gets what and why in American society. Education is basically a tool which has been used by dominant groups to maintain existing social relationships. The inequalities within educational institutions merely relfect the class relationships in the larger society. Eliminating educational inequalities would not alter the forces which generate those class relationships, or the distributive patterns which result. Given the function an expanding educational system has performed in the past, more education in the future is not likely to accomplish the kinds of social reforms traditionally expected from schools. Rooted in a conflict framework, the class perspective maintains that the expansion of education has been motivated by the needs of the dominant classes

to reconcile conflicts inherent under capitalism rather than by a desire to achieve progressive social change or to meet the functional needs of a democratic society.

The Issue of Class

The crucial distinctions between these two interpretations of the linkages between education and jobs and the nature of inequality in the United States revolve around the issue of class. The term "class" will be used to refer to a group of people who have similar power in terms of life chances, or access to the goods, services, privileges, and other rewards a society has to offer.[6] The term "class structure" refers to groups of people who enjoy different levels of power. Although the occupational structure and the class structure are not identical, in the United States occupation has been a major determinant of a person's location in the class structure. As Blau and Duncan stated,

> The occupational structure in modern industrial society not only constitutes an important foundation for the main dimensions of social stratification but also serves as the connecting link between different institutions and spheres of social life, and therein lies its great significance. The hierarchy of prestige strata and the hierarchy of economic classes have their roots in the occupational structure; so does the hierarchy of political power and authority, for political authority in modern society is largely exercised as a full time occupation.[7]

Because "the backbone of the class structure, and indeed of the entire reward system of modern Western society, is the occupational structure,"[8] for the purposes of this analysis occupational structure and class structure will be treated as essentially synonymous.

The conventional interpretation, which focuses on differences in

individual capabilities, maintains that the distributive process is based primarily on the free play of the market. The way to achieve greater equality in the distribution of rewards is to improve the marketability (skills) of those at the lower end of the stratification system. Basically, this means providing those people with more education. While acknowledging the existence of social classes and certain factors, like racial discrimination, which interfere with the operation of a free market, the United States is viewed as essentially a democratic, pluralistic society in which such factors have marginal influence in determining the distribution of rewards.

The challenge to the conventional viewpoint maintains that social class and other extra market factors are central characteristics of society and that they are primary determinants of the distributive process. Social classes exist in a state of conflict in which certain groups dominate and exploit others. Some groups enjoy greater rewards, therefore, at the expense of other groups. Inequality is not a function of differences in individual capabilities. Rather an individual's location in the stratification system is a function of a person's group or class affiliation, particularly in terms of the productive process. Altering the patterns of distribution, therefore, requires changing the class structure itself. Educating or somehow otherwise altering the capabilities of those at the lower end of the system may provide social mobility for some individuals, but it will not change the pattern of inequality in that system.

Clearly, these two perspectives represent widely divergent views of the role of education in the United States, the relationship between education and jobs, the causes of inequality, and the nature of American

society in general. Some of the central themes of each perspective are in direct contradiction with each other. Yet both attempt to explain the same social reality. There is some overlap between these two interpretations and in all likelihood that reality does not conform to every contention of either perspective. It is also possible that a synthesis may emerge out of the clash of these perspectives which will constitute a more adequate explanation of these phenomena. The intention here, however, is not to finally prove or disprove each contention of both perspectives or to fully develop a synthesis, but to examine evidence which distinguishes between these two perspectives. Because of the divergence of the main thrusts of these interpretations and the crucial areas in which they are in direct contradiction, evidence which supports one, will frequently at the same time controvert the credibility of the other. For the same reasons it is plausible to assume that one of these perspectives more adequately explains social reality than the other. In order to distinguish between these perspectives and to evaluate their relative adequacy, evidence will be brought to bear on the following questions:

1. Can the expansion of formal education in the United States be explained in terms of technological advances or changes in the technical skill requirements of jobs?
2. While education has long been associated with income and occupational prestige, is it the noncognitive characteristics or the technical skills inculcated by schools which are rewarded in the occupational structure?
3. Has formal education performed the democratizing function with which it has been credited? More specifically, has the expansion of formal

education led to greater economic equality?

4. In light of the answers to the first three questions, to what extent can educational reform contribute to the creation of greater economic equality in the future?

To be sure social reality is more complex than either perspective, as outlined here, purports. The objective of this analysis is not to reveal an either/or situation in which the contention of one perspective exists at the total exclusion of the alternative contention. Obviously that is not the case. Rather, the objective is to distinguish between primary as opposed to secondary explanations for social phenomena.

The Evidential Base

A variety of material will be examined in order to address these questions. The nature of the issues here requires it. If the objective was to analyze the employment practices of a particular company, or even a particular industry, it might be possible to use the personnel records of that company or industry to do an adequate assessment. But the objective here is much broader. There is no single source of evidence which would adequately answer these questions. None of the approaches described below would, in and of itself, lead to a definitive statement. But the cumulative results of this project should provide the basis for reasonably sound conclusions about education, the occupational structure, and the social stratification in the United States.

Question 1: Can the expansion of formal education in the United States be explained in terms of technological advances or changes in the technical skill requirements of jobs?

The first question will be addressed, in Chapter V, in the following five ways. First, in order to analyze the effect of technological advance

and changes in the level of technical skills required in jobs on the level of educational attainment, the relationship between the amount of formal education required to perform on the job with the educational attainment of workers holding those jobs will be examined. The U.S. Employment Service publications, Estimates of Worker Trait Characteristics for 4000 Jobs, published in 1949, and the 1966 expansion and revision of that reference, Selected Characteristics of Occupations, represent the most comprehensive attempts to determine the amount of formal education required in order to be able to perform on the job. The research of those who have compared the required with the actual educational attainment, based on these two Employment Service publications and census data from various years (particularly the 1950 and 1960 census) and how differences between the required and actual educational attainment have changed will be reviewed. If changing technical skill requirements account for the expansion of formal education then there should be a reasonably close relationship between the required and actual educational attainment. The increase in educational attainment over time should also be related to changes in the amount of education required in order to be able to perform on the job. If these conditions do not hold, some other explanation for the expansion in formal education would be warranted.

One possible explanation, if such conditions do not hold, is the contention of the class perspective that educational requirements serve as a mechanism for limiting the number of people who can enter the occupation. If the supply of better educated workers is such that no scarcity of practitioners results, another plausible explanation would be the contention that the educational requirements are used to locate workers with

more compatible attitudes and values. Another possible interpretation would be that although more education is not required for adequate job performance, better educated workers are still technically better qualified and it would be rational for employers to seek out superior workers if their choice is between average and superior employees. But this explanation would controvert the interpretation that the correlation between low educational attainment and unemployment is due to the inability of these people to adequately perform on the job and that education has expanded in order to provide workers with skills without which they would be unemployable.

The second approach to the first question will be to examine the effects of automation and technological change in general on the skill requirements of jobs effected by such changes. The conclusions of several studies which have been conducted to determine the effect of such changes on job skills will be examined. If the level of skills required in these instances is not increased as a result of these changes, the technical theory would be further challenged and some other explanation could be found in the contention of the class perspective concerning the use of education as a mechanism for limiting entry into certain occupations or for identifying noncognitive attributes sought by employers.

A third approach will be to examine the relationship between formal education and the performance of workers on the job. Previous studies which have focused on this relationship and data collected from a sample of employers bearing on the education and job performance of their employees will be examined to determine whether or not better educated workers are, in fact, better or more productive employees. According to the technical theory there should be a positive relationship between

the quality of workers and their educational background. If this does not prove to be the case, the class perspective would be supported.

The fourth approach will be to compare the educational attainment of older workers with that of younger workers performing the same job. A combination of census data, previous studies which have examined this relationship between age and education, and data which have been collected from a sample of employers will be examined. If the older workers performing a given task have less formal education than what is required of more recent entrants into the job, then these requirements either are not based on technical ground or the requisite skills are obtainable outside the classroom. In either case, there would be reason to suspect whether the formal education requirements in those instances can be justified on technical grounds. The contentions of the class perspective cited above would, again, constitute a possible explanation.

The fifth approach will be to examine how and where workers learn the skills they use on their jobs. Several surveys have been conducted to obtain this information from individual firms and industries and on a nationwide level. A central tenet of the technical theory is that essential job skills are learned in school and that education has expanded to provide this training. If, however, formal education has not been the principle vehicle through which members of the work force have learned their jobs, the technical theory would be weakened and the class perspective would be strengthened.

Question 2: While education has long been associated with income and occupational prestige, is it the noncognitive characteristics or the technical skills inculcated by schools which are rewarded in the occupational structure?

One way to examine the second question is simply to ask employers

what they are looking for when they recruit employees. When a minimum level of education is required, it would be informative to know why that particular requirement was established and what qualities employers associate with those who have attained that level of education. Many surveys of employers and recruiters have been conducted over the years to elicit this kind of information. The findings of these surveys, supplemented by personal interviews conducted with recruiters, will be reviewed in Chapter VI. If a concern is expressed for people's technical skills, potential ability to learn requisite skills, mastery of a certain body of knowledge, or some other cognitive trait, particularly for those positions in which educational requirements are relatively higher, these findings would support the conventional perspective. If, however, more concern is expressed for people's attitudes, personality traits, demeanor, or some other noncognitive trait, the class perspective would be supported.

Question 3: Has formal education performed the democratizing function with which it has been credited? More specificially, has the expansion of formal education led to greater economic equality?

The third question will be examined, in Chapter VII, by comparing changes in the distribution of educational resources with the distribution of other factors such as income, wealth, occupational prestige, and unemployment. The principal source of evidence will be U.S. census data, supplemented by studies which have used census data and other sources of data to examine these issues.

The focus will be on what has occurred since World War II with particular attention being paid to differences in black/white and male/female educational attainment and how changes in that gap have effected changes in the distribution of the other facotrs mentioned above between these two groups. There are several reasons for pursuing this kind of

analysis. First, as will be shown in the following chapter, the expansion of formal education has been particularly great during the post World War II years. More attention has been paid to racial issues, at least by governmental units, as is evident from the legislation passed and the number of civil rights commissions and agencies which have been established in the past few decades. Proportionately, blacks have probably been excluded from the mainstream of society more than any other group and black/white confrontations have been among the most violent throughout American history, particularly in the 1960s. Education has long been regarded as a key to solving many of the nation's domestic problems and the recent expansion of education is often justified, at least in part, as efforts on the part of federal, state, and local governments to deal with racial problems by bringing more blacks into the system. In the early 1960s sex discrimination began to receive more official recognition and women have since been classified as a protected group in most civil rights legislation. In recent years, more women have sought employment and they have constituted an increasingly larger percentage of the labor force. More wives have had to go to work and more women have had to assume the role of breadwinner.[9] As in the case of racial discrimination, education is considered a key to creating equal opportunity for women.

There is evidence that access to formal education and the level of educational attainment has become more equal in recent years,[10] particularly between blacks and whites, but also among almost all other groups, including men and women. If this is true, and if there has been a concomitant equalization of income and wealth among the entire population in general and between blacks and whites and men and women,

in particular, this would constitute evidence that education has had an equalizing effect. If the black/white and male/female income gaps have been reduced, if there is a larger percentage of blacks and women in higher prestige occupations, and if the unemployment levels of these groups have been equalized, the conventional perspective would be further strengthened. If, however, the distribution of income and wealth throughout the population has not been equalized and if the income, occupational prestige, unemployment rate, etc. of blacks and whites and women have not been equalized (particularly among those with a similar level of educational attainment) then the class perspective would be strengthened.

Question 4: In light of the answers to the first three questions to what extent can educational reform contribute to the creation of greater economic equality in the future?

The theoretical objectives of this study are to assess two competing perspectives regarding the role of education in the United States, in order to develop a further understanding of the interaction between education and the class structure, and of the dynamics of the class structure itself. But there are important policy implications as well. The fourth question will be examined, in Chapter VIII, in light of the evidence brought to bear and the conclusions which are drawn for the first three questions. By understanding the factors which have accounted for the development of formal education, what it is about the educational process and the occupational structure and the linkages between the two which account for the persistent association between one's education and one's occupation, and particularly by understanding how successfully education has performed the democratizing function for which many observers have given it credit, it will be possible to evaluate the

potential of educational expansion and reform as means for accomplishing such social reforms in the future.

In addition to the questions that, hopefully, will be answered, a variety of new questions and directions for further research will emerge. These issues will also be addressed in the eighth, and concluding, chapter.

Perhaps the most important question is the following: Do schools perform primarily an educational function; that is, do they develop the minds and the critical faculties of young people, offer them the opportunity to develop their abilities and to pursue their interests, perform a technical function of developing skills which adequately prepare people to become productive members of society for their individual benefit and for the welfare of the community; or do they perform primarily an ideological function; that is, do they serve to fit people into prearranged slots and to maintain and legitimize the existing class structure? The answer to this question would go a long way towards explaining the role of education in the United States and the dynamics of American life in general. More importantly, this answer would indicate how we can effectively move, or at least it would identify certain steps which might be relatively ineffective in moving towards greater economic equality, facilitating upward mobility and reducing poverty. Hopefully, this study will move us a little closer to these goals.

REFERENCES

[1]Randal Collins, "Education and Employment: A Study in the Dynamics of Stratification" (Unpublished Ph.D. dissertation, University of California, 1969), p. 1.

[2]Edmund W. Alchin, Population Report 1 (East Lansing: Institute for Community Development and Services, 1972), Table 5, "The Average Annual Birth and Death Rates Per 1,000 Population for the United States and Divisions of States by the Decades Indicated," p. 7.

[3]Projections of Educational Statistics to 1983-1984, U.S. Department of Health, Education and Welfare, Office of Education, National Center for Educational Statistics (Washington, D.C.: U.S. Government Printing Office, 1974), Table 14, p. 32 and Table 20, p. 43.

By dividing the "Total First Time Degree Credit Enrollment" column of Table 14 by the "Total High School Graduates" column of Table 20, the percentage of high school graduates going on to college in a given year can be estimated. This procedure was used in making the following estimates:

Year	Percent of High School Graduates Going on to College
1968-69	61.8
1969-70	61.5
1970-71	50.0
1971.72	57.9
1972-73	57.8

In a personal letter from W. Vance Grant, specialist in educational statistics with the National Center for Educational Statistics, this procedure was recommended to me, with the precaution that these data indicate the percentage of high school graduates who did or will eventually enroll in college but not necessarily in the same year as their high school graduation. However, according to Mr. Grant, recent studies by the American Council on Education indicate that about 93 percent of the freshmen did enter college in the same year they graduated from high school.

[4]Anne M. Young, "The High School Class of 1972: More at Work, Fewer in College," Monthly Labor Review, June 1973, p. 28-29. Vera C. Perrella, "Employment of Recent College Graduates," Monthly Labor Review, February 1973.

[5]The principal laws and orders requiring equal employment opportunity and affirmative action are: Civil Rights Act of 1964, Title VII; The Equal Employment Opportunity Act of 1972; Executive Order 11246; Executive Order 11375; Revised Order No. 4; The Equal Pay Act of 1963; Civil Rights Act of 1964, Title VI; Education Amendments Act of 1972, Title IX. For a summary of these regulations see Affirmative Action and Equal Employment Opportunity: A Guidebook for Employers, Vol. I and II, U.S. Equal Employment Opportunity Commission (Washington, D.C.: U.S. Government Printing Office, 1974). Court decisions which have addressed the issue of educational requirements are generally based on Title VII and the EEOC's interpretation of that law, which is spelled out in "Equal Employment Opportunity Commission: Guidelines on Employee Selection Procedures," Federal Register, Volume 35, No. 149, August 1, 1970, p. 12333-12336. Court rulings on the use of educational requirements include: Griggs v. Duke Power Company, U.S. Supreme Court, U.S. v. Georgia Power Company, U.S. 5th Circuit Court of Appeals, Watkin v. Scott Paper Company, et al., U.S. District Court, Southern Alabama, Richardson v. Civil Service Commission, New York State, U.S. District Court, Southern District of New York, U.S. v. Lee Way Motor Freight, Inc., U.S. District Court, Western District of Oklahoma, Johnson v. Goodyear Tire & Rubber Company Synthetic Rubber Plant, et. al., U.S. 5th Circuit Court of Appeals.

[6]Gerhard Lenski defined class as "an aggregation of persons in a society who stand in a similar position with respect to some form of power privilege, or prestige." Power and Privilege (McGraw-Hill, Inc., 1966) p. 74-75. Max Weber wrote,

> "We may speak of a 'class' when (1) a number of people have in common a specific causal component of their life chances, in so far as (2) this component is represented exclusively by econmic interests in the possession of goods and opportunities for income, and (3) is represented under the conditions of the commodity or labor markets."

Max Weber: Essays in Sociology, H. H. Gerth and C. Wright Mills (Eds.) (New York: Oxford University Press, 1973) p. 181.

[7]Peter M. Blau and Otis Dudley Duncan, The American Occupational Structure (New York: John Wiley & Sons, Inc., 1967) p. 7.

[8]Frank Parkin, Class Inequality and Political Order (New York: Praeger Publishers, Inc., 1972) p. 18.

[9]Elizabeth Waldman and Robert Whitmore, "Children of Working Mothers, March 1973," Monthly Labor Review, May, 1974.

[10]Christopher Jencks, et. al., Inequality (New York: Harper and Row Publishers, 1973).

CHAPTER II

THE EXPANSION OF FORMAL EDUCATION

Formal education has expanded tremendously throughout the history of the United States. A brief examination of student enrollment, money spent on formal education, employees of educational institutions, or virtually any other dimension of education would show this expansion, in both absolute and relative terms. The following statistics indicate how formal education has grown.

School Attendance

The number of people enrolled in an elementary or secondary school or in an institution of higher education has more than tripled since the turn of the century. In 1970 more than 58,766,000 people were enrolled.[1] This constituted approximately 29 percent of the total U.S. population.[2] These figures compare to a total student enrollment of 45,227,620 (25 percent of the U.S. population) in 1960,[3] 29,652,377 (24 percent) in 1930, and 17,198,841 (23 percent) in 1900.[4] The percentage of 5-17 year old people enrolled in an elementary or secondary school in 1970 was 86.9 percent. This compares with 82.2 percent in 1960, 81.7 percent in 1930, 71.9 percent in 1900, and 57 percent in 1870.[5]

More people are attending school and they are also staying in school for a greater number of years. The median number of school years completed by those twenty-five years of age or older was 12.2 years in 1972. This figure compares with 10.5 in 1960, 8.4 in 1930, and 8.1 in 1910.[6]

The high school graduation rate among the nation's seventeen year olds has increased almost 3,700 percent in the past one hundred years. The percentage of seventeen year olds who graduated from high school was 75.9 in 1971, 65.1 in 1900, 29.0 in 1930, 6.4 in 1900, and 2.0 in 1870.[7]

The number of people attending a college or university today is thirty times what it was in 1960. Enrollment in institutions of higher education was 7,136,075 in 1969, 3,215,544 in 1960, 1,100,737 in 1930, and 237,592 in 1900.[8] The percentage of people twenty-five years of age and older who completed four or more years of college was 12.0 percent in 1972, 7.7 percent in 1960, 3.9 percent in 1930 and 2.7 percent in 1910.[9] The percentage of those who entered the fifth grade and who eventually entered college has almost tripled in the past fifty years. Of those who were in fifth grade in 1962, 45.5 percent entered college. This compares with 14.8 percent of those who were in fifth grade in 1930 and 11.8 percent of those who were in fifth grade in 1925.[10]

This growth is not unique to any one segment of the population. While it is certainly true that some groups have had access to more and better education than others, virtually every identifiable group of people has spent more years in school with each passing generation. The median number of school years completed by non-whites twenty-five years of age or older was 10.5 in 1972 compared with 8.2 in 1960 and 5.7 in 1940. While 39.1 percent of this group completed four or more years of high school in 1972 and 6.9 percent completed four or more years of college in 1972, the comparable figures for 1960 are 21.7 percent and 3.5 percent while in 1940 the figures are 7.7 percent and 1.3 percent.[11]

The same phenomenon has also occurred in the case of women. The percentage of women between the ages of five and nineteen who were

enrolled in school was 86.2 in 1957, 69.7 in 1930, 50.9 in 1900, and 44.8 in 1850.[12] The median number of years spent in school by white women twenty-five years of age and over was 12.3 in 1972 and 11.2 in 1960. The percentages completing four or more years of high school and college, respectivelywere 40.2 and 9.4 in 1972. In 1960 the comparable figures were 29.2 and 6.0. For black women the median number of years spent in school was 10.4 in 1972 and 8.6 in 1960. The percentages completing four years of high school and four years of college was 25.8 and 4.8 in 1972 compared with 14.3 and 3.3 in 1960.[13]

Not only are people staying in school for a greater number of years, but the length of the school year itself has grown. The average school year term in 1970 was 178.9 days. This compares with 178.0 days in 1960, 172.7 in 1930, 144.3 in 1900, and 132.2 in 1870. Students are also attending a higher percentage of classes. The average student attended over 93 percent of the days in the term in 1970. This compares with 90 percent in 1960, 83 percent in 1930, 69 percent in 1900 and 59 percent in 1870.[14]

School Expenditures

Another indication of the extensive growth of formal education is the amount of money devoted to it. Total expenditures for public and private elementary, secondary, and higher education in 1970 were over twenty-one times the level of expenditures in 1930. In 1970 schools spent $70,000,000,000 compared to $24,722,000,000 in 1960 and $3,234,000,000 in 1930. These figures represented 7.5 percent of the gross national product in 1970, 5.1 percent in 1960, and 3.1 percent in 1930.[15] The per pupil expenditure in public elementary and secondary

schools was $889 in 1970, $525 in 1960, and $209 in 1930 (adjusted dollars, 1971-1972 purchasing power).[16] The expenditure per day per pupil was more than six times greater in 1968 than in 1920. The 1968 figure was $3.68, in 1960 it was $2.44 and in 1920 it was $.59 (adjusted dollars, 1967-68 purchasing power).[17]

These figures do not include the amount of money families spend on the education of their children or the amount students pay for their own education. As more people attend post secondary education these private expenditures probably increase at a faster rate than school expenditures since elementary and secondary schooling is free for most people while college is not. Clearly, the amount of public and private money spent on formal education has grown considerably.

School Employment

The growing number of people employed by schools accounts for a large portion of the increasing expenditures. The total instructional staff of public elementary and secondary schools consisted of 2,253,000 people in 1970.[18] This compares with 1,464,000 in 1960, 880,000 in 1930, and 678,000 in 1920,[19] Not only has there been an increase in the number of school employees, but they have constituted an increasing percentage of the total civilian labor force. These workers accounted for 63 percent more of the total civilian labor force in 1970 than they did in 1920. In 1970 they made up approximately .027 percent of the civilian labor force compared with .021 percent in 1960, .018 percent in 1930 and .017 percent in 1920.[20] The total instructional staff includes supervisors, principals, teachers, librarians and other non-supervisory staff members. Table II-1 summarizes the data which have been presented on the expansion of education in the United States.

TABLE II-1 INDICATORS OF EDUCATIONAL EXPANSION IN THE UNITED STATES

School Attendance	1870	1900	1930	1960	1970
Total enrollment in primary, secondary, and higher education (in thousands)	--	17,198	29,652	45,227	58,766
Total enrollment as a % of total U.S. population	--	23.0%	24.0%	25.0%	29.0%
% of 5-17 year olds in elementary or secondary schools	57.0%	71.9%	81.7%	82.2%	86.9%
Median number of school years completed by those 25 years of age and older	--	8.1(1910)	8.4	10.5	12.2(1972)
% of 17 year olds graduating from high school	2.0%	6.4%	29.0%	65.1%	75.9%(1971)
Total enrollment in institutions of higher education (in thousands)	--	238	1,101	3,216	7,136(1969)
% of those 25 years of age or older who completed 4 or more years of college	--	2.7%(1910)	3.9%	7.7%	12.0%
% of those who entered 5th grade and eventually entered college	--	11.8%(1925)	14.8%	45.0%(1962)	--
Median number of school years completed by non-whites 25 years of age and older	--	--	5.7(1940)	8.2	10.5(1972)
% of non-whites 25 years of age and older who completed 4 or more years of high school	--	--	7.7%(1940)	21.7%	39.1%(1972)
% of non-whites 25 years of age and older who completed 4 or more years of college	--	--	1.3%(1940)	3.5%	6.9%(1972)
% of 5-19 year old women enrolled in school	44.8%(1850)	50.9%	69.7%	86.2%(1957)	--
Median number of years spent in school by white women 25 years of age and older	--	--	--	11.2	12.3(1972)
% of white women 25 years of age and older completing 4 or more years of high school	--	--	--	29.2%	40.2%(1972)
% of white women 25 years of age and older completing 4 or more years of college	--	--	--	6.0%	9.4%(1972)
Median number of years spent in school by black women 25 years of age and older	--	--	--	8.6	10.4(1972)
% of black women 25 years of age and older completing 4 or more years of high school	--	--	--	14.3%	25.8%(1972)
% of black women 25 years of age and older completing 4 or more years of college	--	--	--	3.3%	4.8%(1972)
Average number of days in a one year school term	132.2	144.3	172.7	178.0	178.9
Average % of classes attended by students	59.0%	69.0%	83.0%	90.0%	93.0%
School Expenditures					
Total expenditures for public and private elementary, secondary, and higher education (in millions)	--	--	$3,234	$24,722	$70,000
Total school expenditures as a % of gross national product	--	--	3.1%	5.1%	7.5%
Per pupil expenditure in public elementary and secondary schools (adjusted, 1971-72)	--	--	$209	$525	$889
School Employment					
Total instructional staff of public elementary and secondary schools (in thousands)	--	678(1920)	880	1,464	2,253
Total instructional staff of public elementary and secondary schools as a % of total civilian labor force	--	.017%(1920)	.018%	.021%	.027%

Post War Expansion

Although education has grown continuously throughout American history, the expansion which has occurred since World War II has been particularly large. During these years there has been a significant quantitative, if not qualitative, shift in the nation's commitment to education.

During the 1945-46 school year $4,167,597,000 were spent for all levels of education. In the 1971-72 school year this figure reached $83,800,000,000. As a percentage of the nation's gross national product educational expenditures jumped from 2.0 percent to 8.0 percent during these years.[21] The per pupil expenditure in public elementary and secondary schools increased more than 200 percent from $307 to $934 during these years[22] (adusted dollars, 1971-72 purchasing power).

The major changes during the post war period, however, occurred in higher education. Whereas enrollments at the elementary and secondary levels increased from 28,600,250 to 51,629,691 between 1949 and 1969, an increase of 80 percent, enrollments in higher education increased 168 percent from 2,659,021 to 7,136,075.[23] The percentage of people in the 5-17 age bracket enrolled in school increased from 83.2 percent in 1949 to 85 percent in 1967[24] while the percentage of those in the 18-24 age bracket enrolled in higher education increased from 14.2 percent in 1950 to 28.7 percent in 1967.[25]

The growth in the number of institutions of higher education since World War II compared to the change in the number of elementary and secondary schools also indicates that the expansion in formal education in recent years has been primarily at the upper levels. While the number of public and private elementary and secondary schools actually declined

from 167,291 to 109,294 (a drop of 57,997 or 35 percent) between 1950 and 1971, the number of institutions of higher education increased by 38 percent from 1,851 to 2,556.[26] Table II-2 summarizes the expansion in education which has occurred since World War II.

TABLE II-2 EDUCATIONAL EXPANSION SINCE WORLD WAR II

	Before 1950	After 1967
Total expenditures for public and private elementary, secondary, and higher education (in millions)	$ 4,167 (1945-46)	$ 83,800 (1971-72)
Per pupil expenditure in public elementary and secondary schools (adjusted, 1971-72)	307 (1945-46)	934 (1971-72)
Enrollment in public and private elementary and secondary schools (in thousands)	$ 28,660 (1949)	$ 51,630 (1969)
Percentage of 5-17 year olds in elementary or secondary schools	83.2% (1949)	85.0% (1969)
Percentage of 18-24 year olds in higher education	14.2% (1950)	28.7% (1967)
Total number of public and private elementary and secondary schools	167,291 (1950)	109,294 (1971)
Total number of institutions of higher education	1,851 (1950)	2,556 (1971)

International Growth

The expansion in formal education is not unique to the United States, although it has developed further in the United States than anywhere else. In almost every industrialized nation, primary education

is now compulsory for all children.[27] Enrollments in secondary and higher education have increased both absolutely and as a percentage of the school age population. Between 1950 and 1970, in these nations as a whole, school enrollments rose by more than 60 percent while the population between the ages of five and twenty-four increased by only 27 percent.[28] Primary education student bodies increased by more than 30 percent, secondary education by almost 100 percent and higher education by 200 percent. In most cases expenditures have risen at a rate of more than 10 percent per year.[29] Clearly, many countries are following in the educational footsteps of the United States.

That formal education has expanded significantly throughout the course of American history is obvious from the most casual observation. The fact that this growth has occurred is not a matter of debate. The reasons for the expansion, however, are not so clear and there is much disagreement over why it has occurred.

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[2]Based on a Total U.S. Population of 203,185,000. Population Report I, Edmond W. Alchin, (East Lansing Institute for Community Development, 1972) Table 1, p. 2.

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[7]Ibid., Table 65, "Number of High School Graduates Compared with Population 17 Years of Age: United States, 1869-70 to 1970-71, " p. 55.

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[10]Ibid., Table 11, "Estimated Retention Rates, 5th Grade through College Entrance, in Public and Nonpublic Schools: United States, 1924-32 to 1962-70," p. 14.

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[12]Historical Statistics of the United States: Colonial Times to 1957, Series H 374-382, "School Enrollment Rates by Color and Sex: 1850-1957," p. 213.

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[15]Statistical Abstract of the United States 1973, No. 160, "School Expenditures - Public and Private, By Type of Control and Level of Instruction: 1930-1973," p. 107.

[16]Digest of Educational Statistics 1972, Table 77, "Total and Current Expenditure Per Pupil in Average Daily Attendance in Public Elementary and Secondary Schools: United States, 1929-30 to 1971-72," p. 65.

[17]Ibid., Table 32, p. 34-35.

[18]Statistical Abstract of the United States 1973, No. 183, p. 119.

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[21]Digest of Educational Statistics 1972, Table 25, "Gross National Product Related to Total Expenditures for Education: United States, 1929-30 to 1971-72," p. 25. Between the years of 1933 and 1943 education expenditures as a percentage of GNP dropped from 4.1 to 1.8. It started to climb again in 1945 and has continued to climb since then.

[22]Ibid., Table 77, p. 65.

[23]Ibid., Table 3, p. 7.

[24]Ibid., Table 32, p. 35.

[25]Digest of Educational Statistics, 1974, U.S. Department of Health, Education and Welfare, Office of Education (Washington, D.C.: U.S. Government Printing Office, 1975) Table 86, "Degree-Credit Enrollment in Institutions of Higher Education Compared with Population Aged 18-24: United States, Fall 1950 to Fall 1973," p. 75.

[26]Statistical Abstract of the United States 1973, No. 157, "Public and Private Schools - Number, by Level: 1930 to 1974," p. 104.

[27]Louis Emmerij, Can The School Build a New Social Order? (Elsevier Scientific Publishing Company, 1974), p. 40. This study covers the following countries: Austria, Germany (Federal Republic of), Belgium, Denmark, Spain, Finland, France, Greece, Ireland, Italy, Norway, Netherlands, Protugal, England, Wales, Sweden, Switzerland, Yugoslavia, United States, Canada, Japan.

[28]Ibid., p. 38.

[29]Ibid., p. 61.

CHAPTER III

THE CONVENTIONAL INTERPRETATION OF AMERICAN EDUCATION

The conventional analysis of the role of education in the United States maintains that the expansion of formal education has been dictated by two principle forces. First, formal education has been viewed as a means of reconciling many of the nation's internal social conflicts. Schools are credited with having strengthened the democratic form of government, creating greater social and economic equality, increasing social mobility, and diminishing poverty. Schools have contributed towards these objectives in the past and they are expected to continue doing so in the future. Second, formal education has played a vital role in the development of the world's most advanced industrial society. It has done so by providing the nation with the highly skilled work force needed to keep that society moving in a progressive direction. The tremendous expansion of formal education, therefore, has evolved in order to meet the democratizing and technical needs demanded by an economically expanding, industrialized nation.

Implicit in the conventional analysis of education is a conception of American society as a social system in which various individuals and organizations perform specific, specialized tasks which are functional for the maintenance and prosperity of the system and for the constituent elements of the system. Formal education, like other parts of the system, change in order to improve society as a whole and to benefit the lives of individuals within that society.

Democratization and Education

After the Revolutionary War many of the nation's founding fathers expressed the viewpoint that education was a key to protecting the liberties won in the war and to preserving a democratic nation. Unless all groups of people understood the rights and privileges they had won well enough to exercise them in an intelligent manner, the democratic form of government could easily deteriorate into a tyranny controlled by a privileged few.[1]

This sentiment has been echoed several times throughout the history of the United States. In the early 1800s one of the central tenets of Jacksonian Democracy was the belief that the public schools, rather than elitist private schools, should provide the leadership essential to a democratic nation.[2] Cubberley wrote, in 1909, that the public school system was "the prime essential to good democratic government and national progress."[3] In 1947 the President's Commission on Higher Education advised, "Many thoughtful observers are convinced that one of America's urgent needs today is a continued commitment to the principles of democracy. . . .It becomes then, an urgent task for our scholars and our teachers to restate and revivify the ideals of democracy."[4]

The rhetoric of "preserving and strengthening democracy" is not as frequently found in current discussions of education. Today we talk about "equality" and "equal educational opportunity." This is indicative of a slight shift in the educational discourse. However, an explicit concern for equality in education, and the role of education in creating greater equality throughout society is not altogether new. Education has long been viewed as a mechanism for creating greater

equality. Many contemporary observers credit education with having contributed significantly to greater social and economic equality in the past, and for being able to do so in the future.

Horace Mann stated, early in the 1880s, that the common school movement in particular, and the expansion of free public schooling for all people in general, would serve as the "great equalizer of the condition of men--the balance wheel of the social machinery."[5] While recognizing the existence of inequality and the fact that family background has influenced people's education and their position within the social structure, the conventional view of education maintains that education has performed an equalizing role. In a 1955 report, written primarily by Lawrence Cremin, the National Education Association and the American Association of School Administrators argued,

> A source of profound strength lies in the American educational heritage. . .designed especially for their task, public schools have stood--and now stand--as great wellsprings of freedom, equality, and self-government.[6]

Commanger offered similar praise for schools:

> No other people ever demanded so much of its schools. . . None other was ever so well served by its schools and its educators. . . .To the schools went the momentous responsibility of. . ,inculcating democracy, materialism, and equalitarianism[7]

Historians and educators are not the only ones who have credited the schools with having served as an equalizing force. Bendix and Lipset also maintain that the expansion of formal education has been an important equalizer.

> Indeed, the state-supported universities are another testimony to the ingrained equalitarianism of American society . . .This social as well as economic accessibility of higher education. . .has had the effect of making the American university an avenue of social mobility and an institutional bulwark of ideological equalitarianism.[8]

Some observers have been critical of the schools for not doing more to combat the inequalities which have existed in our society. But they still place much faith in the ability of schools to do the job. The President's Commission on Higher Education stated in 1947,

> We have proclaimed our faith in education as a means of equalizing the conditions of men. But there is grave danger that our present policy will make it an instrument for creating the very inequalities it was designed to prevent. If the ladder of educational opportunity rises high at the doors of some youth and scarcely rises at all at the doors of others, while at the same time formal education is made a prerequisite to occupational and social advance, then education may become the means, not of eliminating race and class distinctions, but of deepening and solidifying them.
>
> It is obvious, then, that free and universal access to education, in terms of the interest, ability, and need of the student, must be a major goal in American education. [Emphasis included in original][9]

The Commission went on to reason, "Indeed, an ideally adequate program of higher education undoubtedly would result in a more even distribution of income as well as greater national productivity.[10]

In 1961 economist Theodore W. Schultz stated,

> A strong welfare goal of our community is to reduce the unequal distribution of personal income among individuals and families. Our community relied heavily on progressive income and inheritance taxation. Given public revenue from these sources, it may well be true that public investment in human capital, notably that entering into general education is an effective and efficient set of expenditures for attaining this goal.[11]

The U.S. Commission on Civil Rights, which has been highly critical of the federal government and other organizations, including schools, for their failure to move more expeditiously towards the realization of equal opportunity,[12] still maintains that, "School integration remains the touchstone of all racial equality."[13]

In addition to creating greater social and economic equality, schools have also been credited with increasing social mobility, primarily in an upward direction.[14] In reference to the role of schooling in the latter half of the eighteenth century Cremin wrote:

> . . .common schools increased opportunity; they taught morality and citizenship; they encouraged a talented leadership; they maintained social mobility; they promoted social responsiveness to social conditions.[15]

Not only has there been upward mobility, but there has been much long distance movement up the social ladder and schools have been an important contributing factor.

> The high level of popular education in the United States has provided the disadvantaged lower strata with outstanding opportunities for long distance mobility.[16]

Albert Shankar, admittedly not a disinterested party to the educational enterprise, summarized what has traditionally been viewed as perhaps the major contribution of education when he wrote, "Masses of immigrants, the poor, the illiterate have been educated and, through education, have achieved unprecedented upward social mobility."[17]

In addition to strengthening democracy, creating greater social and economic equality, and increasing social mobility, it is argued that schools have also contributed towards the reduction of poverty.

Many educational historians maintain that schools have assimilated the immigrants, the minorities, and the poor from all groups, into the mainstream of the middle class.[18] Economists and other labor experts argue that education has played a vital role in making individuals more productive workers and in increasing the total productivity of our economic system.[19] Studies commissioned by the federal government have long emphasized the links between the lack of a decent education and poverty. In order to reduce poverty, and to solve a host of other social problems, it has been argued over the years that formal education must be expanded.[20]

Two principle factors account for why education has, in the past, and can, in the future, exercise a democratizing influence. First, it is argued, the basis of the distribution process has become, over time, increasingly based on universalistic criteria. People are rewarded more on the basis of achieved rather than ascribed characteristics.[21] A rigid class structure based on clear cut status distinctions has not evolved in the United States for a number of reasons which are considered to be unique to American life. There is no feudal past or formal aristocratic tradition. More than other nations the United States has valued social mobility. An equalitarian ideology has been an integral part of the American world view. The rising standards of living and a materialistic orientation have forestalled the establishment of a formal class structure. The wide distribution of consumer goods serves to blur class distinctions. It has even been argued that now "Conspicuous consumption under these conditions extends to the lower strata of society."[22]

This does not mean that ascribed characteristics have no influence

at all in determining where people are located in the stratification system. But being born into the right family is no longer enough. What a person accomplishes on the basis of a set of objective universalistic criteria is more important than a person's family background. As Blau and Duncan concluded,

> . . .the American occupational structure is largely governed by universalistic criteria of performance and achievement, with the notable exception of race. The close relationship between educational attainment and occupational achievement, with education being the most important determinant of occupational status that could be discovered testifies to this universalism.[23]

Formal education has emerged as the primary factor in determining an individual's location in the American occupational structure. The expansion of educational opportunity coupled with an increasing emphasis on universalistic criteria, particularly educational achievement, results in greater social mobility. Formal education, therefore, exercises an important democratizing influence on American society.

The emphasis on achieved rather than ascribed characteristics leads to a more fluid social structure. Not only does this benefit those born into low status families, but it is functional for society as a whole because it permits society to more fully exploit its human potential. Rigid class distinctions which restrict mobility prevent members of the lower classes from developing their abilities and from contributing to society. But in the United States,

> Universalistic principles have penetrated deep into the fabric of modern society and given rise to high rates of occupational mobility. The improvements in opportunities for social mobility resulting from the wider application of universalistic standards permit greater utilization of society's human potential, and they have important implications for the stability of demcracy.[24]

It is acknowledged that the educational opportunities available to a person are often dependent on that person's family background and that social status is frequently transmitted by way of the educational opportunities parents can provide their children. In general, however, the conventional perspective maintains that as a result of the growing predominance of achieved characteristics (particularly formal education) over ascribed status in the distributive process, and the opening up of educational opportunities for greater numbers of people from all segments of the population, the expansion of formal education has been and will continue to be a democratizing influence. It is an influence which benefits many individuals and it serves to strengthen the social system as a whole.

The second reason why education is able to perform a democratizing function lies in the human capital analysis of education and neoclassical economic theory regarding the functioning of the labor market.[25] Human capital theory asserts that people should be analyzed as a form of capital. We invest money in capital for the purpose of realizing a return or profit at some time in the future. Education is a form of investment in people which yields a return for the individuals (the private rate of return) in whom the investment is made and for society as a whole (the social rate of return). It is assumed that personal income is a function of the skills a person brings to the market. Since education provides people with those skills, an increase in education results in an increase in personal income as well as in the productivity of people. If there is a shortage of skilled workers in a particular area of the labor market, wages will rise to attract more workers. If

there is a labor surplus, wages will decline. Eventually, an equilibrium is reached where workers are paid a wage equivalent to their marginal product, or the amount they add to the total economic output.

Increasing the educational level of low income workers will have three beneficial effects. First, more education raises their level of skill and, therefore, their income will rise. Second, the number of low skilled workers declines so their wages will increase. Finally, the supply of high skilled workers increases which lowers their wages. The net result is that total output rises and the distribution of income becomes more equal.[26] The labor market, therefore, functions in the same manner as markets for other goods and services. Open competition and the laws of supply and demand, it is argued, regulate the allocation and cost of labor.

The argument that increasing formal education will increase the wages of low income workers and will contribute to the productivity of society in general is based on the statistical correlation between education and income, and the inverse relationship between education and unemployment.[27] In Becker's words:

> Probably the most impressive piece of evidence is that more highly educated and skilled persons almost always tend to earn more than others. . .inequality in the distribution of earnings and income is generally positively related to inequality in education and other training. . .unemployment tends to be strongly related, usually inversely, to education.[28]

Because income is a function of the skills a person possesses and because skill depends largely on education, former Secretary of Labor, Willard Wirtz, concluded, "the difference in educational attainment is a prime reason for the income differences."[29]

The conventional perspective maintains that as the amount of knowledge increases and as the skills required in the occupational structure become more complex, formal education becomes even more important in determining one's position in the world of work and in society in general. The next section will show how the democratizing and technical functions of education are highly interrelated, according to this perspective.

Technical Demands and Education

The development of our modern industrialized society, particularly in the last few decades, is characterized by an exponential increase in knowledge and the application of that knowledge to the productive system. As a result of the rapid increase in technological innovations ever greater levels of skill are required in the occupational structure. The proportion of unskilled jobs is decreasing while the proportion of highly skilled positions is increasing. Jobs throughout the occupational structure are constantly being upgraded in terms of the skills and abilities needed to be able to perform the requisite tasks. As a result of changes which had occurred since World War II the Senate Subcommittee on Employment and Manpower (the Clark Subcommittee) concluded in 1963,

> . . .that a complex revolution is underway in the kind of labor force needed to man the American economy. Because the terms of human labor are being so profoundly altered, the subcommittee called it a 'Manpower Revolution.'[30]

One consequence of this "revolution" is that people must spend more years in school in order to learn the necessary skills to keep our modern industrialized society functioning properly.[31]

The notion that the growth of knowledge and the increasing technical skill requirements of occupations requires greater amounts of

formal education has long been firmly entrenched in conventional analysis of American society. In 1909 Cubberley wrote:

> Along with these changes (industrialism) there has come not only a tremendous increase in the quantity of knowledge, but also a demand for a large increase in the amount of knowledge necessary to enable one to meet the changed conditions of modern life. The kind of knowledge needed, too, has fundamentally changed. The ability to read and write and cipher no longer distinguishes the educated from the uneducated man. A man must have better, broader, and a different kind of knowledge than did his parents if he is to succeed under modern conditions.[32]

The National Education Association argued in 1910 that "Educational standards, applicable in an age of handicraft, presumably need radical change in the present day of complex and highly specialized industrial development."[33]

These concepts, and even the language used to express them are strikingly similar to the arguments made in describing the post World War II "Manpower Revolution." J. Herbert Holloman, then Assistant Secretary for Science and Technology in the U.S. Department of Commerce testified before the Clark Subcommittee that:

> Because of the expanding influence of technology and its greatly increased complexity, there is a need today not only for more technical people but for better and more advanced training. . . .Finally, technical competence in management, entrepreneurship, and labor is becoming increasingly crucial. Effective management in this age of rapid technological change requires not only the traditional business training in marketing, production, personnel, and other socio-economic disciplines, but today it also requires, more than ever, increased training and grounding in technical disciplines and the capacity, developed by education and training, to adapt existing technical knowledge to the needs of society. . . .And obviously as the tasks of labor become more complex and sophisticated, workers need to be better trained and educated.[34]

In his testimony before that subcommitte, Charles C. Killingsworth, professor of economics, labor and industrial relations, stated,

> The most fundamental conclusion that emerges from my analysis is that automation and the changing pattern of consumer wants have greatly increased the importance of investment in human beings as a factor in economic growth. More investment in plant and equipment, without very large increases in our investment of human beings, seems certain to enlarge the surplus of underdeveloped manpower and to create a shortage of the highly developed manpower needed to design, install, and man modern production facilities.[35]

In reporting its findings regarding the impact of technological change, the Clark Subcommittee concluded,

> Underlying and exceeding most of these other adjustment problems spawned by technological change is the constant elevation of skill and educational requirements necessary for employment.[36]

Clark Kerr and his associates emphasized the demands which technological change has placed on formal education in terms of the logic of industrial development. Industrialization results in the creation of greater varieties of skills, greater specialization, and further refinements in the division of labor. "The science and technology of the industrial society is never static; it generates continual, rapid, widespread changes in production methods and products, which in turn create frequent changes in the skills, responsibilities and occupations of the work force."[37] As a result of such perpetual changes, "Industrialization requires an educational system functionally related to the skills and professions imperative to its technology."[38]

The work of modern industrialized societies is conducted primarily by organizations because, it is argued, they are the most rational and

efficient forms of social grouping.[39] The most rational and efficient form of organization is bureaucracy.[40] In order to efficiently increase production and to improve the quality of goods and services in such a complex industrialized system, according to this perspective, work must be structured bureaucratically. As Kerr and his associates stated:

> The variety of skills, responsibilities, and working conditions at the work place of enterprises requires an ordering or a hierarchy. There are successive levels of authority of managers and the managed, as well as considerable specialization of function at each level of the hierarchy of the work place.[41]

Modern conditions require that organizations be governed by a formal set of rules. Specific functional tasks are assigned to individuals on the basis of their particular positions in the organization. Individuals obtain those positions on the basis of objective measures of competency. Levels of authority are delineated to insure that each function is properly carried out. The technical demands of industrial society dictate the bureaucratic organization of work.

In order for a society to survive, a consensus must be achieved regarding how its members interact and how that society is to perform its maintenance and production functions. The division of labor in general and bureaucracy in particular perform a moral as well as a technical function. As Durkheim maintained, the organic solidarity which emerges from occupational differentiation would serve as the social cement of modern society.[42] The influence of Durkheim on contemporary analysts is apparent in the following statement by Kerr and his associates:

> The industrial society, as any established society, develops a distinctive consensus which relates individuals and groups to each other and provides a common body of ideas, beliefs, and value judgements integrated into a whole. There must be a consensus to permit the industrial society to function. Various forms of the industrial society may create some distinctive features of an ideology, but all industrial societies have common values.[43]

Rooted in the tradition of functionalist sociological theory, it is argued that the bureaucratic organization of work has evolved to meet the needs of a social system. Increasing knowledge, the demand for greater efficiency and productivity, and the need for a moral or ideological consensus among the members of that system dictate changes in the occupational structure. In turn, the educational requirements are necessarily upgraded.

The technical and democratizing functions of education are closely interrelated in the conventional analysis, and they become even more interrelated as knowledge continues to expand and the skill requirements of jobs continue to increase. As formal education becomes a more important factor in preparing people for the world of work, it becomes more important as a democratizing force. If greater levels of skill are required on the job and those skills are obtained in school, upward social mobility depends more and more on a person's educational attainment.

The expansion of formal education in the United States according to this perspective has served to provide the nation with the skilled manpower required to fuel a modern industrial society and to strengthen the democratic way of life.

Throughout the history of the United States educational innovations

such as the common school, the comprehensive high school, land grant universities, junior colleges, etc., have all been justified and praised because of the opportunities they opened up for people from all social classes. Particularly because the level of skills required on the job has steadily increased, the expansion of formal education has been vital to the economic growth of the nation and for strengthening American democracy. "The establishment of free schools for all the children of all the people, 'it is argued,' forms one of the greatest social reforms."[44]

It is acknowledged that the influence of family background has not been completely eliminated. As Howard S. Becker stated:

> Where a society contains disadvantaged groups, education is one of the possible means of mobility for them just as it is one of the means by which members of the dominant group maintain their status.[45]

Bendix and Lipset recognized the importance of family background in determining the kind of education and, ultimately, the kind of a job a person attains:

> If an individual comes from a working-class family, he will typically receive little education or vocational advice; while he attends school his job plans for the future will be vague and when he leaves school he is likely to take the first available job which he can find. Thus, the poverty, lack of education, absence of personal 'contacts,' lack of planning, and failure to explore fully the available job opportunities that characterize the working-class family are handed down from generation to generation. The same culmination of factors, which in the working class creates a series of mounting disadvantages, works to the advantage of a child coming from a well-to-do family. The social status of parents and the education of their children is, therefore, closely related both to the nature of the latter's first jobs and to the pattern of their later careers.[46]

These facts, however, do not shake their faith in schooling. As indicated earlier, to Bendix and Lipset schools still serve as a "bulwark of equalitarianism."

In recent years volumes of books and articles have been published which document the relationship between family background and educational attainment and the influence of family background on income and occupation. Compared to middle-class whites, racial and ethnic minorities, and poor and working-class whites have less money spent on their elementary and secondary education[47] and on their college education.[48] They receive less encouragement and are not expected to perform academically as well as middle-class whites by their teachers,[49] parents,[50] and peers.[51] They are less likely to attend college and are less likely to graduate if they do attend than middle-class whites of comparable ability.[52] Those who earn a bachelor's degree[53] or a Ph.D.[54] earn less than their white, middle-class counterparts.[55]

For some reason schools seem to have been unable, in the last few decades, to serve racial and ethnic minorities, and other poor and working-class people, as well as they supposedly served earlier generations of Americans. The school, however, is still regarded as the key institution which can provide the opportunity for people to "make it" in the mainstream of American society.[56] If more time, effort, and money is invested, it is argued, schools can still perform their democratizing role.

In her review of the literature in this area, Sarane S. Boocock admitted that "the major determinants of school performance are factors external to the school. That is, things outside the school matter more than the things inside in explaining what and how well children

learn."[57] But she does not give up her faith in schools,

> Finally, to the pessimists who claim that the learning system is beyond help, we can answer that neither integration nor compensatory education nor any of the other major educational reforms proposed in the last few years has been given a fair test--which means that we must introduce such reforms in new ways and on scales that reflect accurately and in depth. We have not demonstrated that the most intelligent ideas for change in the learning system cannot succeed. Perhaps they can. Now would be a good time to find out."[58]

Other observers, however, are not so confident. Spurred, in part, by the same evidence which motivates some people to call for more of the traditional solutions, a growing vanguard of critics have re-examined the basic assumptions of this conventional perspective. As a result, the thinking which has predominated both inside and outside of academia regarding the role of education in the United States has been seriously challenged. This challenge is the subject of the next chapter.

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CHAPTER IV

THE CHALLENGE FROM THE LEFT

The conventional analysis of education has been challenged from a variety of directions. Spurred in part by recent research on the inequalities of education, noted at the end of the previous chapter, many critics argue that the effects of schooling have been precisely the opposite of what the conventional analysis maintains. A general consensus has emerged regarding the weaknesses of its basic assumptions and conclusions, and an alternative explanation referred to in this study as a class perspective, of the role of schooling and for the expansion of schooling, has emerged. The central themes of this perspective are:

1. Rather than viewing American society as a social system composed of functionally interrelated groups which work together to expand the total "pie" for the benefit of society in general, American society is considered to be comprised of a set of conflicting forces which compete with each other for their own share of a limited set of resources.
2. The dynamics of the class structure rather than the skills and abilities (marginal productivity) of individuals, account for the unequal distribution of income, wealth, and other rewards offered in American society. Rather than functioning as a democratizing force, school has served to legitimize and stabilize that class structure and to perpetuate

inequality from generation to generation.

3. Although schooling has contributed towards the development of the technical skills required in a modern industrialized society, technical training has been a secondary concern relative to the social needs of various interest groups which have been met by an expanding educational apparatus:
   a. Employers have been provided with a work force which has inculcated values and attitudes that are supportive of the prevailing social relations of production;
   b. Various occupational groups have been able to limit entry into their field, thus maintaining the market value of their services and their privileged positions in society.
4. Educational requirements of jobs and educational attainment of workers have reinforced each other in an upward moving direction, independently of any absolute level of technical skills required on jobs or associated with a particular amount of education. Society has defined education as a "good thing" to have so people spend more time in school. Employers respond by raising educational requirements because they have a better educated work force to choose from and, when given a choice, they prefer to hire those who are relatively better educated. In turn, each generation of workers gets more education in order to maintain or improve their competitive position. The mutual reinforcement of these trends results in a continual expansion in formal education which has little to do with the actual changes in the skill

requirements of the jobs.

5. The expansion of formal education and educational reform in general are not likely to resolve social problems, such as inequality and poverty, which many people have long believed could be solved through education.

The consensus around these themes has emerged from three general directions. The most fundamental challenge is the radical critique of the conventional analysis of education and of American society in general. A second challenge can be identified in the response to human capital theory. A third challenge is the alternative education movement consisting primarily of the free school and deschooling philosophies. These three approaches are based on somewhat different assumptions and they advocate widely divergent solutions to educational and social problems. But the thrust of these analyses regarding the role of education in the United States and the factors which account for the expansion of education constitute a distinct alternative to the conventional perspective.

The Radical Analysis of Education

The radical perspective grows out of the Marxist critique of capitalism, particularly the Marxist theories of class, stratification, and division of labor.[1] Marx argued that the general character of society; the social, political, and spiritual processes, is determined primarily by the mode of production of material life, or the economic structure. The stratification system of society is a function of the social relation of production, and an individual's position in society is determined by his or her relationship to the means of production. According to Marx

such factors as education, politics, law, and religion all exercise important influence on the shape of society. But they are superstructural factors which serve primarily an ideological function of legitimizing the basic foundation of society, that being the economic structure.

Class conflict, according to Marx, has been the central dynamic of all human societies. Under capitalism there are two principle classes which relate to each other in a state of conflict and struggle; the capitalists who own the means of production and the workers who are forced to sell their labor power to the capitalists in order to make a living.

The driving force of capitalism is the process of capital accumulation. Capital is accumulated or profits are earned by capitalists by expropriating the surplus value created by workers. The relationship between capitalists and workers, therefore, is an exploitative one in which the capitalist class benefits from the labor of the working class. The primary interest of the capitalist is to increase the surplus value created by workers in order to maximize the accumulation of capital or to make the highest possible profits. The use value of the product, the efficiency with which it can be produced, and the conditions workers must endure in the production process are irrelevant, except to the extent that these factors can be manipulated to increase the surplus value accruing to the capitalist.

The Evolution of Work and the Consequences of Education

The radical analysis of education acknowledges that formal education has played a vital role in the development of capitalism, but in a

far different manner than the conventional analysis maintains. The main function of education has been to legitimize, in the minds of the workers, the social relations of production and the class system in general. It has done so primarily by inculcating workers with the appropriate personality and attitudinal characteristics, that enable the capitalist class to maintain control of the work process and the surplus generated by that process. Social control has been the primary function performed by schooling and the expansion of education has evolved in response to the growing need on the part of capitalist for more refined methods of social control in order to maintain the system. Essentially, this has meant reconciling more and more workers to a work setting increasingly characterized by a wage labor system imbedded within a hierarchical division of labor.[2]

The division of labor, the bureaucratic organization of work, and virtually all other characteristics of the production process have evolved, it is argued, in response to the capitalists' need for maintaining control of that process in order to maximize the accumulation of capital, not because of any technical superiority associated with these structural changes.[3] Throughout the period of capitalist development it is acknowledged that many new tasks have been added to the production process. Some of these tasks require highly skilled people to perform them. But, in general, the drive for capital accumulation has resulted in the breaking down of complex tasks into relatively more simple manual operations. In Marx's words:

> By decomposition of handicrafts, by specialization of the instruments of labour, by the formation of detail labourers, and by grouping and combining the latter into a single mechanism, division of labour in manufacture creates a

> qualitative gradation, and a quantitative proportion in the social process of production; it consequently creates a definite organization of the labour of society, and thereby develops at the same time new productive forces in society. In its specific capitalist form--and under the given conditions, it could take no other form than a capitalistic one--manufacture is but a particular method of begetting relative surplus-value, or of augmenting at the expense of the labourer the self-expansion of capital--usually called social wealth. . . .It increases the social productive power of labour, not only for the benefit of the capitalist instead of for that of the labourer, but it does this by crippling the individual labourers. It creates new conditions for the lordship of capital over labour. If, therefore, on the one hand, it presents itself historically as a progress and as a necessary phase in the economic development of society, on the other hand, it is a refined and civilized method of exploitation.[4]

The decomposition of tasks coupled with the bureaucratic organization of work removes knowledge and control of the productive process from those actually involved in production; and places that knowledge and control in the hands of those at the top of the pyramid, the capitalists. Stephen Marglin summarized the function of these two changes in the organization of work in the following words:

> Rather than providing more output for the same inputs, these innovations in work organization were introduced so that the capitalist got himself a larger share of the pie at the expense of the worker, and it is only the subsequent growth in the size of the pie that has obscured the class interest which was at the root of these innovations. The social function of hierarchical work organization is not technical efficiency, but accumulation.[5]

The implementation of modern machinery represents one change in the productive process which has evolved, ostensibly, for the purposes of expanding production, improving the efficiency of production and increasing the total wealth of society in general. But there are important social implications involved in the use of modern machinery

according to the radical interpretation. As Braverman argued:

> Machinery comes into the world not as the servant of 'humanity,' but as the instrument of those to whom the accumulation of capital gives the ownership of the machines. The capacity of humans to control the labor process through machinery is seized upon by management from the beginning of capitalism as the prime means whereby production may be controlled not by the direct producer but by the owners and representatives of capital. Thus, in addition to its technical function of increasing the productivity of labor--which would be a mark of machinery under any social system--machinery also has in the capitalist system the function of divesting the mass of workers of their control over their own labor [Emphasis included in original][6]

The radical challenge maintains that conventional theory ignores important social dimensions of work, particularly the primacy of capital accumulation and the exploitative relationships which result from that driving force, while accepting the technological justification for changes in the work process along with the notion that all groups of people benefit from those changes. Rather than viewing capitalism as one unique form of a modern industrialized society, conventional analysis draws conclusions about industrialism in general from its observations of capitalist societies. By failing to take into consideration the social dimensions of work which are inherent in a capitalist society but not in all industrial societies, the conventional analysis misses the most salient defining characteristics of American life.

While a variety of social control mechanisms have been established within the work process itself, the socialization process starts long before people enter the world of work. Schools, in particular, constitute one institution which prepares people early in their lives for their eventual role in the production process. The expansion of formal

education, it is argued, has been motivated not just by technical considerations but also by changes in the noncognitive characteristics required on the job. The increasing bureaucratization of work requires a labor force which accepts the social relations of production inherent in that kind of organization and education has helped fill that need.[7]

The radical critique also challenges the notion that the increasing importance of education in determining where one is located in the occupational structure is evidence of a shift in the distributive process from ascribed to achieved characteristics. Education, achievement tests, and other so-called objective indicators of ability, it is aruged, are clearly biased along class lines. By distributing privilege on such criteria, class position is transmitted from generation to generation in a way that is perceived as an open, fair, and objective method of allocating the available rewards. As a result, individuals willingly accept their share of the rewards and they view the functioning of the overall system as basically legitimate.[8]

Education and the Rationalization of the Economy

Radical theory has stimulated much of the recent revisionist history of the United States. Guided by this perspective, the relationship between economic developments and education, and the influence of business on education have been re-examined. This section will summarize the historical analysis of the influence of business on education from the radical perspective.

The Progressive Era (dating approximately from the turn of the century up to World War I) is considered to be a particularly crucial period for the development of the American economic structure and for education, according to the revisionist perspective. Traditionally,

the Progressive Era is viewed as an age of reform in which government stepped in to regulate big business in the interests of smaller businesses, consumers, and society in general. Monopolies were broken up, regulatory agencies were established, and through the combined efforts of labor unions and government, workers were able to obtain better working conditions and to wrest a variety of fringe benefits from a begrudging management. Progressive education was a movement aimed at humanizing education and social reformers like Upton Sinclair and Jane Addams drew the nation's attention to and generated reforms in problem areas ranging from alcoholism to corruption in the meat packing industry.[9]

Revisionist historians argue, however, that the most fundamental change of that era was not social reform, but the emergence of a new relationship between big business and government whereby private industry used political outlets to create a stable predictable and secure economic environment in which reasonable profits could be generated over a long period of time. Big business wanted to rationalize what had become a chaotic economic and social environment, and to secure its power in that environment.[10]

During the latter part of the 1800s unbridled competition and the spirit of laissez-faire capitalism ruined several individual businesses and threatened the entire corporate structure. By working together with government in a relationship defined by Kolko as political capitalism, business was able "to attain rationalization in the economy." According to Kolko:

> Progressivism was not the triumph of small business over the big trusts, as has often been suggested, but the victory of big business in achieving the rationalization of the economy that only the federal government could provide.[11]

Events of the Progressive Era represented a significant shift in the outlook of big business, but not in the basic power relations in American society. The concepts of unrestricted competition, survival of the fittest, and laissez-faire capitalism were replaced by the ideal of a planned, socially responsible corporate order in which the interests of all groups of people had to be taken into consideration. Recognizing that open competition resulted in chaos and that socialism was attracting wider support among workers, many social reforms were enacted. Contrary to conventional history, however, the revisionist perspective maintains that these reforms were designed and initiated by class conscious businessmen who were acting in their own self-interests. As Weinstein stated:

> The Progressive Era--the years from 1900 to 1920--was a period of social turmoil and intense competition among different social groupings and classes for political power and influence in the United States. By 1918 the leaders of the large corporations and banks emerged secure in their loose hegemony over the political structure. They did so by accepting, and unobtrusively leading, a new politics which we will call corporate liberalism. . . .Underlying all, or most, of the new politics of these years was an awareness on the part of the more sophisticated business and political leaders that the social order could be stabilized only if it moved in the direction of general social concern and social responsibility. Dissatisfaction with the increasing polarization of American society and with the apparent decline in influence of some social classes created a climate for change. In that climate many movements grew. The one that was truly conservative triumphed; it did so in the name of liberalism.[12]

Many of the reform measures which were enacted, according to the revisionists, were aimed at quelling discontent among workers. Profit sharing plans, workmen's compensation, pensions, improved working conditions, were all attempts on the part of business to reconcile workers to the prevailing corporate structure. Formal education was designed to accomplish basically the same objective, according to this interpretation.

A stable economy requires a stable work force. Revisionists who have turned their attention to education[13] argue that the main function of schooling throughout American history has been one of legitimation. In general, this has meant preparing people to accept their position in the class structure of society, a position generally commensurate with the socio-economic background of their parents. More specifically, this has meant socializing workers to accept their role within the social relations of production and the validity of that mode of production along with the distribution of rewards which has resulted from it.

The structure of schooling and the expansion of formal education are intricately related to the legitimization function education has been assigned, according to this perspective. The common school movement and the subsequent growth of mass public schooling were not motivated by egalitarian concerns. Rather, as Greer stated,

> The school's continuity with the past was to be found in the fact that it reflected and reinforced what had been from the beginning the restrictive class nature of society. It supported class distinctions and was expected to socialize children for their place in the world.[14]

Bowles and Gintis argued that the expansion of public schooling in the United States resulted not from rising cognitive skill requirements but "by the critical need for a burgeoning capitalist order for a stable work force and citizenry reconciled, if not inured, to the wage labor system."[15] The recent growth of junior colleges is traditionally viewed as an attempt to open up opportunities in higher education for groups of people who otherwise would not have such opportunities. According to the revisionist perspective, however, the increase in junior colleges constitutes a further refinement in the stratification of education. Their primary purpose is to "cool out" lesser talented students, which generally means students from lower socio-economic backgrounds, from higher education by re-orienting them or rechannelling their aspirations and expectations more in line with their supposedly limited abilities.[16] The expansion of formal education in general was motivated by a concern for legitimization, not democratization or technical training, according to this perspective.

The structure of schooling is also a function of the concern for legitimization according to the revisionist viewpoint. Innovations such as guidance counseling, tracking, vocational education, and even extra-curricular activities were all designed, according to Spring,[17] to socialize individuals into accepting their designated roles and to view their own well being in terms of how much they could contribute, in their capacity, to strengthen the prevailing corporate order. The most important structural characteristic of schooling, which clearly reveals the strong relationship between the structure and function of education, is the bureaucratic organization of the schooling process. As Katz argued:

> The purpose has been, basically, the inculcation of attitudes that reflect dominant social and industrial values; the structure has been bureaucracy. The result has been school systems that treat children as units to be processed into particular shapes and dropped into slots roughly congruent with the status of their parents. There is a functional relationship between the way in which schools are organized and what they are supposed to do. That relationship was there a century ago, and it exists today. This is why the issues of social class and bureaucracy are central to understanding the public school.[18]

As indicated in the previous section, the radical critique maintains that the bureaucratic organization of work serves important social control functions. Since the primary function of education is to prepare people for the world of work, it is not coincidental that schools should be similarly organized. As Bowles and Gintis argued:

> Order, docility, discipline, sobriety, and humility,--attributes required by the new social relations of production--were admitted by all concerned as the social benefits of schooling.[19]

By replicating the social relations of production with the classroom, schools were structured in such a way that those required attributes would be developed.

> The school is a bureaucratic order with hierarchical authority, rule orientation, stratification by 'ability' (tracking) as well as by age (grades), role differentiation by sex (physical education, home economics, shop) and a system of external incentives (marks, promise of promotion, and threat of failure) much like pay and status in the sphere of work. Thus schools are likely to develop in students traits corresponding to those required on the job.[20]

It is argued that the development of education has long been molded by businessmen and business ideology. However, it was during the Progressive Era when this relationship fully developed, and it has continued

to manifest itself up to the present day.[21] Representatives of the corporate elite have dominated school boards and college boards of trustees. Educational administration has been shaped by the "efficiency expert" and "scientific management" mentality. Corporate elites have bought and sold education officials and have made hugh profits through both legal and illegal business dealings with school systems.[22] It is pointed out that many educators have willingly accepted business perspective in terms of the way schools are run and in terms of who they are run for. Through a variety of direct and indirect means it is argued that educational institutions have been manipulated by and for the corporate structure of American capitalism.

The Radical or revisionist interpretation of education maintains that education has developed primarily for the purpose of maintaining the power relations which have characterized the United States throughout its history. By World War I the power was firmly established in the hands of the corporate elites and education has functioned to keep it there. No meaningful social reform will result until the basic institutions and power relationships inherent in capitalism arealtered. The essence of the radical critic was summed up by Bowles when he argued:

> (1) that schools have evolved in the U.S. not as part of a pursuit of equality, but rather to meet the needs of capitalist employers for a diciplined and skilled labor force, and to provide a mechanism for social control in the interests of political stability; (2) that as the economic importance of skilled and well educated labor has grown, inequalities in the school system have become increasingly important in reproducing the class structure from one generation to the next; (3) that the U.S. school system is pervaded by class inequalities, which have shown little sign of diminishing over the last half century; and (4) that the evidently unequal control over school boards and other decision-making bodies in education does not provide a

> sufficient explanation of the persistence and pervasiveness of inequalities in the school system. Although the unequal distribution of political power serves to maintain inequalities in education, their origins are to be found outside the political sphere, in the class structure itself and in the class subcultures typical of capitalist societies. Thus unequal education has its roots in the very class structure which it serves to legitimize and reproduce. Inequalities in education are a part of the web of capitalist society, and likely to persist as long as capitalism survives.[23]

Human Capital Theory Reconsidered

As indicated in the previous chapter, human capital theory, an extension of neo-classical or conventional economics, assumes that the labor market operates according to the competition model. That is, individuals compete with each other in a free market governed basically by the law of supply and demand. It asserts that wages are determined by the marginal productivity of workers and that marginal productivity is largely a function of those attributes learned in school. It follows logically, therefore, that increasing the education of low income workers will increase their income, reduce the inequality in the distribution of income, and will increase the total wealth produced, thus reducing poverty. Many critics maintain, however, that the labor market (or markets) does not fit the competition model and, therefore, that human capital theory does not adequately explain the relationship between education and income. Several alternatives to the competition model have been offered to describe how the labor market determines the allocation and cost of labor, and the distribution of income.

The Labor Queue

One alternative to the competition model and human capital analysis is the theory of the labor queue.[24] According to this perspective the

precise skills required on most jobs are learned on the job, so employers seek out those employees who will be the least expensive to train. Since those skills are not readily identifiable employers use educational credentials and other background characteristics as rough indicators to sort out potential employees. Workers are ranked in a labor queue from the best potential worker to the worst. Those who are ranked at the top will obtain the more desirable (better paid) jobs. Rather than matching workers and jobs on the basis of specific skills possessed by workers with those required on the job, job opportunities are allocated to workers on the basis of workers' rankings in the labor queue. The distribution of income, according to this model, is a function of the distribution of job opportunities, not the marginal productivity of workers.

As a result of jobs and income being distributed in this manner, educational requirements are often increased independently of any change in the skills required on the job. Individuals are often hired with educational backgrounds which surpass what was formerly considered adequate for the job. Those who are ranked lower on the labor queue, and who qualified for the job in the past, are pushed further down the line and are forced to seek less desirable jobs. Individuals respond to this situation by obtaining more credentials in order to enhance or maintain their competitive position in the job market. Since income is a function of job opportunities rather than marginal productivities, providing more education for lower income people will not alter the differential level of wages paid to workers. It may alter their relative positions in the labor queue, and equalizing education may result in refining the criteria used to allocate workers among the available

job opportunities, but equalizing the income distribution requires a direct alteration of the differential wages allocated among jobs and the workers who fill them.

The Dual Labor Market

The occupational structure has been analyzed within the framework of a dual labor market.[25] As in the labor queue theory, emphasis is placed on the structure of the economic system, rather than on the specific qualifications of individuals, in explaining the distribution of income and the perpetuation of poverty. According to this theory, jobs in the primary sector generally have the following characteristics: high wages, good working conditions, employment stability, job security, opportunities for promotion, and due process in the administration of work rules. Jobs in the secondary sector are generally less attractive and, relative to the primary sector, can be described by the following traits: low wages, poor working conditions, unstable employment, little opportunity for advancement, and arbitrary administration of work rules.

A close association develops between the nature of the jobs and the personalities of the workers as a result of the workers' experiences in the primary or secondary sector. For example, because work is more stable and offers greater opportunities in the primary sector, these employees are more likely to take an active interest in their jobs. They are prompt, reliable workers who identify their personal interests with the success of their employer, or at least with their own success on their particular jobs. But in the secondary sector, work is unstable and does not offer much opportunity. Workers are less likely to identify with the job or to take more than a passive interest in it because of

the temporary, unsatifactory, dead-end nature of the work. Employers, in turn, expect these workers to be less punctual in getting to work and more erratic in their general behavior, thus reinforcing the personality associated with secondary sector workers.

There are a number of structural factors in the economic system which interact to create the dual labor market and which account for the different levels of wages paid to workers.[26] Primary sector jobs tend to be located in capital intensive, highly concentrated oligopolistic or monopolistic industries. As a result of their greater productivity and the control they exercise over the market for their goods, these industries are less susceptible to pressures of the competitive market. They can afford to pay higher wages and to pass that cost along to consumers in the way of higher prices. Such industries are able to accumulate political as well as economic power which further strengthens their position. Labor unions can exert more influence and obtain higher wages, better working conditions, etc. because of the overall strength of the industry or firm. The same factors also interact to depress wages in the secondary sector. These jobs are located predominantly in competitive, labor intensive industries which are forced to keep prices, and therefore wages, down. Such industries have little political influence. Unions which are organized have little bargaining power because of the competitive nature of the industry or firm.

According to the dual labor market theory, therefore, a number of structural factors are operating to depress the wages of many workers, a disproportionate number of whom are women and racial and ethnic minorities. The skills or potential abilities of these workers is a

secondary rather than a determining factor in accounting for their low earnings. The central implication of the dual labor market is that to effectively deal with the problems of inequality and poverty, policy should be focused on the structural factors which generate that market rather than on education, training, counseling, or other methods of upgrading the skills of individual workers.

Internal Labor Markets

Another alternative to conventional economic theory of the pricing and allocation of labor is the concept of internal labor markets.[27] According to this perspective, wages are based on a set of administrative rules and procedures established within firms rather than by a competitive process through which employees are hired, paid, promoted, released, etc. on the basis of their marginal productivity. While employers and employees alike are motivated by a desire to maximize their earnings, such maximization is accomplished basically by stabilizing the employment situation as a whole rather than by setting wages at a level comparable to the marginal productivity of individual workers.

Rules and procedures are established within firms to govern the wage scale, promotion lines, retirment benefits, etc. for the benefit of employers and employees. Seniority is perhaps the best known characteristic of the internal labor market. While entry level positions are generally low paid (below what a worker might expect to get on the basis of his or her ability and experience) the promise of job security and future rewards make the initial sacrifice worthwhile. Because entry level jobs are relatively low paying positions, an employee is likely to stay with a given employer to obtain the benefits which become available.

Employers benefit by maintaining a stable work force. The expenses of high turnover; recruitment, screening, testing, and training are kept at a minimum. The external market is influenced by competitive factors associated with conventional economic theory and certain restraints are placed on the internal labor market. But approximately 80 percent of the employed labor force work in internal labor markets.[28] Therefore, it is argued that the pricing and allocation of labor is determined more by the structure of the internal labor market than by the external factors.

Three factors account for the origin of internal labor markets. First, skills required on the job are often unique to a specific firm. Therefore, as in the labor queue theory, employees are hired according to their trainability, since it is difficult to predict performance on a job employees have never had. Again, general background characteristics, such as formal education, are used to sort prospective employees in terms of their ability to learn the skills required on the job. As a result, a second factor comes into play. These skills are generally learned informally on the job, primarily from other more experienced workers. Since the specific skills required on the job are learned from others who have held those jobs, a stable work force results in lower training costs. The third factor is custom. After a period of time workers become accustomed to operating in a set pattern. Norms are established regarding the methods of recruitment of new employees, the distribution of wages, criteria for promotion, and other privileges of employment. While these customs may have originated in response to economical factors, they often persist beyond the time period in which they could be justified on economic grounds alone. Such customs which

may have been informally practiced at one time become institutionalized on a formal basis and are frequently written into union contracts. As a result of both technical needs and traditional attitudes, therefore, internal labor markets arise and are perpetuated in response to the security needs of employees, the desire for stability on the part of employers, and the material benefit of both.

Internal labor markets are established precisely for the purpose of providing benefits to those on the inside which are not available to others on the outside. In order to obtain the benefits of an internal labor market of course, one has to get into the firm. Knowlege of and access to openings in addition to many other structural characteristics of the internal labor market are governed by informal rules and methods, which frequently are treated as formal agreements and often become formal policies. As a result of such informalities, the use of general screening devices for the purpose of ranking potential employees, like formal education, and other characteristics of internal labor markets, minorities, women, and poor whites are frequently relegated to a low income status, once again, more because of the way the economy is structured and the way it functions than because of differences in individual capabilities.

Credentialism and the Expansion of Formal Education

Several other critics have argued that formal education has become a tool for screening out and selecting employees for reasons which have little or nothing to do with the capabilities associated with a given level of educational attainment, the skills required on the job, or abilities of individuals who have completed a given number of years of

schooling.[29] Many individuals who have the requisite skills are locked out of jobs because they lack the necessary credentials.

A variety of factors account for this growing phenomenon of credentialism. The supply of workers at a given level of educational attainment often determines what the requirements will be. If the supply of labor is tight in a particular area, standards will be lowered. But since people are staying in school longer, the general tendency has been in the opposite direction. Employers can often afford to raise their educational requirements and still have a large pool of talent from which to choose.[30] In fact, as more and more better educated (highly schooled) workers enter the labor force, employers often respond by raising their educational requirements to reduce the number of candidates they must consider in order to minimize the expense of selecting and recruiting new employees. In some cases, however, employees with lower levels of educational attainment have turned out to be the most productive and, without realizing it, employers have done a disservice to themselves by increasing their requirements.[31]

As indicated earlier in this section, it is argued that requirements are frequently raised because the precise skills required on the job are not easily identified and over time they will often change. Employees are hired, therefore, because of their ability to learn new tasks. Also employees are often hired at an entry level position with the intention of eventually promoting them. Employers argue their requirements are set according to the jobs these employees will have in the future, not just for the positions they will assume immediately.[32] Some companies will raise their requirements purely for the prestige they believe a highly educated work force will give them.

Most of the factors cited above which account, at least in part, for the increase in educational requirements can perhaps be indirectly related to some attributes required on the job. However, it is argued that in some instances requirements have been raised solely for reasons which have virtually nothing to do with ability to perform on the job. Many professional organizations, labor unions, and other organized groups establish minimum requirements for the purpose of restricting the supply of "qualified" workers in a particular field. By raising educational requirements, various occupational and status groups have monopolized jobs by imposing their cultural standards on the selection process. The effect is to create an artificial scarcity of qualified (credentialed) workers, thereby maintaining or increasing the wages those on the inside can command.[33]

As a result of these various uses of educational credentials people spend more years in school. In turn, requirements are raised. Requirements and attainment reinforce each other upward for reasons which have little, if anything, to do with the skills required on the job.[34] A major consequence of credentialism is to turn formal education into an institution which restricts upward mobility and contributes to the unequal distribution of income and wealth.[35] One study estimated that up to half of the net earning differentials are due to the use of education as a screening device which denies people positions for which they are otherwise qualified.[36] Various interest groups use educational requirements to protect their standing within the class structure by denying entry to individuals because they lack proper certification rather than because of the skills and potential abilities they may or may not possess.

The labor market, it is argued, does not function according to the model offered by conventional economic theory. Since human capital theory is rooted in the conventional paradigm, it misconstrues the role of education in determining income and occupation. As the radical critique maintains, this challenge to the conventional analysis of education asserts that the expansion of formal education has not been motivated by changes in the skill requirements of jobs or by a concern for democratization. A variety of structural characteristics of the labor market in particular and the class structure in general, account for the expansion of formal education and for the inequalities which persist in our society. Individual characteristics are of secondary importance compared to these structural factors. As Bluestone argued:

> The inadequate incomes of most of the working poor are not of their own making. If we are to blame them for anything it must be for not having the good fortune to complete an education topped off by a college degree. Rather we must blame the economic system which in too many instances provides less than an adequate job for those of adequate talents. In dealing with the working poor it is not enough to deal with problems of individuals--too little schooling, not enough training, inadequate housing and filthy neighborhoods, no hope, and no potential power. We must also find solutions to an economic system which continues to propel a poverty-wage sector right into the decade of the '70's.[37]

The Alternative Education Movement

During the past ten or fifteen years various alternatives to traditional schooling have been proposed. Free schools,[38] community control of schools,[39] open classrooms,[40] voucher systems,[41] and deschooling[42] are some of the basic theoretical and ideological components of what has come to be known as the alternative education movement. Some of these proposals represent totally new conceptions of what

education should be, how society should be structured, and how we can achieve that society. Others are reformulations of old ideas which have been perhaps slightly altered to suit modern conditions. Some of the proposals have remained simply as ideas in people's minds. Others have been experimented with in actual practice and some have been incorporated into traditional school settings. Although there are important differences among the various dimensions of the alternative school movement, the similarities among them, particularly in terms of their analyses of conventional schooling, constitute a fairly consistent view of how education has functioned in the past and the direction we should move in order to reform education and society in general.

The alternative education movement was stimulated by the perceived failure of schools to perform their basic function of teaching. The racism which was rampant in the school system of many major cities, the inability of schooling to provide upward mobility for the poor in general, and their failure to provide a decent, humane education for all groups of people led to demands for radical changes in education.[43] Schooling came to be viewed as an oppressive institution which did little more than process people for slots in an economic machine whose chief values are conformity and the production and consumption of material goods. In order to make education a true learning experience whereby individuals can cultivate their abilities and interests, develop the capacity to think critically about the world, and pursue and benefit from their natural desires and abilities to learn, it is argued that the control of education must be decentralized.

Perhaps the most influential dimension of alternative education has been the free school movement. Many free schools have been started

within the past decade and the free school philosophy embodies most of the central elements of the rationale behind each dimension of alternative education, again, acknowledging some important distinctions.

Free Schools

Although there are many different kinds of schools which bill themselves as free schools, most of them can be distinguished from traditional schools in the following ways. Free schools allow the individual student to determine his or her own education with the guidance of the adults associated with the school. They frequently have no attendance requirements, grades, tests, or other administrative procedures, characteristic of most traditional schools. The free school rhetoric emphasizes the right of each individual to do "his or her own thing" and it advocates more democratic control of the school, although in actual practice there is often a significant degree of conformity among students, and teachers often exercise greater authority, albeit in a more subtle way. Compared with students in most traditional schools, however, free school students do have more freedom to do what they want to do when they want to do it.

According to the free school advocates, people are inherently curious beings who, if left to their own devices, will seek out education and will develop into knowledgeable, productive citizens. A. S. Neill, the founder of perhaps the most famous free school, Summerhill, stated:

> My view is that a child is innately wise and realistic. If left to himself without adult suggestion of any kind, he will develop as far as he is capable of developing.[44]

The free school philosophy is rooted largely in the educational philosophy of Rousseau[45] who emphasized the supremacy of individual rights over the needs of society. For Rousseau, and for many of the free school advocates of the 1960s and 1970s, society and its institutions serve to corrupt individuals. Educational institutions are no exception. A proper education, therefore, is one in which the individual is allowed to decide for himself or herself the kinds of activities which will be pursued, independently of any institutional constraints. George Dennison argued that we should:

> . . .show some little faith in the life principles which have in fact structured all the well-structured elements of our existence, such principles as our inherent sociability, our inherent rationality, our inherent freedom of thought, our inherent curiosity, and our inherent (while vigor lasts) appetite for more.[46]

Dennison pointed to the negative effects of institutions, particularly in the field of education, as a primary reason for relying on the inherent qualities of man:

> The issue is precisely that of the effect of the institution upon the individual. The institution, the educational system in all branches, is currupting to the individual, and though the corruption may in many cases take the form of considerable expertise, the fact remains that competence is destroyed.[47]

The corruption of schooling is manifested in several ways. First, it destroys the desire and ability to learn. Schools, it is argued, are deadening, bureaucratic, authoritarian institutions which stifle creativity, encourage conformity, and instill boredom and fear among the client population. At best school is a chore children must endure. At

worst it is a threatening situation feared by many students. Fear of failure leads students to develop defensive strategies in order to survive in school. They give answers they know the teachers are looking for. Pleasing others, in order to avoid failure, is what school is all about for many students. In John Holt's words:

> We adults destroy most of the intellectual and creative capacity of children by the things we do to them or make them do. We destroy this capacity above all by making them afraid, afraid of not doing what other people want, of not pleasing, of making mistakes, of failing, of being wrong. Thus we make them afraid to gamble, afraid to experiment, afraid to try the difficult and the unknown.[48]

A second corruptive characteristic of schooling is its social engineering function. It is argued that if education means the acquisition of skills, developing one's intellecutal capacities, pursuing one's interests and abilities, or following a natural curiosity to learn about the world one lives in, then schooling is a noneducational or miseducational experience. What is learned in school is acceptance of what Goodman defined as a uniform world view.[49] Or, as Friedenberg argued, all people are molded to fit into a middle-class way of life.[50] More specifically, the operation of schooling is dictated by the needs of a particular kind of economic system which needs workers to perform its banal tasks and consumers to purchase its products, in order to keep the system functioning. People are conditioned to aspire to ever greater levels of consumption of material goods. Cultural or social needs, or anything which interferes with the profitable functioning of that economic system are secondary considerations, if they are considered at all.

Attitudes and values, therefore, rather than specific skills or

the ability to think critically, are the principle attributes learned in school. Friedenberg argued that:

> . . .what youngsters learn in their public school careers does fit them to take part in the economy on the economy's terms, which for most of them, are the only terms on which they can survive at all. This learning, however, does not consist primarily in a set of marketable skills, but of attitudes toward the self as it relates to other people and to the student's potential economic function as an adult.[51]

As diplomas become pre-requisites for jobs, Goodman argued, the correlation between schooling and employment becomes a self-fulfilling prophecy. Since there are not enough jobs available for all who want to work, diplomas are used as a mechanism for selecting workers, independently of the skills possessed by workers. The expansion of formal education is motivated less by the need or desire for more education and more by the fact that the unemployed simply must be kept off the streets.[52]

A third, but closely related, corruptive aspect of schooling is its role in perpetuating inequality and denying opportunity to minorities and the poor. In Goodman's words, "the usual propaganda--that schooling is a road to high salaries--is for most poor youth a lie."[53] Some people, of course, do achieve upward social mobility through schooling, but this does not alter the class structure of society or the role of schooling in bolstering that structure. According to Friedenberg:

> The school endorses and supports the values and patterns of behavior of certain segments of the population, providing their members with the credentials and shibboleths needed for the next stages of their journey, while instilling in others a sense of inferiortiy and warning the rest of society against them as troublesome and untrustworthy. In this way, the school contributes simultaneously to social mobility and social stratification. It helps to see to it that the kinds of people who get ahead are those who will support the social system it represents.[54]

For Goodman, Friedenberg, and others within the alternative education movement, the solution to our educational and social problems is to provide people with a variety of ways of growing up and becoming educated. While schooling, as we know it, can perform some useful educational functions, it represents only one kind of learning experience; one which should not be compulsory for all groups of people for any extended period of time. Free schools and other alternative educational environments, provide settings in which individuals and specific community groups can develop educational programs to meet their particular needs rather than those of major corporations.

According to some observers, however, free schools, voucher systems, open classrooms and many of the other innovations associated with alternative education still place unjustifiable restrictions on people. These critics maintain that what is required is the disestablishment of schooling altogether.

Deschooling

The deschooling proposal maintains that the first step towards meaningful educational reform and towards the creation of a truly democratic society is the elimination of schools. According to its principal advocates, Ivan Illich and Everett Reimer, individuals are becoming increasingly controlled by large institutions which indoctrinate people with the need to continuously consume the goods and services offered by those manipulative institutions. We have become passive consumers rather than self-reliant, self-determining actors. It is through the schooling process that people learn to accept this consumption orientation and the legitimacy of institutional definitions of reality. Illich argued:

> School. . .is the major component of the system of consumer production which is becoming more complex and specialized and bureaucratized. Schooling is necessary to produce the habits and expectations of the managed consumer society. Inevitably it produces institutional dependence and ranking in spite of any effort by the teacher to the contrary.[55]

Allowing students to choose the school they attend or to exercise greater freedom within the classroom is no solution, according to this perspective. It is the school process itself, or what Illich and Reimer refer to as the hidden curriculum, which must be eliminated. Schooling teaches people to view education as a product to be consumed. After an individual has accumulated enough courses, credits, diplomas, etc. then that person is considered to be educated. Schooling, therefore, is the first step in conditioning people into becoming passive consumers, subject to the control of all sorts of other manipulative, but seemingly benevolent, institutions. According to Illich:

> Once a man or woman has accepted the need for school, he or she is easy prey for other institutions. Once young people have allowed their imaginations to be formed by curricular instruction, they are conditioned to institutional planning of every sort. . . .This transfer of responsibility from self to institution guarantees social regression, especially once it has been accepted as an obligation.[56]

Noting the current unequal distribution of educational resources and the prohibitive costs that would be involved in providing all children with a college education, Illich and Reimer maintain that the concept of equal educational opportunity is a myth. As long as education is defined as schooling we could never realize equal opportunity for all, even if we seriously tried to accomplish it. The myth of equal

educational opportunity has played an important role, however, in maintaining the relative positions of the privileged and the deprived. "For the latter, they held the promise of equal opportunity; for the former, the promise of an orderly progression under control of the elite."[57] In the final analysis, "Schools. . .promise the world and then become the instruments of its denial."[58] The defining characteristics of our society and the role of schooling in that society are summarized by Reimer in the following statement:

> Modern institutions have assumed the burden of maintaining and justifying a continuing hierarchy of privilege. Among these institutions, the school plays a central role. It initiates each generation into the myths of technological production and consumption, the ideas that what is to be consumed must first be produced and that what is produced must be consumed. Not only goods, but services and knowledge itself become commodities. It celebrates the rituals that reconcile the myths and realities of a society that merely pretends to be for all. It prepares men for specialized roles in specialized institutions, selecting and shaping them in terms of both skills and values. By its own hierarchical structure, it accustoms men to accept a single integrated hierarchy of power and privilege.
>
> School qualifies men for participation in other institutions and convicts those who do not meet the requirements of school of not deserving desirable roles in other institutions.[59]

The solution is to replace schools with a series of learning webs or networks in which teachers and learners would register their interests and the conditions under which they would participate. Individuals would use these networks to locate the kinds of educational experiences they want.[60] Money for education should be distributed directly to private citizens rather than to educational institutions. People could use their allotments as they see fit for their own educational needs. The allocation of funds should be based on the financial status of

families in order to create a more equitable distribution of educational resources. Rather than a classroom being the setting in which education is carried out, people could receive their education in laboratories, museums, airports, farms, or virtually anywhere in society. Education would become a true learning experience rather than a process of consumption or an obstacle course of bureaucratic hurdles to be overcome. In addition to making education a more worthwhile experience and one which is more readily available to all people, it would lead to a more democratic society. As Reimer stated:

> True education is a basic social force. Present social structures could not survive an educated population. . . People are schooled to accept a society. They are educated to create or recreate one.[61]

There are some important differences among the various alternative education proposals. For example many of the advocates of community control of schools are not sympathetic to the flexibility of free schools and they are even less sympathetic to deschooling. For many people it is the lack of discipline in the public schools and the desire for a more traditional authoritarian classroom which makes the concept of community control attractive. But these various philosophies do share a common base in terms of their criticism of public schooling, the ultimate objectives to be achieved, and a belief in decentralization of the control of education as the direction for educational, and ultimately social reforms.

Education, and the conventional interpretation of the role of education in the United States have been criticized from several directions. A general consensus has emerged, however, around the five themes listed at the beginning of this chapter. The conventional and

class perspectives do overlap to a limited extent. For example, even the most ardent celebrants of American education admit that there are, and always have been, some inequities in that system. And the most radical critics acknowledge that many people have learned valuable skills in school. But in terms of education as a social institution; the forces which have shaped education, the influence of education on society, and its effect on the lives of the majority of individuals and groups of people in that society, and in terms of the nature of inequality in the United States these two perspectives represent widely divergent interpretations. In the following chapters these two interpretations will be evaluated against a variety of available evidence on the role of education in the United States.

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CHAPTER V

SKILL REQUIREMENTS, EMPLOYER SELECTION STANDARDS, AND EDUCATIONAL ATTAINMENT

The first question to be examined is the following: Can the expansion of formal education in the United States be explained in terms of technological advances or changes in the technical skill requirements of jobs? As indicated in Chapter III, it is widely believed that rapidly increasing technical skill requirements of jobs has necessitated an expanding educational apparatus. However, there are some contradictory themes which are frequently articulated by those who adhere to the technical theory. As Braverman stated regarding the literature on the sociology of work:

> On the one hand, it is emphasized that modern work, as a result of the scientific-technical revolution and 'automation' requires ever higher levels of education, training, the greater exercise of intelligence and mental effort in general. At the same time, a mounting dissatisfaction with the conditions of industrial and office labor appears to contradict this view. For it is also said--sometimes even by the same people who at other times support the first view--that work has become increasingly subdivided into petty operations that fail to sustain the interest or engage the capacities of humans with current levels of education; that these petty operations demand ever less skill and training; and that the modern trend of work by its 'mindlessness' and 'bureaucratization' is 'alienating' ever larger sections of the working population.[1]

Undoubtedly, both phenomena are occurring, to some extent, in different parts of the occupational structure. Some new jobs have been created and others will be created in the future, which require higher

levels of technical abilities. Other jobs have been and will continue to be upgraded, also because of increasing knowledge and technological advances. Many other workers, however, are employed in jobs that do not require their full abilities. But the growth of formal education has effected virtually everyone. Workers at all levels of the occupational structure have attained greater levels of education than their predecessors[2] and the educational requirements of jobs have increased for blue-collar workers, including so-called "unskilled laborers," as well as for highly skilled professional white-collar workers.[3] The technical explanation is not restricted to any one segment of the occupational structure. Skill requirements at all levels, it is argued, have increased. In addition, the percentage of jobs requiring high levels of skill has increased while unskilled jobs are becoming more scarce. As a result of these trends, greater proportions of each generation have spent more time in school.

As indicated in the first chapter, this assertion will be evaluated by examining the following:

1. the relationship between the amount of formal education required to perform on the job with the educational attainment of workers holding those jobs;
2. the effects of automation and technological change in general on the skill requirements of jobs;
3. the relationship between formal education and the performance of workers on the job;
4. the educational attainment of older and younger workers performing the same job;
5. the ways workers learn the skills they use on their jobs.

Technical Requirements and Educational Attainment

Ideally the relationship (or lack of one) between technical skill requirements and educational attainment could be examined simply by comparing the amount of education required to perform a given job with the amount attained by the worker holding that job. If such an analysis were carried out throughout the occupational structure, over time, it would be possible to more accurately determine the extent to which technical skill requirements of jobs have accounted for the increasing educational attainment of workers. If the educational requirements established by employers were known, then the three sets of data; technical skill requirements, employer requirements, and actual attainment, could be compared in order to determine the extent to which employers' standards diverged from technical requirements. Such precise data, unfortunately, do not exist, but it is possible to draw some approximate conclusions from data which are available.

The U.S. Deaprtment of Labor publication, Estimates of Worker Trait Requirements for 4,000 Jobs as Defined in the 1949 Dictionary of Occupational Titles,[4] provides a summary of the experience, training, and education required, according to Labor Department occupational analysts, as of 1949. A revision published in 1966, Selected Characteristics of Occupations, (Physical Demands, Working Conditions, Training Time) 1966 - A Supplement to the Dictionary of Occupational Titles,[5] provides the same information for 14,000 jobs as of 1966. In these two Labor Department publications job descriptions provided in the second and third editions of the Dictionary of Occupational Titles (DOT) were used to categorize jobs along several dimensions. Estimates

is based on the second edition and Selected Characteristics of Occupations is based on the third edition. Jobs were rated according to scales of aptitudes, temperaments, interests, physical demands and other characteristics of the work involved. Several analysts, each of whom were given an extensive training course, rated each job.[6] (For further discussion of how the GED scores for jobs were determined see Appendix A.)

From these two documents and U.S. census data, comparisons have been made between educational requirements of jobs and educational attainment of workers, and how this relationship has changed over time. In this section research which has been carried out along these lines will be reviewed. Employer selection standards will be discussed briefly in this section but they will be examined more thoroughly later in this and the following chapters.

Most of the studies which have used Estimates and Selected Characteristics of Occupations have focused on the General Educational Development (GED) scale. Reasoning, mathematical, and language skills were analyzed in determining the GED score of each occupation. This score, in turn, was translated into an appropriate school year equivalent. On page v of the Introduction to Estimates it states that, "Appropriate school grade equivalents are provided on the inside of the covers of this volume as an aid in evaluating an applicant's General Educational Development." However, as a result of a subsequent decision such equivalents were not provided. Sidney Fine, who supervised the development of Estimates, said the school equivalents were not included because,

> . . .'high school graduation' or '12 years' of education can mean different things for different areas of the country, for different schools in the same city, or for different periods of time. Furthermore, the number of years of schooling has little relevance to job tasks in many instances.[7]

But as Bezdek and Getzel argued:

> Whatever the case, the translation of these codes into required years of education and training is a logical and necessary step. Educational and training requirements in terms of years have a more universal meaning for manpower and educational planning than do the ambiguous educational development and vocational preparation codes which are difficult to interpret and with which few people are acquainted.[8]

As a result, several researchers have used this material in an attempt to compare the amount of formal education required in order to be able to perform on jobs with the actual educational attainment of the workers holding those jobs.

Certain precautions should, however, be kept in mind. Fine's warningscannot be totally ignored for there are differences among schools and schools do change. For some jobs formal education may be irrelevant from a technical standpoint, although this does not stop some employers from establishing educational requirements for many of them. Despite the Labor Department's attempts to evaluate jobs purely in terms of the various attributes required to perform them, personal tastes and prejudices, in all likelihood, were not eliminated in the DOT's descriptions and in the analyses of the functional requirements.[9] Given the complexity of the job analysts' tasks, due to the huge number of jobs performed in society and the various attributes required of them, some of the jobs undoubtedly were simply described and analyzed

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incorrectly. However, these Department of Labor references probably represent the most comprehensive and informative attempts to determine the level of skill and the amount of training required in the occupational structure. They are valuable tools in estimating the kinds of skills and training needed for many jobs and when used in conjunction with educational attainment data much can be learned about manpower needs in the United States, and about the relationship between technical skill requirements of jobs and the educational attainment of the work force.

Ivar Berg used Estimates in conjunction with the 1950 census and Selected Characteristics of Occupations with the 1960 census to compare GED requirements (translated into years of schooling) of the 4,000 jobs covered in Estimates with the educational attainment of workers holding those jobs, and to examine the changes which occurred in requirements and attainment over those ten years.* Berg found that workers generally

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*Berg used the following scale:

GED	Years of Schooling
1	0
2	4
3	7
4	10
5	12
6	16
7	18

He used this scale because it had been used in earlier studies. R. S. Eckaus, "Economic Criteria for Education and Training," Review of Economics and Statistics, 1964, pages 181-190 and John G. Scoville, "Education and Training Requirements for Occupations," Review of Economics and Statistics, 1966, pages 387-394, used Estimates to compare required with actual educational attainment by translating GED requirements into years of schooling according to this scale. Selected Characteristics of Occupations was not available at the time Eckaus and Scoville did their studies so they were unable to conduct the kind of longitudinal study which Berg and others subsequently did.

Carrying out this kind of analysis is quite a cumbersome process for several reasons. Job titles in the Dictionary of Occupational Titles

attained more years of schooling than their jobs called for, and particularly at the higher levels, the disparity increased between 1950 and 1960. In 1950 1.1 million jobs required a college degree whereas 4.1 million members of the experienced civilian labor force were college graduates. In 1960 a college degree was considered to be a functional requirement for 1.4 million jobs while 6.0 million members of the work force were college graduates. Despite the methodological difficulties involved in determining functional requirements, assigning a particular GED score to specific jobs, and then translating that score into years of schooling Berg stated, "there is a distinct drift of 'better' educated people into 'middle' level jobs and a reduction in the number of 'less' educated people who move up into middle-level jobs in the decade covered by the data."[10] He concluded,

> Since 'achievements' appear to have exceeded requirements in most job categories, it cannot be argued helpfully that technological and related changes attending most jobs account for the pattern whereby better-educated personnel are 'required' and utilized by managers.[11]

V. Lane Rawlins and Lloyd Ulman conducted a similar analysis of 450 professional and technical occupations.[12] They found "a rather consistent increase in educational attainment over the 10-year period

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must be translated into census occupational classifications. This problem is compounded by the fact that the coding scheme was altered in the third edition of the DOT. The GED score of various occupations may be questionable in some instances and the translation of GED scores into years of schooling is subject to various interpretations. A further problem is created by the fact that the seven point GED scale used in Estimates was collapsed into a six point scale in Selected Characteristics of Occupations. For a discussion of how these methodological problems were handled see Chapter III of Berg's Education and Jobs.

[1950-1960] that bears no statistically significant relationship to the changes in estimated requirements."[13] Rawlins and Ulman suggested that the upgrading of educational requirements is at least partially an adjustment to the supply of better educated workers. The increase in the median number of school years completed in a set of what they referred to as "dead-end" occupations which require quite limited amounts of training is offered as further evidence that the educational upgrading of occupations is a response to the available supply rather than to changes in technical skill requirements.

TABLE V-1: EDUCATIONAL ATTAINMENT OF WORKERS IN SELECTED "DEAD END" OCCUPATIONS: 1950 AND 1960

Occupations	Median Years of School Completed[14] 1950	1960
Mail carriers	12.3	12.7
Truck and tractor drivers	8.9	9.1
Barbers	8.9	9.2
Railroad conductors	9.4	10.5
Locomotive firemen	10.5	10.7
Railroad brakemen	9.9	10.8
Laborers (excluding farm)	9.0	8.7

Although Rawlin's and Ulman's data indicate that the educational attainment for nonfarm laborers declined between 1950 and 1960, the overall trend since at least 1948 has been the opposite. According to the Manpower Report of the President, 1974, the median number of school years completed by nonfarm laborers, and by workers in all other occupational classifications, has steadily increased. In 1948 the median number of school years completed by nonfarm laborers was 8.0. This increased to 8.6 in 1959, 9.8 in 1968, and 11.4 in 1973. Farmers and

farm laborers have the lowest levels of educational attainment of all occupational classifications, but that, too, has been increasing from 8.0 in 1948 to 8.6 in 1959, 9.1 in 1968 and 10.7 in 1973.[15]

Further evidence that the increasing educational attainment of the work force has been caused by factors other than the functional requirements of jobs was presented by Ann Miller in her analysis of the sample household enumeration conducted by the U.S. Bureau of the Census in October, 1966.[16] Miller compared the educational attainment of workers with the educational requirements according to Selected Characteristics of Occupations and found that, with few exceptions, the educational attainment of workers within each occupational classification* far exceeded functional requirements. Miller translated GED requirements into years of schooling in the following way:

GED	Educational Attainment
1-3	Elementary
4	Some High School
5-6	Some College

According to Miller's computations, over 78 percent of all males received at least some high school while only 42 percent of the jobs held by men required any education beyond elementary school. Twenty-six percent of the men had some college while 19.1 percent of the jobs they held required it. For women over 84 percent had at least some high school even though only 41 percent of their jobs called for it and 22.5

*Miller used the occupational classifications of the DOT: (1) Professional, Technical, Managerial, (2) Clerical and Sales, (3) Service, (4) Farming, (5) Processing, (6) Machine Trades, (7) Bench Work, (8) Structural Work, (9) Miscellaneous.

percent had some college whereas only 12.4 percent of the jobs called for that level of education. Miller concluded,

> . . .it is hard to escape the conclusion that the high level of educational attainment in this country reflects a much broader set of social values than those related to purely occupational requirements.[17]

What Miller referred to as a "broader set of social values" may well be employers' preferences for relatively better educated workers no matter what the level of educational attainment is throughout the work force, even if it is far above that which is technically required on the job. At least that is the conclusion Jaffe and Froomkin drew in their analysis of the relationship between technological change and educational attainment.[18] They took a different approach to this issue than did the researchers cited above in this section, but their data support the contention that the educational attainment of workers cannot be explained in terms of changing technical skill requirements of jobs.

Jaffee and Froomkin studied sixty-two industries[19] and found that "the speed of technological change has little, if anything, to do with educational attainment. There is no discernable relationship between changes in output per worker in an industry and the educational levels of white- or blue-collar workers, male or female."[20] They studied changes in the output per worker in these industries between the years of 1950 and 1960. While the educational attainment differed among them, changes in the educational attainment of workers was not related to the

rates of technological change, measured in terms of output per worker.*

For example, in local and highway passenger transportation the output per worker changed less than one percent per year while in coal mining output increased over five percent annually. But the percentage of blue-collar workers who were high school dropouts remained virtually the same in each industry in those ten years. In transportation 76 percent of the blue-collar workers in 1950 were dropouts compared to 75 percent in 1960. In coal mining 87 percent of the 1950 and 1960 blue-collar workers were dropouts. Overall in those industries in which output per worker increased by less than 2 percent annually, and employment increased by less than 15 percent, 77 percent of the male blue-collar workers were dropouts compared to 72 percent in 1960. The comparable figures for industries experiencing an increase in output per worker of 4 percent or more annually are 83 percent in 1950

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*The fact that an industry has experienced significant technological change or has substantially increased its productivity does not necessarily mean that jobs have generally been upgraded in terms of the skills required to perform them. Precisely the opposite phenomenon, a decline in the requisite skills may be the result of these changes. This issue will be explored in the following section. A central tenet of the technical theory, however, is that technological change and the growing productivity of the economy require an increasingly better educated work force in order for society to use that new knowledge to continue that expansion in productivity. If technological change leading to continual growth in productivity occurs, and such changes are unrelated to the educational attainment of workers, whether or not the skill requirements are altered in the process, the technical theory would be called into question. It is interesting to note, however, that in Collins' study of the relationship between changes in the actual skill requirements of jobs, as a result of technological change, and educational requirements, he found,

> "There is no difference in educational requirements between organizations which reported a rise in skill levels as a result of technological change, and organizations in which skill levels remained the same."[21]

and 76 percent in 1960. Similar findings were obtained in their analysis of female blue-collar workers.

The same observations also apply to clerical and sales workers. Again no relationship was found between the growth of an industry and changes in the educational attainment of these white-collar workers.[22]

In those instances where technological changes resulted in changes in the skills required on the job, the retraining involved did not necessitate additional years of schooling. Generally, such retraining was handled on the job within a period of a few weeks. As Jaffe and Froomkin pointed out, this finding is strongly supported by other researchers who have studied the effects of automation and technological change in general on jobs in several different industries.[23]

In the 1950s over one-half of the labor force worked without the benefit of a high school diploma, including over one-third of the nonprofessional white-collar workers and over two-thirds of all manual workers.[24] High school dropouts were employed in more than half the occupations in the occupational structure in 1950. If one assumes that today, however, the only kind of work which is suitable for high school dropouts is manual or farm labor, the higher unemployment rates of workers so educated still cannot be explained in terms of their lack of technical abilities or the nonexistence of jobs which they are technically qualified. In 1950 about 32.5 million workers were employed in such jobs. In 1965 this figure increased to 38 million.[25] While the number of jobs supposedly suitable for high school dropouts has increased even though they constitute a smaller percentage of the jobs in the occupational structure, the number of dropouts in the civilian labor force declined during those years from 34,032,320 in 1952 to

30,229,825 in 1965.[26] As Jaffe and Froomkin concluded,

> There are plenty of jobs in which workers with less than a high school diploma can perform at least satisfactorily enough to hold the jobs; not less than half the jobs were in this category in 1960. Hence, the higher unemployment rate among dropouts of all ages must be attributed to the preference of employers who choose more highly educated work applicants.[27]

The nature of these preferences will be discussed in Chapter VI.

Despite the limitations of the data presented above, they strongly indicate that the increasing educational attainment of the work force cannot be explained by changes in the technical skill requirements of jobs. When the educational attainment of even unskilled laborers increases, the technical theory is clearly deficient.*

It is possible that employers seek out those who are relatively better educated, even if lesser educated people are available who could handle the job, because those who are better educated would be better employees from a technical or any other standpoint. If a high school graduate could adequately perform the duties, but a college graduate could provide superior service, it would be perfectly rational for the employer to hire the college graduate. In reality, this is certainly the logic which motivates some employers to raise their standards even when the job has not changed. While this explanation does not contradict the technical theory entirely, it does subvert the contentions that the correlation between low educational attainment and unemployment is

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*The median education for laborers entering the work force in the 1950s was 11.3 years compared to 6.9 years for those who retired in that decade. As Jaffe and Froomkin quipped, "American industry has been getting more educated workers, whether it needed them or not." (page 86)

due to the inability of these people to adequately perform on existing jobs due to their lack of the skills required on these jobs and that education has expanded in order to provide workers with skills without which they would be unemployable. In addition, the notion that more educated people are better workers is an empirical question which, although frequently accepted as an article of faith, is not justifiable on the basis of existing evidence. This question will be examined later in this chapter.

A more adequate explanation has been suggested in terms of a "broader set of social values" and "employer preferences" for relatively better educated workers. Several key contentions of the class perspective described in Chapter IV, are consistent, if not confirmed, by these data. If the relatively higher unemployment rates of those with fewer years of schooling cannot be explained in terms of the technical skills they do or do not possess, and if there are in fact jobs on which they could adequately perform, the difficulty they face in finding suitable employment appears to lie in the fact that, in terms of formal education, they are at the end of the line or at the bottom of the labor queue. The contention of the class perspective that educational requirements are used to limit access to some occupations and as a means to identify and recruit workers with certain noncognitive traits are also plausible interpretations of these data. While it would be premature to conclude that each contention of the class perspective is confirmed, the central themes of that interpretation are consistent with these data. The conventional perspective, at least in terms of the causal relationship it purports between the technical skill requirements of jobs and the increasing educational attainment of workers is clearly an inadequate explanation.

The conventional argument that automation and technological change in general contribute to expansion of formal education is based, to a large extent, on the assumption that such changes upgrade the level of skills required in the occupational structure. This assumption will be examined in the following section.

Technological Change and the Skill Requirements of Jobs

It is widely believed that skill requirements throughout most of the occupational structure have been upgraded during the course of American history, particularly in the last few decades. Two basic types of changes, it is argued, have occurred as a result of technological advances and the continual growth of knowledge. First, the technical skill requirements within occupations have been upgraded. Second, new jobs requiring more sophisticated skills have been created while many other jobs requiring little in the way of technical skill have been eliminated. While few would argue that the nature of work and the specific tasks performed by workers have not changed, there is some debate whether those changes have had the impact on skill requirements which is popularly believed. The focus of this section is on how technological changes, particularly automation, have effected the functional requirements of jobs.

In their review of over 500 bibliographic titles published between the early 1950s and mid-1960s on the effect of technological change on the skill requirements of jobs, Horowitz and Herrnstadt concluded, "From the current literature one cannot generalize about the effects of automation and technological change upon job content and skill requirements, except to say that they differ."[28] Many examples of skill upgrading

and downgrading were found in the jobs examined by these studies. Although the research reviewed by Horowitz and Herrnstadt focused primarily on factory and office jobs, and therefore was not representative of the entire work force, it is significant that, in light of the conventional wisdom, a systematic pattern of skill upgrading was not found.

They proceeded to study changes which had occurred since the end of World War II in the work content and in the traits and preparation required of workers in five industries, selected in as wide a range as possible in order to draw conclusions which could be roughly applicable to American industry as a whole. These industries included slaughtering and meatpacking, rubber tires and tubes, machine shop trades, mechanical services, and banking. They focused on the changes which occurred within specific occupations although some attention was paid to shifts in the distribution of jobs in the occupational structure. They used job descriptions provided by the various editions of the Dictionary of Occupational Titles, the DOT supplements, and Estimates as their sources of information. Their objective was to determine how skill requirements had changed over a fifteen year period of time. Their conclusion was basically, not much.

> The overall or net change in the skill requirements of occupations in these industries was remarkably small, despite the 15 years covered. One industry on balance had an increase, one a possible decline, but in each case the shift was modest. Moreover, substantive changes in occupational content were not common, and the number of obsolete occupations was few. However, the small net change in skill levels was the product of numerous offsetting changes in the various abilities needed for individual occupations in an industry. There was considerable change in occupational requirements and content, but on balance it was either inconsequential or inconclusive with respect to overall skill levels.[29]

James R. Bright conducted a series of perhaps the most informative (and most frequently cited) case studies of the effects of mechanization and automation on the skill requirements of jobs. In 1956 he examined both the changes in skill requirements and shifts in the occupational structure in thirteen of the most advanced automated production systems at that time.[30] His overall conclusion was that "automation does not necessarily result in a net upgrading of work-force skill requirements to a major extent. In fact, automation often tends to reduce the skill and training required of the work force."[31]

Eight years later, in a presentation before the National Commission on Technology, Automation and Economic Progress, Bright reaffirmed these findings.[32] He posed six assumptions which constitute the basis of the upgrading theses: (1) automotive machinery requires higher levels of worker skill and training time, (2) it requires more maintenance attention and/or higher maintenance skills, (3) more engineers and technicians are required to design, build, install and operate the machinery, (4) the machinery is introduced in such quantities at such short-term intervals that the impact is significant, (5) the average worker cannot meet the demands of the new machinery without extensive retraining, (6) unskilled workers are replaced by skilled workers when automation is introduced. His analysis showed that these contentions were either false or at best only applicable in a few instances.

Bright developed a mechanization scale onto which each job he studied could be placed. At the lower levels of the scale worker skill requirements were upgraded as jobs moved up from one step to another. But with the introduction of modern automated machinery, the skills were

increasingly built into the machine. The contributions of the workers to the production process were reduced as the mechanization level of their jobs increased. Bright pointed out that some schools were training sixth graders to work with computers and that the Department of Labor was training high school dropouts to be computer programmers as an example of how highly complex equipment does not necessarily require highly skilled operators, because the skill has been built into the machine. He concluded, "the net effect of automation in almost every plant I studied was still to reduce--or at least not to increase--the demand for skills and abilities of the direct labor force."[33]

Several case studies of the impact of technological change have been conducted over the years. In 1969, Eva Mueller concluded the first cross-sectional survey which addressed this issue.[34] In 1967, 2,662 workers, a representative sample of the labor force, were interviewed in an attempt to assess the effects of technological change between 1962 and 1967.

Mueller concluded that "the advanced technology is supported by very high levels of education among the work force using sophisticated equipment."[35] She found that better educated workers were more likely to be working with the more advanced equipment and that few of those who worked with the more mechanized equipment felt overeducated or overtrained for their jobs. In fact when asked, "In connection with your future work do you feel that it would be useful for you to get additional education or training, or is there a need for it?" 44 percent responded affirmatively.[36] In general, the data showed "the chance that a worker will adjust well to technological advance is, if anything, enhanced by education."[37] But Mueller also concluded that "the survey was not able

to clarify the precise nature of the link between educational needs and technological advance."[38] Mueller stated that,

> Formal education should also make a worker adaptable and help him to meet the increased job demands, but the data are equally consistent with the hypothesis that employers sometimes set very high educational requirements for hiring, when these are not really a prerequisite for the work to be performed. They may do so on the supposition that completion of a good deal of formal education is indicative of the personal capabilities which are needed for work with technologically advanced equipment.[39]

So although education may be linked to performance, Mueller's findings suggest that technical skill requirements may not be the basis of that link.

Mueller's conclusions, clearly, are somewhat ambivalent, particularly concerning the precise nature of the relationship between educational and technical skill requirements of jobs. Part of this ambiguity is a result of the fact that technical skill requirements of jobs were not examined directly. For example, the fact that better educated people are more likely to be in jobs utilizing more advanced equipment does not, in and of itself, prove that such education is a technical prerequisite. In light of Bright's findings, it may be that better educated workers are employed in jobs which require less ability than those positions held by their lesser educated colleagues. Also, the fact that workers believed more education would be useful in their future work merely serves to beg the question. Did these workers believe more education would provide them with skills they would need in the future, or would such education provide them with a credential, perhaps but not necessarily related to skill requirements, for a promotion they were seeking? Considering the fact that only 6 percent of those

who experienced a changeover in the machinery they worked with reported that formal training was undertaken as the principle means for learning new skills which were required as a result of that changeover,[40] it appears likely that any felt need for more formal education was not based on technical grounds.*

Mueller's study indicated no specific trend regarding the effects of technological advance on skill requirements. Although the thrust of her conclusions is that education is related to technological advance, by her own admission it remains unclear whether or not changes in the technical requirements of work have been significantly changed. In other words, the upgrading of skill requirements which is supposed to be associated with technological advance was not found.

Social and Functional Meanings of Skill

Evaluating and comparing levels of skill involved in performing various jobs is not easy to do. The problem is compounded in longitudinal analyses because of the vast changes which have occurred in the world of work. The central point of confusion, however, lies in the fact that skill is often evaluated according to contemporary cultural standards or social conventions which have little to do with the actual, functional talents required of a particular task. The U.S. census occupational classification system is almost universally

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*Respondents were asked, "In order to work with the new equipment, did you have to learn anything new or did you acquire any new skills." and "How did you acquire the new skill or knowledge--did you learn it by yourself on the job? Did someone train you on the job? Or did you take a formal training program or course?" Over 42 percent reported no need for training, 46 percent either trained themselves or were trained by someone else on the job, and 5 percent were trained through a combination of formal courses and on-the-job training. (page 64)

interpreted as a categorization of occupational groups ranked according to the skill levels required in the American occupational structure. No doubt that system was created in order to distinguish among jobs, at least in part, on the basis of skill. When comparing jobs at the extremes of the census occupational groupings the assumed differences in skills called for by those jobs is probably an accurate interpretation of the nature of the tasks performed. But when the middle range of occupational classifications are considered it is not always clear whether actual abilities or social prejudices are being ranked. According to the U.S. census occupational groupings people whose jobs are classified as "operatives and kindred workers" are assumed to have greater skills than those who are classified as "farmers and farm laborers." While it may be true that assembly line workers use more sophisticated equipment than small family farmers, it is not necessarily true that line jobs demand higher levels of skill than farmers' duties require. Although farming is not considered to be a highly skilled profession, it is generally assumed that with the advent of modern agricultural machinery, today's farmer is a more highly skilled practitioner of his trade than was his predecessor. While today's farmer has more sophisticated equipment at his disposal than the colonial farmer had, does that necessarily mean the contemporary farmer is more skilled?

Advocates of the upgrading thesis frequently base their argument on shifts in the occupational structure from what the Census Bureau has labelled blue-collar to white-collar jobs and on the growing number of people employed in what the Census Bureau designates as service occupations and service industries. While these trends have been occurring, they do not necessarily represent an upgrading of skill requirements.

Throughout this century the proportion of white-collar workers has steadily increased from 17.6 percent to 46.8 percent of the labor force. But, as Table V-2 shows, clerical occupations make up the largest percentage of those jobs classified as white-collar occupations and they also constitute the fastest growing white-collar occupational group.

White-collar workers are generally considered to be the highly skilled, or at least the relatively higher skilled, members of the work force. The jobs are considered to be inherently more satisfying, working conditions are presumed to be better, and the pay is assumed to be much higher. But the distinction between white and blue-collar jobs has become blurred over time. Office work has become increasingly routinized and the advent of modern machinery has made a significant contribution to this trend. The parallels between office work and assembly line labor have become strikingly evident in recent years.[41] Many blue-collar workers now earn more money than do clerical workers. In 1969 the median salary of male clerical workers was $7,265 compared to $8,172 for craftsmen. Several occupations categorized as operatives also received higher wages than the fastest growing segment of the white-collar occupations.[42] The same patterns, although at lower income ranges, apply to women[43] as well.* The image of white-collar workers comes from

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*One might argue that this reflects an upgrading of the skills required of craftsmen and manual laborers. But in his book, Labor and Monopoly Capital, Braverman has shown how the work of those who are classified as craftsmen, at one time a highly skilled occupational group, has been broken down into a series of much lesser skilled jobs, while still retaining the classification of craftsmen. In construction, baking, meatpacking, printing, and furniture and clothing production, Braverman showed how processes once requiring skilled workers have been broken down into tasks requiring little, if any, skill.

TABLE V-2. WHITE-COLLAR WORKERS AS A PERCENTAGE OF TOTAL LABOR FORCE

	1900	1910	1920	1930	1940	1950	1960	1970	1974
White-Collar Workers	17.6	21.3	24.9	29.4	31.3	36.6	43.4	48.3	48.8
Professional and Technical Workers	4.2	4.7	5.4	6.8	7.5	8.6	11.4	14.2	14.6
(as a % of white-collar workers)	24.1	22.0	21.7	23.1	24.1	23.5	26.2	29.3	29.9
Managers and Administrators, Except Farm	5.8	6.6	6.6	7.4	7.3	8.7	10.7	10.5	10.4
(as a % of white-collar workers)	33.2	30.9	26.6	25.2	23.4	23.9	24.8	21.8	21.4
Clerical Workers	3.0	5.3	8.0	8.9	9.6	12.3	14.8	17.4	17.4
(as a % of white-collar workers)	17.1	25.0	32.1	30.3	31.0	33.5	34.2	36.1	35.7
Salesworkers	4.5	4.7	4.9	6.3	6.7	7.0	6.4	6.2	6.4
(as a % of white-collar workers)	25.6	22.1	19.5	21.4	21.5	19.1	14.8	12.8	13.0

Sources: Data for the years 1900 to 1950 were taken from: Historical Statistics of the United States: Colonial Times to 1957, U.S. Bureau of the Census (Washington, D.C.: U.S. Government Printing Office, 1960) Series D 72-122, "Major Occupation Group of the Economically Active Population, By Sex: 1900-1950," p. 74.

Data for the years 1960 to 1974 were taken from: Statistical Abstract of the United States 1974, U.S. Bureau of the Census (Washington, D.C.: U.S. Government Printing Office, 1974) No. 568, "Employed Persons, By Major Occupation Group and Sex: 1950 to 1974," p. 350.

the few highly skilled, well paid professionals, but their numbers come from those whose jobs cannot be readily differentiated from what are traditionally considered to be working-class occupations.

The increasing proportion of workers employed in service occupations and industries is also incorrectly interpreted as evidence of an upgrading of skills required in the occupational structure. Although there is an important distinction between service occupations and service industries, which does cause some confusion, an examination of either one indicates that our evolving "service society" does not account for a significant, if any, upgrading of the skills utilized by workers on their jobs.

Those who are employed in occupations classified by the U.S. Census Bureau as "service workers" do constitute a growing proportion of the labor force. In 1900 9.0 percent of all workers were so employed and this figure grew to 13.3 percent in 1974.[44] According to the U.S. Census Bureau "service workers," except private household workers, include the following:[45]

Cleaning Service Workers
- Chambermaids and maids, except private household
- Cleaners and charwomen
- Janitors and sextons

Food Service Workers
- Bartenders
- Busboys
- Cooks, except private household
- Dishwashers
- Food counter and fountain workers
- Waiters
- Food service workers, n.e.c., except private household

Health Service Workers
- Dental assistants
- Health aides, except nursing
- Health trainees
- Lay midwives

Nursing aides, orderlies, and attendants
Practical nurses

Personal Service Workers
Airline Stewardesses
Attendants, recreation and amusement
Attendants, personal service, n.e.c.
Baggage porters and bellhops
Barbers
Boarding and lodging house keepers
Bootblacks
Child care workers, except private household
Elevator operators
Hairdressers and cosmetologists
Personal service apprentices
Housekeepers, except private household
School monitors
Ushers, recreation and amusement
Welfare service aides

Protective Service Workers
Crossing guards and bridge tenders
Firemen, fire protection
Guards and watchmen
Marshals and constables
Policemen and detectives
Sheriffs and bailiffs

The increasing proportion of people employed in these positions clearly does not constitute the kind of skill upgrading which is widely believed to have occurred. Although some of these jobs do call for certain kinds of valuable skills, society has not deemed it necessary to establish rigorous formal educational requirements for any of them, and most of these positions areamong the lowest skilled jobs in the occupational structure. Certainly the skill upgrading, if it has occurred, is not a result of the growth of service occupations.

The growth of service industries, particularly in professional services such as medicine, law, and education, is frequently cited as evidence of an upgrading of skill requirements. Between 1950 and 1970 the proportion of the labor force employed in "Professional and Related

Services"* increased from 8.3 percent to 17.6 percent.[46] However, these service industries, like all other industries, employ workers in almost every occupational category. In fact, the proportion of professional and kindred workers within these service industries declined from 61 percent to 50 percent while the proportion of clerical workers increased from 13.0 percent to 18.5 percent and the proportion of service workers increased from 17.6 percent to 22.3 percent. The remaining classifications constituted a relatively constant proportion of professional service industry employees.

The declining proportion of professionals within professional service industries, still represented an increasing proportion of the total work force because of the absolute growth of these industries. Whereas professionals within these industries constituted 5.1 percent of the total work force in 1950, they made up 8.8 percent of all workers in 1970. This constitutes slightly more than half of the total percentage increase of all professional workers in the labor force from 7.5 percent to 14.2 percent during these years. While more professional jobs have opened up within this sector, there has been a much larger growth in clerical and service occupations, jobs which require much less, and frequently little if any skill. Compared to other industries, the professional services have always employed a disproportionate share of highly skilled professional workers. But given the nature of the growth which has occurred, it is difficult to argue that the expansion

*According to the U.S. Census Bureau, these include the following: health and medical services, legal services, educational services, museums, art galleries, zoos, religious organizations, welfare services, nonprofit membership organizations, and engineering and architectural services. (Occupation by Industry, 1970 Census of Population, Table 8.)

of these industries has had the effect of upgrading substantially, if at all, the level of skills required throughout the occupational structure in general.

Despite the problems involved in measuring the actual level of skills performed on a job, it is difficult to interpret shifts in the occupational structure from blue-collar to white-collar jobs or shifts towards the service sector as evidence of a general upgrading of skill requirements. In fact, when one sheds all the social conventions and prejudices involved in evaluating jobs and focuses on the nature of the tasks and rewards involved, it appears that the largest and most important change which has occurred is an increase in the relative size of the working class of America. As Braverman pointed out, those jobs which truly embrace the working-class population* have increased from 50.7 percent to 69.1 percent of the work force between 1900 and 1970.[47] In other words, the percentage of the work force which has moved into working-class jobs is twice the percentage that has moved into professional jobs.

While the average educational attainment of all groups has increased and an increasing number of positions requiring higher levels of technical skills are continuously opening up, it does not appear

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*These computations include operatives, laborers, craftsmen, clerical workers, service, and sales workers. Foremen were excluded from the craftsmen category and salesmen, agents, brokers of real estate, advertising, stocks and bonds, manufacturers' representatives, and salesmen in wholesale trade, were excluded from the sales workers, leaving retail salespersons. These deletions were made because as Braverman indicated, these groups are generally higher paid, privileged members of the work force who by the nature of the work they perform and the rewards they receive, do not fit a working-class description except in the minds of census statisticians.

that an increasing proportion of the work force is employed in positions that require greater skills. Braverman's work indicates that it is more accurate to characterize the shifts which have occurred in the occupational structure as a polarization rather than a general upgrading of the skill requirements of jobs.

An extensive amount of research has been conducted in recent years regarding the impact of technological change on the skill requirements within the occupational structure. While most of the researchers agree that changes in the skill requirements of jobs have occurred, there is no consensus as to whether these changes constitute an upgrading, downgrading, or perhaps no change at all in the level of skills required, in general, throughout the occupational structure. Some researchers have studied job skills directly, others have compared job descriptions, and still others have asked workers themselves how they believe technological change has effected their work, but no systematic pattern can be detected in their conclusions. While some have attempted to show that a particular trend in the evolution of work in America has taken place, no general agreement has been reached. This ambiguity or inconsistency, however, is a most significant finding. It is precisely because no general trend has been uncovered by this research that the upgrading thesis cannot be accepted.

Formal education has experienced tremendous growth, particularly in the last two decades. If the technical theory is valid, this should reflect a substantial, or at least a consistent upgrading of skills required throughout the occupational structure. But if there is any consistency to the effects of technological change on the skill requirements of jobs, it appears to be in a downward direction for the

majority of the work force. While some may quarrel with such a conclusion, one cannot quarrel with the conclusion that no systematic upgrading has been uncovered. The heart of the technical theory, indeed the basic foundation of the conventional view of American society in general, is rooted in the belief that technological advances have resulted in an upgrading of skill requirements in the American occupational structure. The research into this issue, however, does not support such a belief.

If technical skill requirements of jobs have not been generally upgraded, then some other explanation for the expansion of formal education should be considered. It is possible, as mentioned earlier, that employers could seek out better educated people, even when the technical requirements of jobs have not changed, simply because they will make better employees. The relationship between formal educational attainment and on-the-job performance will be examined in the following section.

Formal Education and Job Performance

Private and public employers today spend large sums of money on their personnel departments. With the assistance of computer technology vast amounts of data are maintained by many employers on their employees. Elaborate screening and testing devices have been created for evaluating potential employees. In many respects, personnel has become an extremely sophisticated professional occupation.

Formal educational attainment, however, is still one of the most important, if not the most important, criterion used to evaluate potential employees, particularly for jobs at the higher end of the

occupational structure. The elaborate procedures many companies use to sort out potential employees are frequently introduced after the largest segment of available workers have been screened out, that is by automatically ruling out from the beginning those who have not attained a given level of formal education. Today, most companies restrict their recruiting for certain jobs to college campuses. While in some instances there may be no formal policy requiring a college degree, such practices almost guarantee that these jobs will in fact go just to the college graduates. Employers frequently admit they need some way to reduce the number of applicants they will consider. Setting a minimum educational requirement is a convenient way to do so.

Despite the development of the personnel profession, the growth of personnel departments, the increasing ease of collecting and maintaining data, and the extent to which employers rely on formal education to select new employees, few attempts are made by employers to study the relationship between employees' educational attainment and performance on the job. If such studies are carried out on a regular basis, as a central function of personnel departments, they constitute one of the best kept secrets of our day. In his attempt to obtain such information from personnel and other top executives in private industry, Berg found that, "To a man, the respondents assured us that diplomas and degrees were a good thing, that they were used as screening devices by which undesirable employment applicants could be identified."[48] But Berg also found that,

> . . .when efforts were made to pinpoint the ways in which 'better-educated' workers prove to be superior to those with less formal education, it was discovered

> that business firms typically do not collect data that would make such comparisons possible. Where relevant data are available. . .they are rarely analyzed as a means of discovering the validity of any selection procedure or screening device.[49]

In discussions I had with twenty-five recruiters at Michigan State University Placement Services during the spring of 1975, everyone told me their company either did not compile such information, or if it did, they were not aware of it. I sent letters to sixty companies asking if they had any available information relating formal education with performance on the job. Of the twenty-nine that responded, nine said they could not provide any information because they did not have the time or manpower available or it was company policy not to participate in such research activities. Although three of the companies had conducted this kind of analysis at some time in the past, the remaining companies stated they never did so. None of them, however, said they conducted this research on a regular basis, if at all. Although most respondents indicated they maintained data on the background of employees and on their job performance, for some reason they do not attempt to validate their educational requirements. Three noted that because of civil rights provisions they were in the process of developing more complete data banks on their employees and more complete job descriptions in order to eventually be able to validate all job requirements.

The research which has been conducted and made available to the public suggests why employers might be sensitive to exploring this issue further, particularly in public. While the evidence is fragmentary, it is surprisingly consistent.

Berg studied the relationship between education and job performance in a variety of different industries and occupations ranging from manual laborers to highly skilled technicians. He found no evidence to support the plaudits which the employers he spoke with gave to educational credentials. In fact, in terms of productivity, turnover, absenteeism, supervisor ratings, and rate of promotion, education was more frequently inversely related to performance.

In a study of blue-collar workers employed at a Mississippi textile manufacturing company, Berg noted that productivity (which could be accurately measured because wages were based on a piecework system) turnover, and absenteeism were all inversely related to the formal educational attainment of workers.[50] Similar patterns were found in a comparable study of workers in four departments of a Southern hosiery manufacturing plant.[51] The "promotability" justification for setting educational requirements above what is required for an entry level job also was not supported in a study of installation-crew members in two privately owned utility companies, workers in an automobile assembly plant, and nonmanagerial employees in two large department stores. Formal education in each case was not found to be related to promotions.[52] In Berg's words, "educational achievement explained so few promotions that it could be discounted as a factor."[53] A study of managers of a paper company (described by Berg as "gray-collar" workers) revealed no association between education and the evaluations they received from their supervisors or between education and absentee rates. This study did show that turnover rates were much higher for the better educated employees.[54]

Berg's analysis of white-collar jobs yielded similar findings. A study of debit agents employed by Prudential Insurance Company showed that workers of a similar age working in the same market with just high school diplomas performed as well as their colleagues who were college graduates. As a result of these findings and other research conducted by Prudential, formal education is not asked for on applications for these jobs.[55] A study of 125 branch offices of a New York bank revealed that turnover and loss of accounts per teller were inversely related to the education of these employees. The branches with the worst performance records were those in which a greater percentage of workers were attending educational programs after working hours. Performance was poorest in those branches where managers stressed education in their advice to tellers regarding their future with the bank.[56]

Analysis of public employment and other private employment practices cited by Berg revealed similar conclusions. Although labor costs are extremely high in many work settings and although educational credentials are heavily relied upon to locate productive workers and to maintain a stable work force, in many instances Berg found that employers are creating inefficiencies and adding costs to their operations by misconstruing the value of educational credentials.

In a study of ten entry or near entry positions* in the New York and St. Louis metropolitan areas Diamond and Bedrosian concluded,

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*Bank teller, cashier-checker, hotel clerk, salesperson, orderly, press feeder, production machine operator, shipping and receiving clerk, wireworker, arc welder.

> The analysis indicated little or no relationship between hiring standards and job performance needs for all occupational groups in a significant percentage of the companies studied. Moreover, the existence of considerable variability in minimum requirements and preferences among employees for the same occupation demonstrated that even the most objectively determined hiring standards may be influenced by subjective considerations.[57]

Performance was measured primarily by earnings and supervisory ratings of employees. The hiring requirements examined were age, sex, education, and previous work experience. With the exception of work experience, the characteristics and qualifications required or preferred by employers had little or no relationship to job performance. In seventeen of the twenty job categories (ten jobs in New York and ten jobs in St. Louis) "little or no difference in job performance could be attributed to differences in education. . . .These findings refute the thesis of many employers that the more education an applicant possesses, the better worker he is likely to be."[58]

The variability of hiring standards was illustrated by the fact that three-fifth of the New York hotels indicated that education was unimportant in their hiring decision but three-fifths specified some requirement.* In other words, one-fifth of them required a minimum educational requirement even though education was considered to be unimportant. Similar inconsistencies were found in all four jobs in which the majority of the employers said education was unimportant in their hiring decisions. Different levels of minimum required or

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*In New York 27 percent of the hotels required a high school diploma while 53 percent in St. Louis had such a requirement. At the same time, 42 percent in New York had no educational requirement while each St. Louis hotel specified some minimum requirement.[59]

preferred levels of education were found among employers within all job categories. When asked if education was important in the hiring decisions, employers within job categories differed in all but one of them.

Similar to Berg's and Jaffe's and Froomkin's studies, Diamond's and Bedrosian's work indicates that the unemployment problems of lesser educated people do not lie in their technical inabilities or the unavailability of jobs for which they are qualified and on which they frequently perform better than their more educated colleagues. Rather, their problems appear to stem from the fact that they happen to be at the end of a labor queue from which employers make arbitrary decisions, which are often not even in the employers' best interests.* Like so many others who have conducted manpower research, Diamond and Bedrosian appear to be less concerned if at all, with the problems of the unlettered, than with the profitability of private industry. Their recommendations for a lowering of educational requirements and for the establishment of valid, job-related criteria, are justified in terms of money employers can save by creating a better fit between jobs and the people who hold them.

In 1966 Horowitz and Herrnstadt studied the education and training experience of tool and die makers in the Boston metropolitan area in order to determine the kinds of preparation which were most effective

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*The liabilities employers may assume come in various forms. For example, a study conducted by Sandia Laboratories found that better educated blue-collar workers are more responsible for damage, accidents, and errors, in addition to lower productivity, than their lesser educated co-workers. According to James O'Toole, former chairman and principle editor of the HEW Task Force Report, Work in America, 1972, this is not a reflection of the inability of the better educated workers. Rather it is a function of their discontent with what they consider to be unchallenging, menial work.[60]

in developing qualified practitioners of these trades.[61] Performance, measured in terms of supervisors' ratings, the breadth of work the men could handle, and the time required to become competent craftsmen, was compared with the various education and training paths followed by the tool and die makers. The specific paths were: (1) apprenticeship, (2) vocational high school followed by apprenticeship, (3) on-the-job training, (4) vocational high school, (5) vocational high school followed by on-the-job training, and (6) picked up the trade.

In their list of "Key Findings" the first one is, "There were no important differences in the competency of the tool and die makers produced by the various training paths."[62] While they did find that a somewhat larger proportion of those with vocational high school and apprenticeship received above average ratings, "The differences in their ratings were modest at best and not statistically significant."[63] The authors concluded,

> In general. . .paths seemed to have remarkably little to do with performance. This was true whether they had been finished or not, and whether they had been supplemented by part-time courses or related training in the armed forces. It was somewhat disconcerting to discover that formal, systematic training was so relatively unproductive. Our hypothesis was that such training would yield superior results.[64]

Formal training did make a slight contribution to the breadth of skills[65] and on the time it took to become classified as a tool or die maker[66] but these relationships were not statistically significant, with one exception. Vocational high school or on-the-job training or a combination of on-the-job training and machine shop skills contributed to breadth. Horowitz and Herrnstadt cited several manpower

publications which endorsed the value of apprenticeship not just for training skilled craftsmen but also for training future foremen and other supervisory personnel.[67] But their study showed that apprentice-trained men were no more likely to be promoted than others.[68]

Although performance was not significantly related to training path, more recent entrants into the tool and die making crafts have utilized formal educational training more than the veterans did. While the average number of years of formal schooling for the entire sample was 11.6, those 55 years of age or older averaged 10.5 years while those under 35 averaged 12.1 years. Over 44 percent of the oldest group had not finished high school while only 9.5 percent of the younger workers did not do so.[69] However, since there was "widespread agreement that no more time was needed to learn tool and die work today than in the past,"[70] and "older, more experienced men tended to be the more competent men, despite a tendency to be less educated than the younger men,"[71] the trend towards higher educational attainment of tool and die makers cannot be explained in terms of changes in the job skill requirements or by the performance of formally trained workers.

Rose Wiener, a researcher with the U.S. Department of Labor, stated in a Labor Department publication that "the use of the diploma as a work permit, frequently supplemented by tests that actually disregard job requirements and abilities of the applicant, shuts the door to many capable workers,"[72] For example, in a study of hiring practices conducted under the sponsorship of the Labor Department, it was pointed out that 25 percent of the employers required a high school diploma for the job of driver-salesman even though these employers stated that the

ability to read and write was all that was necessary and no relationship was found between education and job performance.[73] Wiener also cited Berg's research and several others to drive home the point that high school and college graduates have been performing for years on many jobs which would now be closed to them if they were entering the job market today.

Evaluating the relationship between education and job performance of professional workers is more difficult because their production and their work record in general are more difficult to quantify. For example, the productivity of automobile assembly line workers can be measured by the number of cars produced in a given time period, but it is much more difficult to measure the productivity of a college professor. The number of publications might be used to measure such productivity, but the quality of these products is much more difficult to determine as is the productivity and quality of professors' teaching, committee work and other job duties. If a lawyer does not come into the office, it could be because he or she has some field investigation to work on or a mid-week golf date to keep. Failure to show up at the office is not as likely to be recorded as absenteeism as in the case of an assembly line worker whose record would be noted if he or she did not report to the factory. Research along these lines on professionals, therefore, is even scarcer.*

One revealing article, published in the Harvard Business Review

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*In the field of education, for example, the New England School Development Council searched the 673 articles, from an annotated bibliography, on teacher competence and concluded, "No study was found which could definitely be said to report the relationship between proficiency as a teacher in service and amount of training."[74]

in 1971, indicated that even professional work performance cannot be accurately predicted on the basis of formal education.[75] Livingston reviewed several studies which followed the careers of samples of graduates from the most prestigious schools of business. In one study of 1,000 Harvard Business School graduates grades were compared with measures of achievement like job title, salary, and personal satisfaction with career progress. The researcher concluded that "academic success and business achievement have relatively little association with each other."[76] In another study it was discovered that men who attend Harvard's Advanced Management Program after fifteen years on the job, but who otherwise had no formal business education, earn almost a third more than do MBA's from Harvard and other leading business schools. After citing several studies which yielded little or no correlation between formal education and achievement, Livingston concluded the basic reason was that people do not learn those managerial skills required for success on the job in the classroom.

People with higher levels of formal educational attainment generally are employed in better, higher paying jobs. But it can no longer be assumed, if it ever could be, that better educated workers perform better on the job. These correlations may represent little more than self-fulfilling prophecies, particularly as educational requirements become more rigid and those lacking the credentials become locked out altogether, thus eliminating any possible basis for comparison.*

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*In a discussion with a recruiter for a major office machine manufacturer I was told that the federal government would not allow the company to establish a formal policy of requiring an MBA for the position of finance analyst since the company was unable to prove that the degree was job related. According to this recruiter, however, the company has "informally" decided not to hire anyone for this position who does not

It is becoming increasingly difficult to know to what extent degrees pay off because of "credentialization" and the extent to which education pays because it contributes to one's ability to perform. The research on education and job performance is scant, particularly in professional occupations. But the surprisingly consistent findings of the research I have been able to locate, that formal education is not positively related to, and is frequently inversely related to job performance certainly calls into question the traditional thinking along these lines.

Private industry is not totally unaware of these findings. The Director of Employment and Planning of the Pacific Gas and Electric Company stated, "A graduate with a B.S. or B.A. is about right for the kind of business we are in."[77] A Bank of America Vice-President maintained, "The banking business isn't so mysterious that an employee need hold more than one degree. The bank might be better off with a person with a bachelor's degree."[78] And an R. R. Donnelley spokesman said, "You can't learn how to print in college, so there is no need to pay the extra toll for the MBA."[79] It would be interesting to study the recent hiring practices of the utilities and banking industries to see if they conform to the philosophies these leading executives espouse.*

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have an MBA. I mentioned that eventually all the finance analysts would have an MBA and that it would then be impossible to compare the job performances of MBA's with others, thus making it difficult to prove whether or not the degree was actually a job related requirement. The recruiter agreed with me and said, "Eventually management will get its way."

*The proportion of male bank officers and financial managers with five or more years of college ranges from 9.6 percent for those between 55 and 64 years of age to 15.4 percent for those between the ages of 25 and 34. So apparently there is a tendency in the employment practices of the banking industry towards hiring people with more than one degree.

And if the printing business cannot be learned in college, why pay extra for even a bachelor's degree?

In a letter I received from James D. Strickler, the Professional Employment Coordinator at Standard Oil Company of California, I was informed that,

> Success in Standard Oil Company of California is not based on the amount of formal education of its employees. Those employees who do very well at Standard Oil Company of California are generally high achievers and it is entirely conceivable that a professional employee with a Bachelor's background can retire from a very influential position within the company.

So education is not important, except that for professional employees a college degree is a must. Mr. Strickler described the general duties and requirements of professionals in the exploration, producing, manufacturing, marketing, and research departments. In all cases a bachelor's degree was required while most of the workers had a master's or Ph.D. As an afterthought, Mr. Strickler added the following comment, in his own handwriting, to the letter which was otherwise typed by a secretary in proper business format,

> You might also be interested that some years ago we did a study to determine if there was any correlation between achievement in college and performance on the job (GPA vs. highest rank achieved). Unfortunately after several months of study and much data gathering for 6,000 unclassified (professional) employees we found there was <u>no</u> correlation at all!

Presumably no further research relating educational attainment and job performance has been conducted.

In a discussion with a recruiter for a retail clothing store chain, I was informed that a study of store managers conducted in the late

1960s revealed that high school graduates performed as well as those with master's degrees. Apparently hiring practices have not changed. Managers are promoted from the ranks of assistant managers, who are now recruited primarily from college campuses. So although high school graduates have performed adequately in the past as managers, it will not be too long before they become locked out of this occupation.

A representative of one division of a major automobile manufacturer reported the findings of a study of its college graduate employees to Michigan State University students in the fall of 1974. Of the 1,600 employees in this division, 234 had bachelor's degrees, 71 had a master's and 5 had Ph.D.s. The study compared the promotion rates, in terms of salary and job responsibility, of those receiving their bachelor's and master's degrees within the past 15 years. It was discovered that those with a bachelor's degree progressed at a faster rate and, based on current trends, would surpass the income levels of those with master's degrees after 15.3 years on the job. Further study revealed that the following characteristics accounted for the faster rate of progress of those who moved up.

Ability and Willingness to:

- motivate others
- be personally efficient
- change assignment priorities and take on any type of assignment
- take risks
- truly cooperate and dedicate one's self to the job at hand
- plan, set goals, and meet them
- be a "self starter" - initiative
- have good rapport with peers and support personnel
- communicate well
- be flexible
- deal with a multitude of projects
- make decisions
- keep attuned to changing times and adjust accordingly

When asked if his organization was planning to focus its recruitment efforts on bachelor's rather than master's candidates, the response was "no." First, he said that technology was advancing so rapidly that the master's degree was almost becoming necessary for many entry level positions. In addition, colleges and universities now offer many of what he referred to as "human relations type" courses which can provide future employees with the attributes that seemed to account for who gets promoted and why.

Despite the fragmentary nature of the evidence, it appears that formal education does not predict job performance as well as is frequently assumed. This does not mean that the typical high school dropout could perform brain surgery with the same level of competence as a trained neurosurgeon. But for the vast majority of jobs the relationship between the skills utilized on the job and those learned in school are not so clear-cut. And the educational requirements established for most jobs are decided from a much narrower range of choices which do not distinguish among candidates so definitively. For most jobs a high school diploma or a bachelor's degree are used as cutting points which do not differentiate the unqualified from the qualified very precisely, if at all, yet they do serve to eliminate large numbers of people from many job opportunities. While many employers operate under the assumption that better educated people make better workers and will raise their educational requirements when the available supply permits, the rising educational attainment of workers and the escalating requirements established by employers, in general, cannot be explained in terms of a demonstrated superior level of performance by the relatively better educated workers.

The fact that a consistent relationship between education and job performance has not been revealed by the research in this area constitutes a further challenge to the technological justification for the expansion of formal education. The meritocratic underpinnings of the conventional perspective in general clearly do not hold up if rewards are distributed to individuals on the basis of their education while at the same time education is not related to objective indicators of job performance (marginal productivity). Since better educated people are able to obtain better, higher paid jobs, and since this relationship cannot be explained by rising technical skill requirements of jobs or by better job performances on the part of the highly schooled members of the work force, some other explanation is called for.

It is tempting, but misleading, to conclude that employers in general have been operating irrationally and have been doing a disservice to themselves by not paying closer attention to the relationship between formal education and job performance. But if, as the class perspective contends, employers are equally concerned with maintaining social control and maintaining a healthy profit margin, then better educated workers, who are less productive in some capacities, may still be more valuable employees if they accept and reinforce the prevailing social relations of production within a given firm and throughout society in general. Better educated employees may contribute to the stability of an organization and, therefore, to the generation of reasonable profits over the long run, even if their short-term marginal productivity is not necessarily greater than that of lesser educated workers. To the extent that better educated workers exhibit higher rates of absenteeism and turnover, the stability value of such workers, of course, is limited. In general,

however, these findings are consistent with the queuing theory of the labor market, and with the thesis that education is used as a means to restrict access to jobs, to sort and select people for various slots within the class structure, and to perpetuate that structure. While the class perspective does not escape unscathed from these findings, again it constitutes a more adequate explanation than does the conventional viewpoint.

If formal education is used as a means to restrict access to jobs or to limit the number of applicants to be considered for jobs, and if educational requirements are raised as a response to the availability of better educated workers, independently of any absolute determination of skill or training requirements, one would expect that the educational attainment of younger, more recent entrants into the labor market would be greater than that of older workers, performing the same work, who have been employed for several years. If the technical theory is correct, that is if educational attainment and requirements have increased because of the changing skill requirements of jobs, then those workers, young and old, who are employed in the same capacity with a given firm or in a particular industry or occupation, should have attained about the same levels of education. Perhaps the older workers would have attained slightly higher levels as a result of company incentives to attend classes or simply as a result of a desire to take some classes during nonworking hours. By the mere factor of age, the older workers would have had more time to do so. In the following section the age and educational attainment of workers within selected occupations will be examined.

Age and Education of Similarly Employed Workers

As indicated earlier, it is frequently argued that the increasing educational attainment of the work force is primarily a function of two developments; a shift in the occupational structure from lesser skilled to more highly skilled positions and an upgrading of skills required within occupations. The bulk of the increase in educational attainment, however, is accounted for by increases within jobs rather than by shifts in the occupational structure. Table V-3 shows the upgrading which has occurred within the major census occupational classifications since 1952. (See Table V-3 on following page.)

Folger and Nam employed the demographic technique of standardization to partial out the amount of educational upgrading that could be attributed to shifts within the occupational structure and the amount attributable to increases within occupational classifications. In their analysis of employed white males between the ages of 35 to 54 in the years of 1940, 1950, and 1960, they found that only 15 percent of the rise in educational attainment over the twenty year span could be attributed to shifts in the labor force from occupational classifications requiring less skill to those requiring more, while 85 percent was accounted for by upgrading within occupational classifications.[81] This trend has continued through the 1960s and 1970s.[82] As one economist wrote in 1972:

> As more young people delay entering the labor force until after high school graduation, employers have come to view the high school certificate as a requirement for many occupations where an elementary school certificate was considered adequate 30 years ago. The general upgrading in workers' education over the past decade has increased the level of education within every major occupational group while the occupational distribution of workers has been largely unaffected.[83]

TABLE V-3: MEDIAN NUMBER OF SCHOOL YEARS COMPLETED BY U.S. CIVILIAN LABOR FORCE, BY OCCUPATIONAL GROUP, 1952 AND 1973

Occupational Group	Year 1952	1973
All Occupational Groups	10.9	12.5
Professional and Technical	16 +	16.4
Managers and Administrators	12.2	12.9
Farmers and Farm Laborers	8.3	10.7
Sales Workers	12.3	12.7
Clerical Workers	12.5	12.6
Craft and Kindred Workers	10.1	12.2
Operatives	9.1	11.8
Nonfarm Laborers	8.3	11.4
Service Workers	8.8	12.0

Source: Manpower Report of the President, 1974, Table B-12, "Median Years of School Completed by the Employed Civilian Labor Force, by Sex, Occupation Group, and Color, Selected Dates, 1948-1973," p. 303.

Another way to view the educational upgrading which has occurred is to compare the educational attainment of more recent entrants into the labor force with that of veteran workers. Table V-4 shows the percentage of male workers who have attained four years of high school and the percentage with four or more years of college, by age, within the major census occupational classifications. This table includes all male members of the civilian labor force in 1969 between the ages of 25 and 64, over 75 percent of the male work force in that year.

In each occupation group the younger workers are better educated than their elder colleagues. Broad occupational classifications do encompass a variety of kinds of jobs and certain important distinctions may be blurred. But the same pattern is obtained when specific jobs, within these occupational groups, are examined. Table V-5 shows the percentage of male workers with four or more years of college within specific professional, managerial, sales and clerical occupations. The percentages in this table were calculated for all of the occupations in those groups for which age and education data are provided in Earnings by Occupation and Education: 1970 Census of Population. (See Table V-5).

In fifty-seven out of seventy-three occupations (78.1 percent), workers between the ages of 25 and 34 had the highest level of educational attainment, those between the ages of 35 and 54 had the second highest, and those between 55 and 64 had the least amount. Of the remaining sixteen occupations, the youngest group had more education than the oldest in eight of them. Altogether, the youngest group was better educated than the oldest in sixty-five (89 percent) of the occupations. The average difference in the percentage of 25-34 and 55-64

TABLE V-4: EDUCATIONAL ATTAINMENT OF THE CIVILIAN LABOR FORCE BY AGE AND OCCUPATIONAL GROUP*

AGE GROUP	EDUCATIONAL ATTAINMENT	OCCUPATIONAL GROUP					
		All Occupational Groups	Professional, Technical & Kindred Workers	Managers & Administrators, Except Farm	Sales Workers	Clerical & Kindred Workers	Craftsmen & Kindred Workers
25-34	% with four years of high school	72.7	97.3	88.1	88.5	84.4	64.5
	% with four or more years of college	19.4	63.8	29.8	26.0	13.2	2.7
35-54	% with four years of high school	58.2	93.9	79.7	78.9	70.8	47.4
	% with four or more years of college	15.7	60.2	27.5	19.9	9.7	2.1
55-64	% with four years of high school	41.2	87.7	66.2	62.7	55.2	30.0
	% with four or more years of college	10.1	53.7	18.5	11.4	7.8	1.7
		Operatives, Except Transport	Transport Equipment Operatives	Laborers, Except Farm	Farmers & Farm Managers	Service Workers, Except Private Household	
25-34	% with four years of high school	54.4	51.4	44.6	73.9	66.2	
	% with four or more years of college	1.3	1.1	1.7	8.2	4.4	
35-54	% with four years of high school	34.4	31.9	25.6	49.3	44.2	
	% with four or more years of college	1.0	0.8	1.0	3.6	2.6	
55-64	% with four years of high school	21.7	20.7	15.2	27.6	24.1	
	% with four or more years of college	1.0	0.7	0.8	2.7	1.3	

*Earnings by Occupation: 1970 Census of Population, Table 1, p. 54.

TABLE V-5: PERCENTAGE OF WORKERS WITH FOUR OR MORE YEARS OF COLLEGE BY AGE AND OCCUPATION

AGE GROUP	OCCUPATION					
	Professional, Technical, and Kindred Workers					
	Accountants	Clergymen	Computer Specialists	Aeronautical & Astronautical Engineers	Civil Engineers	Electrical & Electronic Engineers
25-34	64.0	80.6	50.0	74.1	66.6	67.2
35-54	54.3	75.4	43.8	60.4	61.9	58.6
55-64	36.4	68.6	37.1	46.6	50.6	48.6
	Mechanical Engineers	Sales Engineers	All Other Engineers	Lawyers & Judges	Life & Physical Scientists	Biological Scientists
25-34	69.0	55.6	66.4	98.1	83.0	92.0
35-54	56.4	54.0	57.3	96.3	79.0	89.6
55-64	39.1	40.6	44.8	89.1	67.9	77.8
	Geologists	Agricultural Scientists	Physicists & Astronomers	Actuaries & Statisticians	Mathematicians	All Other Mathematical Specialists
25-34	91.7	83.4	92.3	79.8	93.1	84.1
35-54	92.7	62.3	91.7	67.9	93.1	73.7
55-64	83.0	45.0	83.2	54.9	63.2	55.7
	Operations & Systems Researchers & Analysts	Dentists	Physicians, Medical & Osteopathic	All Other Dentists, Physicians & Related Practitioners	Clinical Laboratory Technologists & Technicians	Dental Hygienists
25-34	47.2	98.4	97.2	97.1	41.0	42.9
35-54	35.7	98.0	98.2	96.4	33.5	5.4
55-64	23.3	95.2	97.1	83.7	22.9	16.1
	Radiological Technologists & Technicians	All Other Health Technologists & Technicians	Economists	Psychologists	Sociologists	All Other Social Scientists
25-34	9.9	36.2	84.8	98.0	90.1	87.3
35-54	17.8	31.0	71.8	96.5	84.3	77.8
55-64	22.7	28.7	59.1	91.3	65.6	64.2
	Social & Recreational Workers	College & University Teachers	Elementary School Teachers	Secondary School Teachers	Draftsmen	Electrical & Electronic Engineering Technicians
25-34	75.4	96.3	93.8	96.0	9.7	5.3
35-54	67.0	96.0	92.3	93.3	11.0	5.7
55-64	57.6	93.2	86.5	92.3	15.7	10.4
	Industrial Engineering Technicians	All Other Engineering & Science Technicians	Technicians, Except Health, Engineering & Science	Airplane Pilots	Air Traffic Controllers	Radio Operators
25-34	18.1	10.7	23.4	38.2	6.3	7.6
35-54	34.7	10.5	13.7	22.0	6.5	5.2
55-64	Not Available	14.0	11.7	19.5	8.6	4.1
	Designers	Editors & Reporters	Musicians & Composers	Radio & Television Announcers	All Other Writers, Artists & Entertainers	All Other Professional, Technical & Kindred Workers
25-34	37.8	62.9	26.0	20.6	38.7	58.2
35-54	27.7	61.8	27.7	29.2	36.2	50.5
55-64	24.7	49.1	19.5	15.7	27.9	41.2
	Managers and Administrators, Except Farm					
	Bank Officials & Financial Managers	Buyers, Wholesale & Retail Trade	Inspectors, Except Construction, Public Administration	Officials & Administrators, Public Administration N.E.C.	Purchasing Agents & Buyers N.E.C.	Restaurant, Cafeteria, & Bar Managers
25-34	44.7	27.5	27.4	56.7	33.9	13.4
35-54	45.4	19.0	15.0	34.7	26.0	8.9
55-64	31.2	9.1	11.5	29.3	17.5	4.9
	Sales Managers & Department Heads, Retail Trade	Sales Managers, Except Retail Trade	School Administrators, College	School Administrators, Elementary & Secondary	Managers & Administrators N.E.C.	All Other Managers & Administrators, Except Farm
25-34	20.8	41.2	79.9	94.6	25.4	26.3
35-54	16.1	39.3	85.6	95.5	24.4	21.2
55-64	8.3	24.6	74.3	91.0	16.6	13.8

TABLE V-5: Continued

AGE GROUP	OCCUPATION Sales Work					
	Demonstrators, Hucksters, & Peddlers	Insurance Agents, Brokers, & Underwriters	Salesmen & Sales Clerks, Retail Trade	Real Estate Agents & Brokers	Salesmen & Sales Clerks N.E.C.	All Other Sales Workers
25-34	15.5	30.8	11.6	35.1	30.0	39.8
35-54	11.4	28.6	8.0	28.0	22.0	31.8
55-64	9.2	18.9	5.5	18.2	12.0	18.7

	Clerical & Kindred Workers					
	Bank Tellers	Bookkeepers	Cashiers	Mail Carriers, Post Office	Payroll & Time-keeping Clerks	Postal Clerks
25-34	13.3	18.9	7.3	2.7	7.2	3.9
35-54	8.6	16.2	4.9	3.0	6.6	4.4
55-64	7.4	11.6	3.9	3.9	4.1	6.4

	Shipping & Receiving Clerks	All Other Clerical & Kindred Workers
25-34	1.9	15.9
35-54	1.7	12.4
55-64	2.0	9.0

year olds with four or more years of college in those sixty-five cases was 14 percentage points. For example, among civil engineers between the ages of 25 and 34, 66.6 percent had four or more years of college compared to 50.6 percent of those between the ages of 55 and 64, a difference of 16 percentage points. In other words, younger workers within most occupations have attained substantially higher levels of formal education than older workers. Since these comparisons are made among workers within the same occupations, workers who are performing the same kind of work, it is difficult to attribute the higher levels of formal education among more recent entrants into the work force, and the expansion of formal education in general, to an upgrading of skill requirements called for on the job.

It could be argued that there are significant differences in the work performed even among those within a specific occupation. Therefore, the fact that younger workers are better educated might reflect differences in the particular tasks performed by the younger and older workers. In order to determine more conclusively whether or not employers have arbitrarily raised their requirements, thus eliminating qualified but uncredentialed workers, it is necessary to examine the age and educational attainment of workers who are employed in the same capacity in the same organization. If, in a sample of workers employed in the same capacity and performing the same tasks, the younger workers have higher levels of formal education than their older colleagues, and if current educational requirements for new employees surpass the level attained by the veterans, then it would be clear that the rising requirements and levels of attainment reflect various social rather than technological needs.

Data were obtained from six companies on the age and educational attainment of workers in a total of forty different job categories for which a college degree is currently required or preferred.* These workers are not necessarily representative of the entire labor force or even of the college educated workers. However, private industry is not particularly anxious to release information from their personnel records. While the data which were collected are far from ideal, and although any conclusions which can be drawn must take into consideration their limitations, they are informative, particularly when viewed in light of other available evidence.

Within the six organizations from which the data were obtained, a clear pattern emerges again where younger workers have attained higher levels of education than older workers who in these cases are employed in the same positions and are performing the same duties. In thirty-three (84.6 percent) of the thirty-nine positions for which age and education data were provided for each individual in those positions, a higher percentage of workers under 35 years of age held bachelor's degrees than did those 35 years of age or older. (In most cases, the samples were evenly split between these two age groups). For example, of the eleven beer manufacturer design engineers under 35, ten of them

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*Five of the six companies provided me with the age and educational attainment (highest degree earned) of each individual employed within specific jobs. The office machine manufacturer data was provided in a slightly different format. That particular company listed the total number of sales representatives (copier/duplicator) who attained a given degree and the average number of years since each group received the degree. For example, 958 of these workers have a bachelor's degree. The average amount of time which has elapsed since these degrees were earned is five years. If one assumes that the older workers are those who have been employed the longest and are also those for whom the greater number of years has elapsed since their degrees were earned, the relationship between age and educational attainment can be examined by comparing the average elapsed time for recipients of the various degrees. For a more complete description of the data see Appendix B.

(90.9 percent) were college graduates compared to just eight (57.1 percent) of the fourteen who were over 35 years of age. The difference between the proportion of younger and older workers with a degree, therefore, was 33.8 percentage points. Altogether, in the thirty-three cases where a higher proportion of the younger workers were college graduates, the average difference between the percentage of those under 35 and those 35 or older with a bachelor's degree was 46.6 percentage points. In other words, not only were the younger workers better educated (more highly schooled) but a substantially higher proportion of them were college graduates.

Practically the same pattern was obtained among the positions within each firm. In twenty-six of the twenty-nine positions with the meat processor, a higher proportion of the younger workers had college degrees. In one case a slightly higher percentage of the older workers (40 percent compared to 37.5 percent) had bachelor's degrees, in another case 100 percent of both groups had bachelor's degrees, and in one case all the workers were over 35. In the two occupations with the communications equipment manufacturer, the two occupations with the beer manufacturer, and the one retail clothing chain position for which data were provided, a substantially higher proportion of younger workers had college degrees. In two of the five pharmaceutical drug manufacturing jobs, younger workers were also better educated. Again there was one case where a slightly higher percentage of the older workers (91.7 percent compared to 90.9 percent) had college degrees, in another case 100 percent of both groups has bachelor's degrees, and in one case all workers were under 35 years of age.*

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*See Appendix C for a more detailed breakdown of the age and educational attainment of these workers.

When broad occupational categories are used as the unit of analysis, it is possible that important job task distinctions are suppressed. But that is not the case here. These differences in educational attainment cannot be explained in terms of technical skill requirements since the samples of workers within which comparisons were made were performing the same task. In many instances, current educational requirements surpass the attainment of several workers who have long been performing on the job. The upgrading which has occurred in these positions, therefore, cannot be justified in terms of the functional requirements of the jobs.

As indicated above, the data from the office machine manufacturer was made available in a slightly different format. However, the same relationship between age and education of the sales representatives (copier/duplicator) was clearly indicated. Table V-6 shows the number of those workers who have attained various levels of formal education and the average number of years since each group received their degrees.

TABLE V-6. DEGREES EARNED AND AVERAGE NUMBER OF YEARS SINCE GRADUATION FOR OFFICE MACHINE MANUFACTURER SALES REPRESENTATIVES (COPIER/DUPLICATOR)

Degree	Number of People Holding Degree	Average Number of Years Since Graduation
Ph.D.	1	2
Master's	110	4
Bachelor's	958	5
Associate	43	8

Assuming that the older workers are those who have been employed for a greater number of years and that the number of years since graduation generally corresponds with the number of years the graduates have been employed, the younger, more recent entrants into this particular job have attained higher levels of education than their older colleagues, several of whom do not meet current entry requirements. Whereas those with just an associate degree have been out of school for an average of eight years, those with more education have been out for an average of less than five years. Since a bachelor's degree is currently a prerequisite for new employees entering the company at this level, it is clear that this requirement reflects something other than technical skill requirements because forty-three of these workers do not hold such a degree. Given the possibility that some of these workers may have earned their degrees after obtaining their jobs (at company expense) these data may well suppress the extent to which older workers did not meet current standards when they were hired, and the extent to which educational requirements have been upgraded for reasons other than technical skill requirements. In other words, to obtain employment in this capacity today, one must have obtained a level of education which surpasses that which was required a few years ago, a level which surpasses that of several people currently holding this job, and a level which cannot be justified in terms of the technical skill requirements of the job.

Despite the limitations of the data, it is significant that a consistent pattern was obtained which reinforces the upgrading that was indicated when broader occupations and occupational groups were examined. Folger and Nam acknowledged that their analysis of occupational groups

could suppress important distinctions within groups. In addition, between the years of 1940 and 1960 one could argue that some of the educational upgrading within jobs reflected an upgrading of skills required by these jobs. This analysis is not subject to these problems, however, since it focuses on specific jobs within organizations at one point in time. While the workers examined here do not constitute a valid statistical representative sample of the work force, the burden of proof is on those who believe that important distinctions were suppressed in other studies which utilized broader, but more representative samples of workers and that an upgrading of skills has occurred within jobs. Based on the available evidence, it is clear that a substantial amount of the increasing educational requirements of jobs has occurred independently of changes in the technical skill requirements of jobs.

It is possible that older workers have picked up skills on the job over the years which compensate for any formal education which would otherwise be considered necessary from a technical perspective. In turn, younger workers may have attained a level of formal education which compensates for experience that might otherwise be necessary. But most, if not all, of the jobs examined here are entry level jobs for which college graduates without previous experience are generally recruited when openings are available.* In most cases there undoubtedly is at least a minimum amount of on-the-job or company training which is necessary before anybody could handle these positions adequately.

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*I requested data on entry level jobs for which a bachelor's degree was required or preferred and I was told by representatives of these firms that they would send such data. But in certain job categories, such as the sales representatives I, II, III, and IV of the pharmaceutical drug manufacturer, these may represent job ladders and not just entry level positions.

While the college training may help, those currently employed without a college degree, of course, somehow learned the requisite skills and tasks. It is reasonable to assume that others without a degree could be similarly trained. But as more and more positions throughout the occupational structure require a minimum level of formal education, it will become increasingly difficult to obtain that experience which employers currently accept in lieu of that education. Even if a bachelor's degree can be validated on technical job related criteria in the jobs examined here, it is clear that there are other ways to obtain the necessary skills. It is also clear that those lacking the proper credentials have faced in the recent past, and will face in the future, increasing difficulty in obtaining access to these jobs.

Another possibility is that the nature of the skills required on these jobs has in fact changed and that the older workers are not properly trained for what the jobs now demand, but due to seniority rights, union rules, or some other contractual obligation, cannot be removed. The companies might be required to keep a number of workers on the job who are no longer competent because they do not have an adequate education. Evidence presented earlier, however, indicated that older workers tend to perform as well as, if not better, than younger workers even though they have less formal education,[84] and that work experience is often related to job performance when other factors such as education, sex, and race are not.[85] Until evidence is presented which demonstrates that older workers are less competent, and that such incompetence is a function of a lack of formal education, we cannot assume that such incompetence prevails among the older workers, or that the technical justification for educational upgrading can be salvaged on this basis.

The technical theory would predict that most workers employed in a particular capacity would have approximately the same level of educational attainment. If any differences would occur between age groups, it is the older workers who should exhibit higher levels of education. Either through company incentive and support programs or through their own initiative, the older workers have had more time to take additional classes. This prediction of course, is clearly not borne out by the facts. Younger workers within broad occupation groups and within specific positions, attained substantially higher levels of education. The increasing educational requirements of jobs and attainment of workers cannot be explained in terms of a skill upgrading which may have occurred as a result of either shifts in the occupational structure or changes within occupations.

The class perspective, however, would predict the patterns which were obtained. At the very least, these findings indicate that employers are responding more to the available supply of better educated workers than to changes in the technical skill requirements of jobs. These findings also suggest that formal education functions more as a selection mechanism for allocating people to various positions on the basis of their relative educational attainment, rather than as a mechanism for providing specific job skills. Since the majority, of course, cannot be among the relatively better educated, education serves as a barrier to the job opportunities which restricts access for the majority. Once again, the conventional perspective is controverted while the central contentions of the class perspective are consistent with the findings.

How Job Skills are Learned

The evidence presented so far suggests that there is not a close relationship between the content of the subject matter people learn in school and the nature of the work they perform on the job as well as the quality of their performance. Yet somehow, of course, most workers learn how to execute the tasks called for by their jobs. Exactly how these skills are learned is another issue on which the thrusts of the conventional and alternative perspectives are clearly distinguished. The former emphasizes formal education and the latter emphasizes informal, particularly on-the-job training. Despite the inadequacies of the technical components of the conventional perspective cited above, the expansion of formal education could still be justified on technical grounds if in fact most workers depended on formal education to provide them with the skills they needed on the job.

In 1963 the U.S. Department of Labor conducted the first and only nationwide study of how workers learned their jobs.[86] A representative sample of all members of the civilian labor force between the ages of 22 and 64 was interviewed. The survey sample was divided into two parts; those who had completed less than three years of college and those with three or more years of college. The focus of the study, however, was on the former group. Except where otherwise noted, the following discussion of this report also focuses on those workers who completed less than three years of college. These workers accounted for 52.1 million of the 60.8 million members of the civilian labor force at the time of the survey.

When asked how they learned their current jobs, only 30.2 percent mentioned formal training. The Department of Labor defined formal

training as training obtained in all schools (including company schools where training was full time and lasted at least six weeks), apprenticeships, and armed forces training. Over 56 percent reported they learned their jobs from on-the-job training (on-the-job training by supervisors part-time company courses or full-time company courses lasting less than six weeks, and "worked way up by promotion"), and 45.4 percent learned their jobs by casual methods (learned from a friend or relative, "just picked it up," and other such methods).[87] These percentages add to more than 100 percent because a third of the respondents reported more than one way of learning their jobs. Reliance on formal training did vary by occupation. Among professional, technical, and kindred workers, 64.6 percent mentioned formal training, for example, compared to 23.4 percent of the sales workers.*

When asked what was the most helpful of these three kinds of training, formal training was reported by 11.9 percent of the respondents compared to 37.1 percent who reported on-the-job, 28.9 percent who reported casual methods, 14.6 percent who did not specify any one method, and 7.5 percent who reported that no training was needed. Again there were differences among occupations. For example, 29.7 percent of the professionals and 5.7 percent of the sales workers reported that formal training was the most helpful.

As of 1963, at least, most workers did not rely on formal training to prepare for their jobs. Almost 70 percent of those with less than three years of college did not even mention formal training as one of

*The responses of workers in over 140 occupations are reported in Formal Occupational Training of Adult Workers, Table 11, pp 43-45.

the ways they learned their jobs and less than one out of eight said formal training was the most important kind of training they received. Even if one assumes that every worker with three or more years of college relied on formal training, this would leave 59.8 percent of the total civilian labor force that did not utilize formal training in learning their current jobs. Keeping in mind that formal training in this study encompassed more than just traditional schooling, that particular source of training was even less significant in preparing members of the 1963 work force for their jobs.

Despite these findings, the Department of Labor argued:

> . . .the schools offer the broadest possible base for the expansion of vocational training that may be necessary to meet the challenge of future technological change. . . .It follows that the two most critical manpower development policies of the future ought to be strong attempts to increase the holding power of our school system and extensive training efforts directed toward the members of our labor force with the lowest educational attainments.[88]

The justification offered for increasing the "holding power" of schools are the following: "technological innovations have generated demands for workers with more education . . .and curtailed jobs for the less educated and the unskilled,"[89] lesser educated people exhibit higher rates of unemployment, the findings in this report understate the importance of formal training, and again because of technological change the formal methods used in the past will not be adequate in the future. These justifications, however, do not hold up. in part because of the evidence presented in this report. The first two justifications have been dealt with above. The other two will be addressed immediately below.

The Department of Labor claimed "The role of formal training during a man's work life is no doubt understated in these findings."[90] It is argued that some workers may not be utilizing training on their current job which was necessary earlier in their careers. However, when asked whether their current job or some previous one made best use of their training and experience, about 80 percent answered their current job.

Even if among the remaining 20 percent, the previous job which utilized training that is not needed on the current job was a necessary stepping-stone, this says more about the social dynamics of internal labor markets and job ladders, than it does about the technical or training requirements of jobs. If a worker does not utilize training on his or her current job which may have been utilized on a previous job, and one assumes that most people change jobs in order to get a better job (higher paid, more challenging, demanding, etc.) than if that training contributed at all to the person's ability to obtain the current job, it was more because of certain social rather than technical obstacles which had to be overcome. For example, if a woman takes typing and shorthand classes at a business college, goes to work as a secretary for an insurance company, and after a few years moves into a sales position, the secretarial training may indeed have been an essential step towards securing that position, but not because of the technical skill requirements of the job.

The Department of Labor also based its argument on the understatement of the importance of formal training on the fact that of those not currently employed in the position which best utilized their training, over half (51.8 percent) used formal training to learn those jobs.

If these workers were employed in those positions which utilized that training, then, it is argued, formal training would have been cited more frequently by respondents in the survey. However, assuming again that people change jobs in order to obtain a better one, the fact that some people have moved on to jobs that do not utilize their formal training tends to challenge rather than understate the importance of formal training. In addition, although over half of those workers not employed in jobs that made best use of their training learned those jobs by way of formal training, 63.2 percent also mentioned on-the-job training and 41.0 percent listed casual methods as the way they learned those jobs.[91]

The findings on how people learned their current jobs may understate the amount of formal training which has occurred, but this does not mean that the amount of formal training required by the technical requirements of jobs was understated. These findings certainly do not support the conclusion that more formal training is dictated by advanced technology or the changing technical requirements of jobs. More formal training for the lesser educated might pay off for them in terms of their potential occupational opportunities, but it would do so more by improving their position in the labor queue than by improving their technical abilities. The problem with this approach, of course, is that either somebody else would assume these positions at the bottom of the labor queue or, as has usually been the case, as the absolute educational level of those who are traditionally undereducated increases, the educational attainment of others also increases and the relative positions remain unchanged.[92]

The argument that informal methods would not be adequate in the

future because of the increasingly complex skills that will be required is also unconvincing. Since at least the turn of this century, it has been argued that modern industrialized societies require ever higher levels of formal education because of the greater levels of skill which are required on the job.[93] By 1963, the United States certainly had developed considerably since Cubberley made this argument in 1909. And while formal education grew considerably between the early 1900s and 1963, people were still learning their jobs outside the confines of formal education. As indicated earlier in this chapter, when technological changes have altered job skill requirements, any retraining which was required generally occurred within a few weeks time without the benefit of any formal training programs.[94] Why should we assume that further development or change in the future will necessitate different (formal) methods of preparing people for their jobs?

No matter how the evidence presented in this report is twisted and turned, it does not support the conclusions and recommendations which were made. If anything, the data suggest that alternatives to formal education should be explored. Rather than improving the plight of relatively lesser educated people, the expansion of formal education appears to have had the effect of overeducating many people and adding the problem of underemployment rather than of reducing the problem of unemployment.* For decades the same empty argument has been made and, unfortunately, it has also been bought by most policy makers and by most people in the population in general.

It must be kept in mind that the evidence presented above in this

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*The phenomenon of underemployment will be examined in the following section.

section refers primarily to workers with less than three years of college. In examining the occupational training of professional workers, a somewhat different picture emerges, but it is not as different as the conventional thinking would indicate.

In its 1963 survey of workers with three or more years of college, the Department of Labor unfortunately asked a different set of questions which did not allow for as direct an assessment of how these people learned their jobs. Since most of those with three or more years of college in 1963 were employed in professional positions, it was assumed that education and training were synonymous. Therefore, they were asked what their major field of study was, whether they used the training they received in their major on their jobs, and if not, how they learned their jobs.[95] Not surprisingly, of the 8.7 million workers with more than three years of college, almost 80 percent held positions involving use of their major subjects.[96]

But the fact that 80 percent reported they used their college major on the job does not indicate whether they relied heavily on that training, or whether they used it only on occasion and relied on some other source of training. If this sample of workers had been asked to list all the kinds of training through which they learned their jobs and to indicate the single most helpful form of training, as the lesser educated sample was, a completely different picture may well have emerged. Undoubtedly, some would have mentioned their college training, even without being force-fed. But other sources of training certainly would have been listed also. The way the question was phrased, it was virtually impossible to determine the principle source of training or whether or

not other kinds of training were used at all. The respondents who said they did use their college training were not even asked about other possible kinds of training. It was only those who said they were not employed in work involving use of their college major who were asked about other kinds of training.

It is probably safe to assume that those workers with three or more years of college did rely on formal education to a greater extent than those with less education. As indicated earlier, the professionals within the lesser educated group reported greater reliance on formal education than other similarly educated workers. What is unclear in the case of professional workers, however, is the relative importance of formal and informal training in preparing them for the duties they perform on the job.

Other studies which have queried professional workers on the nature of their occupational training indicate that formal training may not be as crucial as the Department of Labor and many others have assumed.* In her book, The Case Against College, Caroline Bird concluded, "The learned professionals, like almost everyone else, spend their days on the job doing work that is never taught in any classroom."[97] Bird cited several testimonials offered by doctors, lawyers, architects, nurses, journalists and other professionals on the insignificant, in some cases totally irrelevant, and in one case detrimental, influence of formal education on their daily tasks and on their career development in general.[98]

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*The credential one receives upon completion of formal education, of course, is required to obtain many of the jobs held by professional workers. The focus here however is on the extent to which what is learned in formal training is necessary in order to function on the job.

More systematic, albeit fragmentary, evidence is available which supports Bird's contentions. In a survey of 144 administrative and supervisory personnel in three different firms (a life insurance company, a light manufacturer, and an electronics manufacturer) Pierson asked, "What has been of most value to you in the work you've done--what you learned in college or what you learn on the job."[99] Among the sixty-nine respondents under 37 years of age, only twenty-five (36.2 percent) chose what they learned in college.[100] Interestingly, a higher percentage of nonbusiness majors, 38 percent, compared to 21 percent of business majors said their college training had been more valuable. Comparable data for those over 37 years of age were not reported. In summarizing these findings Pierson stated:

> When one considers the applied nature of so many business courses coupled with greater desire for practical training on the part of those who choose them, one would expect an overwhelming vote in their support. Results such as these raise some question about how well many business or commerce courses actually prepare students for their chosen careers.[101]

Pierson expressed this sentiment more positively when he wrote, "The truth is that the more responsible managerial and staff jobs in business cannot be learned in any straightforward academic manner,"[102] and, "Business careers involve many elements which lie outside the purview of higher education."[103] Over ten years later, Livingston's work, cited earlier, corroborated Pierson's views.

The Carnegie Commission on Higher Education recently surveyed 229 professional, technical, and managerial workers from two firms and reached similar conclusions. All of these employees held positions for which a college degree is now required, although a number of the older

employees did not hold degrees.[104] These workers were asked, "To what extend do you think your work in your present position is directly related to your college education." Overall 42 percent responded "no relationship" or "very little relationship" compared to 59 percent who responded "significant relationship" or "very close relationship." When asked "Could you perform adequately in your present position without specialized college training?" the answers were as follows:

no	32%
not sure	4%
perhaps	31%
yes	32%

105

The fact that 42 percent claimed there was little or no relationship between their college education and their work and the fact that as many said they could perform their duties as could not without their college training, certainly calls into question, at least for this sample of workers, the belief that college is needed in order to handle what presumably are among the more highly skilled jobs in the American occupational structure. In addition, considering that there are some workers holding these same jobs without a degree, the current college requirements for these positions, like those for several positions cited in the previous section, do not appear to be justifiable on technical grounds.

The majority of workers in the United States have not learned the skills required on their jobs in formal educational or training institutions, despite the tremendous expansion of those institutions. Although people are spending more time in school and in other formal training programs, and although educational requirements in the occupational structure have generally increased over time, when it comes to learning

those duties which workers perform on the job they still rely on other kinds of training. Formal education does contribute to job skills, but this does not mean that such training constitutes the principle means by which people learn their jobs. When one considers the greater amounts of time people have spent in school as a result of compulsory attendance laws and the increasing educational requirements of jobs, it is surprising that workers do not report a greater reliance on such training in learning their job skills. It is true that younger workers reported a greater reliance on formal training[106] but this would appear to be more a function of increasing credentialization than of changing skill requirements that dictate such training since older workers lacking such training appear to be able to do as well or better on similar jobs. As these trends develop in the future, of course, there will be less opportunity for people to utilize alternative educational methods even though it is not at all apparent that formal training is the most effective kind of training from a technical point of view.

Among nonprofessional workers, who constitute by far the largest proportion of the work force, an overwhelming majority have not relied on formal training to learn their jobs. While professionals report a greater reliance on formal education, it is not at all clear that such education is their principal source of training either. Undoubtedly there are some jobs which require rigid, systematic preparation. But these jobs constitute a small percentage of the work force and perhaps even just a small percentage of professionals. Since it is not just those relatively few highly technical professional workers who have spent more time in school, and since most people have learned their jobs through informal means, the class perspective is supported while

the conventional interpretation is clearly refuted in terms of their respective contentions regarding how people learn their jobs as well as in terms of their overall explanations of the relationship between technological change and formal education.

Conclusions

The evidence presented in this chapter refutes many widely held beliefs about the effects of modern technology, the role of education, and the linkages between formal education and the occupational structure. Technological innovations have certainly changed the nature of work in the United States. But the tremendous expansion of formal education has been far greater than the upgrading of skill requirements, if indeed there has been any upgrading, could explain. The educational upgrading of unskilled laborers and the fact that many people have been performing adequately for years on jobs without credentials which have become prerequisites for those jobs clearly indicate that something other than skill requirements have dictated educational expansion. Where data allow for such comparisons, there is no consistent evidence that better educated workers perform better on the job, and there are many cases where precisely the opposite is true. In light of these findings, it is not surprising to discover that most workers do not rely upon formal educational training to learn their jobs.

Better educated people do earn more money and tend to enjoy a higher standard of living. Access to more desirable entry level positions has become increasingly dependent in recent years on formal education as is indicated by the fact that younger workers tend to rely more on formal training than older workers holding similar jobs, and the

fact that some entry level jobs require levels of formal education not attained by older workers who have long held those positions. Recognizing the benefits which have accrued to the better educated, and the difficulties faced by those who are not so well educated, policy makers have encouraged the expansion of formal education and individuals have sought more education for themselves. The net effect of the expansion of formal education, however, has been more to increase underemployment than to alleviate unemployment.*

Up through the 1960s college graduates were almost assured of finding the kind of employment a degree traditionally promised. The situation began to change, however, as college graduates of the 1970s have abruptly discovered. While college graduates have generally been able to find jobs, at least with more success than lesser educated people, in recent years they have had to settle more frequently for jobs further down in the occupational structure because the number of college graduates has been increasing faster than the number of jobs traditionally held by them. As Jack Shingleton, Director of Placement Services at Michigan State University stated:

> It is becoming increasingly evident that unemployment is not the number one problem plaguing college graduates in the market place. Rather, it is underemployment. The prospects of underemployment seem to increase with each passing year.[107]

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*According to the Manpower Report of the President, 1974, the national average unemployment rate rose from 3.9 percent in 1947 to 4.9 percent in 1973 (Table A-14: "Unemployed Persons 16 Years and Over and Unemployment Rates, by Sex and Color, 1947-1973," p. 271). The lowest annual average unemployment rate was 2.9 percent in 1953. The Bureau of Labor Statistics reported that the August, 1975 unemployment rate reached 8.4 percent. (Related to me in a conversation with Carol Fletcher of the Michigan Employment Security Commission.)

These same sentiments have been expressed by several other experts in the field.[108]

As the Carnegie Commission on Higher Education reported, the proportion of male college graduates in professional occupations dropped from 60.4 percent in 1968 to 57.6 percent in 1971[109] and the comparable drop for women was from 81.0 percent to 76.0 percent.[110] Meanwhile, the proportion of college graduates in managerial occupations increased from 22.7 percent to 25.3 percent for men and from 4.1 percent to 5.3 percent for women. It could be argued that most managerial jobs are no less demanding or rewarding than the professional jobs college graduates entered in previous years. But while the proverbial Ph.D. who ends up driving a cab for a living is certainly not representative of most college graduates, the educational upgrading of jobs resulting from changes in the available supply of college graduates, the growing underemployment of these workers, and the ensuing dissatisfaction with their jobs among an increasing number of graduates[111] cannot be denied. A more serious problem generated by the underemployment of the educated elites, however, is the effect on the job opportunities available to lesser educated people.

The proportion of men with one to three years of college employed in professional or managerial occupations declined from 42.1 percent to 40.6 percent between 1968 and 1971[112] and for women the change was from 29.8 percent to 28.2 percent.[113] While these are not great changes it must be kept in mind that most of the professional and mangerial workers with one to three years of college are older workers who secured their positions several years ago. The chances of finding professional or managerial jobs for new entrants into the labor force who have attained

one to three years of college are much less, in fact, than four out of ten for men and three out of ten for women.

Opportunities for the college educated expanded significantly within professional occupations during the sixties, particularly for graduates. One notable exception was the decline in the percentage of women with one to three years of college in professional jobs from 31.9 percent in 1959 to 24.4 percent in 1968.[114] But as opportunities opened up for the college educated, they became scarcer for high school graduates and dropouts. Among high school graduates between the ages of 16 and 24, the proportion employed in professional or managerial jobs declined from 8.6 percent among those who graduated in 1966 to 5.5 percent among 1968 graduates, and to 2.3 percent for 1972 graduates. The proportion of high school graduates that became laborers, service workers, or operatives among those who graduated in these years was 36.8 percent, 47.5 percent, and 56.3 percent.[115] Among high school dropouts between the ages of 16 and 24 who last attended school in either 1967 or 1968, 2.9 percent were employed in professional or managerial positions compared to 2.3 percent of those who dropped out in 1971 or 1972. Comparable changes in other occupational groups for high school dropouts were as follows:

	1967-68	1971-72
Sales	5.9	2.0
Clerical	11.1	7.4
Crafts	8.6	13.1
Operatives	30.4	27.8
Laborers	16.3	18.6
Service Workers	16.1	20.4

[116]

While the increasing availability of college graduates has enabled some employers to require a college degree for certain jobs which have

long been performed by workers with less than four years of college, thus penalizing new entrants into the labor market who lack the diploma, the increasing supply of high school graduates has frequently resulted in the same kinds of employment practices which penalize high school dropouts. As Herbert Bienstock, New York regional director of the Bureau of Labor Statistics, stated in 1969:

> The completion of a high school education has become an important requirement for entry into the labor market of today. Employers, finding persons with high school diplomas becoming more available in a period of rising educational attainment, have come to use the diploma as a screening device, often seeking people with higher levels of education even when job content is not necessarily becoming more complex or requiring higher levels of skill.[117]

Hardest hit of all groups, of course, is the unemployed. While the median number of school years completed by the employed and unemployed was virtually the same in 1971 (12.4 and 12.2 respectively)[118] education is still related to employment status. Since older workers are less frequently unemployed and have lower levels of educational attainment, the factor of age suppresses this relationship. But within age groups, lesser educated workers still experience higher rates of unemployment. In effect, the expansion of formal education has resulted in increasing the absolute educational attainment of the unemployed, but not in reducing unemployment. In 1971, 60 percent of the unemployed were under 35 years of age and two-thirds of them were high school graduates.[119] Considering that not too long ago high school graduates constituted the educated elite, it is difficult to argue that these people were out of work because they were technically unqualified to perform on existing jobs within the occupational structure.

It could be argued that the recent downturn in the nation's economy accounts for the underemployment of college educated people, and for the more limited opportunities available to others in the work force. No doubt this has been a contributing factor. But projections for the next few decades indicate a bleaker outlook for college graduates. The indications are that more college graduates will be seeking employment further down in the occupational structure. Again, if these projections are accurate, the picture for less educated workers will be even worse.

Based on the U.S. Office of Education projections of the number of degrees that will be earned in the 1970s, the U.S. Department of Labor estimated that 9.8 million college educated workers would enter the labor force in this decade and that 9.6 million of them would be absorbed as follows:

Employment Expansion*	3.3 million	
professional and technical occupations	2.6 million	
other occupations	.7 million	
Educational Upgrading		
professional and technical occupations	1.3 million	
other occupations	1.3 million	
Replacement Needs	3.7 million	120

In other words, over 25 percent (2.6 million) of the college graduates entering the labor force would be employed in positions which have been held in the past by workers with less education. The Carnegie Commission on Higher Education estimated that at least one-half of the jobs which have not traditionally been held by college graduates, but will be in the 1970s, will have been substantially changed in terms of their skill

*These estimates are based on the assumption that the proportion of workers with college degrees within each occupational group would remain as it was in 1970.

requirements so that these workers will not be underemployed. Therefore, it concluded, underemployment represents a potential problem for about 10 percent of these college graduates.[121]

While the specific number of workers who have been and will be underemployed is debatable, the phenomenon of increasing underemployment, particularly for college graduates, cannot be denied. As dreary as the job opportunities appear to today's graduates, the gap between the supply and the demand for graduates is expected to be greater between 1980 and 1985 than for the rest of the current decade.[122]

The effects of this surplus on college graduates is expected to be, again, more in terms of underemployment than unemployment. Lesser educated workers will, in turn, be forced to find employment at lower rungs of the occupational ladder. As Neal H. Rosenthal, a researcher with the Bureau of Labor Statistics, stated:

> . . .it is unlikely that the unemployment rate of college graduates will be affected significantly. Rather, it is likely that college graduates will obtain jobs previously held by individuals with less than 4 years of college. In general, graduates have reacted to changes in the job situation in the past by taking the best available job, and there is no reason to assume that this will change. Problems for college graduates will more likely be underemployment and job dissatisfaction, resulting from increasing occupational mobility rather than unemployment. . . . . .
>
> The availability of more college-trained workers is expected to have an adverse effect on many of the less educated. It is likely to mean that, in the future, workers with less than a college education will have less chance of advancing to professional positions, as many could do in the past, particularly in professions such as engineering and accounting. They will also have less opportunity for promotion to higher level positions in sales, managerial, and some clerical and service occupations. This is essentially a problem of credentials. If the required educational qualifications for a job rise more rapidly than the actual education required to perform the job, the availability of more college-educated workers will limit advancement of workers with fewer years of schooling.[123]

Similar conclusions were drawn by Denis F. Johnston, also with the Bureau of Labor Statistics:

> These highly qualified workers may also displace increasing numbers of less educated workers in occupations which have formerly been the preserve of those without college education, particularly if the kinds of jobs which typically have been held by college graduates do not increase fast enough to absorb the prospective growth of college graduate jobseekers. The upgrading of job requirements already observed suggests that the employers' expectations with respect to the educational qualifications of their prospective employees tend to rise with increases in such qualifications of the jobseekers themselves. Thus, if college graduates are forced to seek jobs which have not traditionally attracted them, they are likely to be hired in preference to the less educated, quite apart from the actual education needed to perform such jobs adequately.[124]

Projections like these are tentative estimates, of course, because of unforeseen and unforeseeable events which may occur. These particular projections have been criticized on the grounds that they were based on independent trend extrapolations of the supply and demand for workers, without taking into consideration their interactions.[125] In other words, they do not allow for the fact that some people might alter their educational plans on the basis of how the market for various educational specialties might change. The declining percentage of high school graduates going on to college between the years of 1968 and 1973 indicate that some people may in fact already be responding to such conditions. However, as long as employers operate on the basis of giving the better jobs to those who are relatively better educated (i.e., in accordance with the supply of educated workers rather than in accordance with a valid job related determination of an absolute level of education required in order to perform on the job) there will be market pressures which encourage individuals to obtain greater levels of education than

called for by the functional requirements of jobs, underemployment among the educated elite will continue and lesser educated workers will continue to face more limited opportunities than their abilities would otherwise allow them. Barring stronger legal pressures along the lines of the Griggs v. Duke Power Company decision, indications are that many employers will continue to inflate their educational requirements, as long as the supply permits.*

In a recent survey[126] conducted by the Michigan State University Placement Services, representatives of 220 businesses, industries, government agencies and educational institutions that employ new college graduates were asked, "If you had a job opening that required only a high school diploma, would you hire a college graduate if he or she were willing to work for the same wage?" The responses were as follows:

Would give preference to high school graduate	68	(35.0%)
Would hire either without preference	45	(23.2%)
Would not hire a college graduate	43	(22.2%)
Would give preference to college graduates	38	(19.5%)
Total number of responses	194	(100.0%)

When asked if a master's or Ph.D. candidate would be hired for positions requiring only a bachelor's degree, the following responses were given.

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*A recruiter for a meat processing and soap manufacturing firm told me that in 1971 two years of college were required for retail sales representatives but that the requirements were raised to four years of college or two years of college and two years experience. The reason for the change was simply the greater availability of college graduates. Another recruiter for an office machine manufacturer told me that in 1969 or 1970 his company established the requirement of an MBA for finance analysts, also because the supply of people with that level of education had increased to the point where they were able to raise their requirements to that level. (This is the same finance analyst position referred to earlier.) So the fact that employers do raise their requirements in accordance with the available supply is undeniable. Only the extent to which this is done is unclear.

Would give all equal consideration	113	(56.8%)
Would hire bachelor's candidate only	55	(27.6%)
Would hire master's candidate	31	(10.6%)
Total number of responses	199	(100.0%)

And when asked if a Ph.D. candidate would be hired for a job requiring only a master's degree, the answers were:

Would give all equal consideration	115	(56.9%)
Would hire master's candidate only	56	(27.7%)
Would hire Ph.D. candidate	31	(51.3%)
Total number of responses	202	(100.0%)

These responses could be interpreted in a variety of ways. One could argue that since a large majority would give preference to those who had only the required amount of education or would give all equal consideration, that the concern over credentialism or spiraling educational inflation is groundless. Those who would hire people with more than the required level of education may have reason to believe that in their organization workers with more than the required amount of education perform better on the job, thus supporting the technical theory.

But there is reason to believe these responses understated the extent to which preference is in fact given to those who surpass the minimum educational requirements. Many respondents probably offered what they considered to be "socially acceptable" answers to these questions, answers that would tend to disguise any inclination to prefer a level of education above the official required level. Many employers are sensitive to the issue of credentialism and to the charge of inflating their educational requirements. As indicated earlier, recent civil rights legislation, for one thing, has forced some employers to reduce their requirements and has led others to re-evaluate their job descriptions.

The case cited earlier in which a company officially required a bachelor's degree for the position of finance analyst but, in fact, had decided informally not to hire anyone without the MBA is probably not an isolated phenomenon.

Most respondents to these question said they would give equal consideration to all candiates. If this means that all job applicants would be evaluated independently of their educational attainment and the best people for the jobs would be selected, then one could assume that the influence of credentialism would be eliminated. In actual practice, it is a rare occurrence where people with different levels of formal education are given equal consideration, particularly for jobs at the higher end of the occupational structure. Education is generally one of the principal characteristics companies use to sort out potential employees. Frequently, the level of formal educational attainment is the first criterion examined to eliminate the bulk of applicants. Some employers admit that in order to cut down on the sheer number of candidates who will be considered, a minimum level of education is established and, with a few rare exceptions, those who have not attained that level are deemed ineligible. By limiting recruitment for certain positions to college campuses, many high school graduates are eliminated who might otherwise be given "equal consideration." Employers may give all people equal consideration but the nature of the criteria and the methods used in the recruitment process-generally provide better educated people a significant advantage.

Even if these responses were accepted at their face value, they indicate a clear tendency on the part of a substantial, albeit less than a majority, number of employers to seek out relatively better

educated workers even when lesser amounts of education are required for the job. Within the organizations included in this survey, almost 20 percent of the jobs that require a high school diploma would go to a college graduate if the supply would permit. Over 10 percent of the jobs requiring a bachelor's degree would go to a person with a master's degree if one were available.

If left unchecked, there is little reason to believe that employers will cease to raise their educational requirements to the level that the market will allow. More people will endure the frustration of being underemployed and others will face unemployment, for reasons which will become increasingly difficult to explain on the ground of their lack of education or skills demanded in a modern industrialized society.

Education is not and should not be strictly vocational training. The focus of this chapter on the relationship between education and occupations should not be interpreted as an endorsement of such a proposition. But we should not assume that education is an important determinant of one's life chances because of the contribution education makes towards one's productivity, and that the expansion of formal education can be justified on the basis that modern society requires more highly skilled workers and formal education provides the requisite training, without raising these questions. If we are to tell poor people that their plight is due to their lack of skills, that the solution is to get more education in order to obtain those skills, and that they are lazy, worthless, undeserving individuals if they fail to do so, then we should be reasonably certain that the basis for such logic is sound. But as the evidence presented in this chapter indicates, that is not the case.

It may be true that a ditch digger as well as a college professor can benefit from some exposure to classical literature. And as college educated workers seek more and more nonprofessional jobs, those jobs may be performed more effectively and perhaps communication will open up among segments of our society which previously remained isolated from each other. But such benefits are vastly overshadowed by the penalties many are forced to pay because they do not have the money, time, or perhaps just the inclination to pursue educational credentials. The ditch digger should have the opportunity to study the classics. But a person should not be relegated to that status because he or she cannot or chooses not to. We do not have a problem of too much education. But to the extent that people's life chances are limited by their relatively lower levels of formal educational attainment and to the extent that such limits are justified in terms of their individual deficiencies resulting from a lack of education, and more education is viewed as the solution, the true dynamics of the distributive process will remain concealed and efforts to alter that process will prove ineffective.

If the linkages between formal education and jobs are not based on technical skills, then one must assume either that employers have seriously misguided themselves, or that they establish educational requirements to identify other kinds of attributes. The following chapter examines the specific qualities employers are seeking when they recruit workers with a particular level of formal educational attainment.

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CHAPTER VI

WHAT ARE EMPLOYERS LOOKING FOR?

A central feature of the evolution of American society has been the increasing bureaucratization of work. As employers have attempted to rationalize the work processes within their organizations and the role of individuals within them, personnel departments have assumed greater prominence. Most large organizations, at least, have developed job descriptions which specify the duties, responsibilities, subordinates, superordinates, qualifications and other aspects of all positions and the individuals who will fill them. While many workers may in fact have greater flexibility than their formal job descriptions would indicate and certain prerequisites may be waived on occasion, there has been a growing tendency to objectify working conditions and to establish formal prerequisites, including educational requirements, for jobs throughout the occupational structure. The fact that educational requirements have been established and upgraded is obvious. Why this has occurred, however, has not been so unanimously agreed upon.

The specific question on which this chapter focuses is the following: While education has long been associated with income and occupational prestige, is it the noncognitive characteristics or the technical skills inculcated by schools which are rewarded in the occupational structure? The conventional perspective, of course, emphasizes the technical educational dimensions of schooling while the class perspective emphasizes the noncognitive aspects. Over the years several studies

have been conducted in attempts to determine what employers are looking for in their recruitment practices and how employers evaluate the contribution of formal education. These studies will be examined in conjunction with personal interviews I have conducted with recruiters in order to determine what attributes employers are looking for and what attributes they attach to formal education.

In Berg's study of education and jobs[1] he reported that employers placed much emphasis on noncognitive personality characteristics which college graduates were assumed to have. Although reference was made, according to Berg, to the trainability, promotability, productivity, and intelligence, of college graduates, all of which could be intepreted as both cognitive and noncognitive attributes, more frequent references were made to qualities which are clearly noncognitive. Personality, adaptability, stability, self-discipline, industriousness, commitment to "good middle-class values" and "stick-to-it-iveness" were the kinds of characteristics employers generally mentioned when asked about the value of a college education.[2] In Berg's words: Most of the respondents made it perfectly plain that the content of a college program mattered a good deal less than the fact of successful completion of studies."[3] Several other studies conducted before and after Berg's strongly support the contention that the importance employers attach to the college degree, and other schooling credentials, has much less to do with the content of academic courses than with the behavioral characteristics graduates have internalized.

In his study of occupational requirements during and prior to the 1950s, Lawrence Thomas concluded:

> Formal discussions of the kinds of occupational equipment needed by the job seeker almost always include some reference to personality factors, but most attention is usually given to other types of skills and competencies. Empirical studies of occupational demands, however, testify virtually without exception to the primary importance of personality traits over all other types of occupational equipment.[4]

Thomas cited several studies which led him to this conclusion. For example, a 1950 survey of seventeen Whittier, California firms employing high school graduates as clerical workers yielded the following conclusion: "Vocational skills were considered important by every employer, but a well integrated personality was deemed of far greater occupational significance than was the pure ability factors."[5] The following traits in particular were stressed by employers as the kinds of qualities they were looking for:

1. Neatness of dress and good grooming;
2. Achieving harmonious relations with fellow workers;
3. Demonstrating initiative and responsibility, particularly when not supervised;
4. Ability to take and follow orders;
5. Punctuality;
6. Good emotional control;
7. Social ease and polish.

While the ability to take and follow orders could be interpreted as both a cognitive and a noncognitive trait, the remaining qualities clearly represent noncognitive, behavioral traits and the list indicates the emphasis these employers placed on behavioral over cognitive or technical kinds of abilities. In a broader 1950 study of clerical workers in another California county in agriculture, utilities, wholesale and retail trade, insurance, real estate, and government, in-depth interviews were conducted with employers concerning the specific traits they looked for in these employees. Proficiency in job skills was

ranked, on the average, in fifth place behind four distinctive personality traits. The leading causes for dismissal in all but the government jobs were personality factors rather than factors related to job inefficiency.[6] These findings supported earlier studies and were in turn supported by more recent studies which found personality factors to be the principle cause of job failure.[7] And the National Manpower Council concluded, in a 1954 study of employer expectations of young skilled craftsmen:

> The motivation and attitudes of young workers received more attention than any other qualification for employment. The attitudes sought were identified as pride in workmanship; interest in the work and in a long-time career with the firm, and in self-development or personal progress; a sense of responsibility; and an ability to adjust to work regulations and to get along with others.[8]

In a survey of employers in seventy business and industrial corporations conducted by Northwestern University's placement director in 1944, it was found that the primary reason college graduates were recruited for various jobs was their presumed ability to cooperate, to meet and work effectively with others. Another characteristic which was rated almost as highly was neatness and attractiveness of appearance.[9] Similar conclusions were drawn in a 1948 study of twenty-four employers of over 3,000 workers in Salem, Oregon.[10]

Thomas cited several testimonials which indicated that the specific noncognitive traits which distinguish good and bad managers and executive were emotional control, stability, ability to obtain the cooperation of others and a general ability to handle labor relations effectively. For some managers, of course, the ability to obtain cooperation or to handle labor relations are intrinsic skills in terms

of the specific tasks they perform. But, not all executives are employed in such a capacity and as the following statement by a president of a large telephone company indicates, the desirable noncognitive traits include many which have little or no direct bearing on the intrinsic functions carried out by these workers.

> Perhaps often and certainly occasionally men cannot be promoted or selected, or even must be relieved, because they cannot function, because they "do not fit," where there is no question of formal competence. This question of "fitness" involves such matters as education, experience, age, sex, personal distinctions, prestige, race, nationality, faith, politics, sectional antecedents; and such very specific personal traits as manners, speech, personal appearance, etc.*[11]

According to Thomas, "The most complete set of generalizations on this topic, based both on experimental evidence and clinical judgment, is still the summary statement made a dozen years ago by the social psychologist, Kornhauser."[12] The following is a segment of that statement:

> Weak and unconvincing as is the fragmentary evidence from special studies, however, a wealth of incidental observation leaves little doubt concerning the broad facts of the matter. Men of unusual energy, ambition, and drive do tend to push to the top; those who are timorous, suspicious, indecisive, do not. Likewise those who are 'trouble-makers,' or 'too independent,' or 'radical' clearly stand less chance of becoming salaried members of management than do their fellows who think 'soundly' and see things the 'right' way, i.e., conform to the values of their superiors. Quite generally, though always with notable exceptions, the aggressive but not over-aggressive, the hard headed, the

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*While it is doubtful that many employers would refer explicitly to age, sex, race, nationality, or religion today, the greater concern with noncognitive than cognitive traits has changed very little, if at all, as will be shown below.

> self-confident, the energetic, the loyal men who will 'play the game,' tend to reach higher economic levels.[13]

In a 1945-1946 survey of 240 employers in New Haven, Connecticut, and Charlotte, North Carolina, Noland and Bakke also found that educational requirements were established primarily for the behavioral characteristics employers attached to formal education.[14] Among production workers, for example, 63 percent of the New Haven and 56 percent of the Charlotte employers preferred high school graduates primarily, according to these two researchers, because of the socializing value of education. The respondents emphasized the conservative influence of education; the better educated were less radical, less open to "crackpot" notions, and they were more ambitious. For service and maintenance workers 45 percent of the New Haven employers and 69 percent of the Charlotte employers preferred high school graduates, while 11.5 percent and 18 percent respectively required this amount of education. Similar reasons were offered for preferring high school graduates. In addition self-confidence and the ability to get along with others were mentioned as some of the benefits of the social experience of formal educational training. For clerical positions 50 percent of the New Haven employers required a high school diploma while 6 percent preferred workers with some college and 70 percent of the Charlotte employers required the diploma while 19 percent preferred the college educated. The reasons were summed up in the following statement:

> Skill in human contacts, good manners, evident intelligence, the look of self-confidence, the ability to converse intelligently are valued. . .and are assumed to be promoted by the higher levels of formal education. Moreover, since the job itself requires a high school education

> in a number of cases, employers seek to promote group solidarity and compatability by keeping the education level for all as high as possible.[15]

For executive and administrative assistants, the highest occupational group covered in this study, 53 percent of the employers preferred college work and 15 percent required it in New Haven compared to 49 percent and 17 percent in Charlotte. Work at this level was characterized by three basic features: extensive paper work and analysis of written documents, getting along with people, and leadership. Men's ability to carry out these functions was assumed to be greatly improved by college training.

Perhaps the most significant finding in Noland and Bakke's study was that educational requirements were highest for those positions in which the greatest emphasis was placed on general behavioral characteristics rather than for jobs in which employers emphasized the importance of skills related to the specific task performed. Employers were asked what qualifications were of outstanding importance in hiring workers. Previous experience in the kind of work to be performed was considered to be most important for service and maintenance workers and it was also more important for production workers than for administrative and executive workers where educational requirements were highest. Character and personality traits, however, were more important in those positions for which educational requirements were highest. The following table illustrates this pattern.

Behavioral characteristics were also more important in making the decision of not hiring people in the higher positions. The frequency with which such factors as reputation for irresponsibility, previous criminal record, poor credit rating, and drinking were considered to

TABLE VI-1. PERCENT OF COMPANIES FINDING CERTAIN WORKER QUALIFICATIONS OF OUTSTANDING IMPORTANCE IN HIRING WORKERS, BY OCCUPATIONAL GROUP, NEW HAVEN AND CHARLOTTE

	Common Labor		Production		Service and Maintenance		Clerical		Administrative and Executive	
	NH	CH	NH	CH	NH	CH	NH	CH	NH	CH
Character	58	66	60	74	61	78	78	84	89	86
Personality	39	29	48	38	57	44	73	73	83	75
Particular Experience	20	33	66	65	71	68	32	36	50	68

Source: Workers Wanted, p. 176-177.

be important deterrents to hiring was directly related to the educational requirements of jobs.[16] At least for those employers covered in this survey, noncognitive factors appeared to be more important than cognitive factors in screening potential employees, particularly at the upper end of the occupational structure, and education was viewed as a measure of the extent to which these people had internalized the desirable traits.

Frank Endicott sent me a summary of a study he completed in the mid-1960s in which he asked 186 companies which factors most often lead to the rejection of a candidate. The factors and the number of respondents who listed each one were:

Inadequate personality - Poor attitude - Lack of poise - Lack of self-confidence - Timid, hesitant approach - Too introverted - Lack of maturity - No evidence of leadership potential.	124
Poor scholastic record - Low grades without reasonable explanation - Low level of accomplishment.	99
Lack of goals, objectives - Poorly motivated - Does not know his interests - Indecision - Poor planning.	80

Lack of enthusiasm - Lack of Drive - Not sufficiently aggressive - Little evidence of initiative.	50
Lack of interest in our type of business - Lack of interest in our company - Not interested in the type of job we have to offer.	48
Inability to express himself - Poor speech - Inability to sell himself.	45
Unrealistic salary demands - More interested in salary than in opportunity - Unrealistic expectations - Over-emphasis on management positions - Unwilling to start at the bottom.	39
Poor personal appearance - Lack of neatness - Careless dress.	35
Lack of extracurricular activities - Inadequate reasons for not participating in activities - No accomplishment in activities.	22
Failure to get information about our company - Lack of preparation for the interview - Did not read the literature.	22
Objects to travel - Geographic preference - Unwilling to relocate.	15
Inadequate preparation for type of work - Inappropriate background.	10

Endicott concluded:

> . . .for most recruiters, personal qualities are of greatest importance. . .it is interesting to note that achievement is next to personal qualities in importance.[17]

More recent research has uncovered similar findings. In the Carnegie Commission's study, cited in the previous chapter, of 229 professional, technical, and managerial employees in two firms, the employees were asked to rank the attributes, from a selected list, which they felt were most important in determining the success of their peers in terms of promotion and salary. The attributes were ranked in the following order:

1. Willingness to make decisions and accept responsibility;
2. Self-confidence;
3. Aggressiveness;
4. General intelligence;
5. Ambition;
6. Interpersonal ability;
7. Specific skills and training;
8. Getting to know superiors on a personal basis.[18]

According to the researchers the first two factors were ranked clearly above the others and the third, fourth, and fifth factors were ranked substantially higher than the last three. The researchers concluded: "It is clear that employees see attitudes as more important than intelligence or specific skills."[19]

Surveys of employers and recruiters conducted in the late 1960s and 1970s corroborate the findings of early studies and they indicate that the employees interviewed by the Carnegie Commission have an accurate perception of what employers are looking for and the kinds of attributes they reward. Personality in particular and noncognitive traits in general are the primary characteristics employers say they are looking for, particularly in those positions for which college graduates are recruited.

In an attempt to determine the types of candidates sought by business, Drake, Kaplan, and Stone sent questionnaires to 195 firms covering a broad range of industries.[20] Companies which generally recruit at the State University of New York at Buffalo were selected for this study. While the questionnaires were mailed to campus recruiters, about 40 percent of those who responded were employed in a different capacity within personnel departments. The principle attributes sought and the percentage of respondents who cited each attribute were the following:

ambition and motivation	21.7
ability to communicate	13.3
"good" personality	12.8
"fit" with company and its goals	10.6
creativity and intelligence	10.0
specific college courses taken	7.2
dress and appearance	6.1
grades	5.0
experience	3.3
initiative and responsibility	3.3
potential to adapt	1.7
leadership ability	1.7
teamwork capability	1.7

Clearly, noncognitive attributes were considered to be the most important. Those which could be considered indicators of cognitive attributes; creativity and intelligence, specific college courses taken, grades, and experience, were not rated as highly. The top four attributes listed indicate the importance of noncognitive over cognitive attributes. Cognitive traits were rated higher among the most important predictors of success, but again the most important factor was a noncognitive one. The following list shows the percentage who cited each factor as an important predictor of success:

ambition and motivation	19.9
grades	16.0
experience, related job	13.3
creativity and intelligence	12.2
teamwork capabilities	6.1
initiative and responsibility	5.0
"good" personality	4.4
"fit" with company	4.4
specific college courses taken	3.9
potential to adapt	3.3
leadership ability	3.3
ability to communicate	3.3
work habits	1.7

A similar study of 165 personnel managers in Los Angeles was conducted by Keyser in order to determine the qualifications employers

in that metropolitan area seek when they recruit college graduates. The researcher concluded, "When asked the single most important quality of an applicant, the personnel managers gave diversified responses. However, the following qualities were mentioned most often: personality (27.2 percent), ability (19.3 percent) and ambition (11.5 percent).[21] A survey conducted by Ma of ninety-four recruiters who visited the San Jose State College over a two year period, once again, yielded similar conclusions.[22] The four factors which were cited as the most important in evaluating potential employees, and the percentage who mentioned each factor were:

personality traits	65.9
college grade point average	21.0
work experience	10.6
extra-curricula activities	6.3

Again if one assumes that grades and experience are indicative of cognitive abilities, they are ranked second to, and far behind, personality. In Shell and Patrick's survey of 270 employers, half of whom recruit at Eastern Michigan University and half of whom are randomly selected from the Fortune listings of the 500 largest industrial companies, respondents were asked to rank five factors in terms of their importance in hiring college graduates. Personality and grade point average were by far the two most important factors with personality ranked slightly higher than grade point average.[23]

The 1974 study, conducted by the Michigan State University Placement Service, cited in the previous chapter, yielded the same conclusions.[24] When asked, "What are the five most important factors considered when you hire new college graduates?" the most important factors cited were;

career or work aspirations, personality, knowledge of subject material, previous work experience, and innovative ideas. When asked, "What are the five factors which most often cause you to reject a certain candidate?" the principle factors mentioned were: lack of goals and motivation, lack of proper academic background, poor communication, lack of aggressiveness, and unrealistic expectations of organization. Perhaps the strongest indicator of the importance placed on noncognitive traits was the response to the question, "How would you characterize your acceptance of candidates with unconventional dress, behavior, mannerisms, etc.?" The answers were as follows:

willing to hire them if they modify or adjust their appearance to fit	43.6%
doesn't affect us either way	27.0%
willing to hire them	18.6%
unwilling to hire them	10.8%*

Apparently over 54 percent of these employers will refuse to hire certain workers who have the necessary cognitive abilities, on grounds that have nothing to do with the ability to perform tasks called for on the job.

Validity of Employers' Responses

If the responses elicited in these surveys are to be accepted at face value, then there is no question that employers are more concerned with noncognitive than cognitive characteristics and that formal educational credentials are recognized, and the holders of credentials are rewarded, for the noncognitive traits schooling imparts. This does not

*Percentages are based on the 204 who responded to this question.

mean that grades, job related experiences, specific college courses, intelligence and other factors which could be interpreted as indicators of cognitive ability are not at all important. But they are clearly of secondary importance relative to such noncognitive traits as personality, ambition, motivation, ability to communicate and ability to get along with others.

There is reason to believe, however, that some of the factors which could be interpreted as indicators of cognitive abilities are actually valued for their noncognitive dimensions. For example an employer might prefer a business major over a liberal arts major because the former has the necessary training in the basic technical skills needed on the job which the latter does not have. But the business major might also be preferred because the selection of that major is recognized as a commitment to business values and the business community.[25] There is evidence, for example, that employers are more likely to hire liberal arts graduates coming from a university which does not have a business school than liberal arts graduates from a university which does have one. In the former case students did not have a choice but in the latter they did and their choice of liberal arts is frequently interpreted as a rejection of business values.[26] Having related work experience may also be valued as much, if not more so, for certain ideological commitments and behavioral attributes than for the technical training involved. When the Michigan State University Placement Services asked 220 recruiters, "Assuming that it is important to your organization that employees believe in the work ethnic, what method do you use to ascertain a candidate's attitude toward work?" 173 cited the general impression from the interview but the second and third most frequent answers were:

part-time work experience (116) and summer work experience (96). Work experience is valued, therefore, at least in part for what it indicates about the attitude of candidates. Grades are frequently given more on the basis of noncognitive than cognitive characteristics,[27] and it is conceivable that some of those employers who emphasize grades do so because of the noncognitive attributes which a high grade point average indicates. For these reasons, in other words, the employers' responses in these surveys may have understated the importance of noncognitive relative to cognitive attributes in their recruitment practices and in the value they attach to formal education.

There is another reason why these respondents might have understated the emphasis employers place on noncognitive characteristics. Because conventional wisdom maintains that educational requirements have increased due to changes in the technical skill requirements of work and because of pressure in recent years to justify educational requirements on job related grounds, some employers may have been reluctant to provide answers which did not reinforce conventional beliefs. As in almost any interviewing situation some of these respondents might have been inclined to offer what they considered to be more "socially acceptable" answers. Such restraints are less compelling in informal conversations, although they do not disappear completely, and the discussions I had with recruiters suggest that this is the case. Although the few brief discussions I had certainly do not reflect as broad a range of employers or employment practices as the surveys cited above, several of the comments offered are most informative, particularly when viewed in conjunction with the more formal studies.

The discussions I had with recruiters ranged from little more than two or three minute formal introductions to twenty-five or thirty minute conversations, one of which even resulted in a job offer! My primary objective in these meetings, however, was to obtain data on the firm's employees. (Those data were the basis of the fourth section of the previous chapter.) In those instances where time allowed I also asked the recruiters why they were looking for college graduates in those positions for which they were interviewing that week, and what specific desirable qualifications college graduates generally have which others do not. Many of the comments made were similar to the testimonials which have been quoted in the literature.

For example, the recruiter for the meat processor and soap manufacturer referred to in the previous chapter said college graduates were more productive retail sales representatives not because of the information learned in school but because of the social interaction skills developed in school. He said that the content of most courses is irrelevant to the outside world. According to this recruiter, college graduates have dealt with educated people, they are more able to converse with people and to cope with people, and they mingle better, all of which is important for salesmen. He also stated that a bachelor's degree was an important indicator of the kind of employees his company wanted because the degree indicated a tendency on the part of an individual to complete a program.

This recruiter informed me that the retail sales representatives constituted the group of people from which managers were selected. No managers were hired from the outside without spending some time, generally three years, as a retail sales representative. I asked what

the criteria were for becoming a manager and he told me the selection of managers was based strictly on merit, seniority had nothing to do with this decision. I asked him to specify what he meant by merit and he said the principle factor was productivity. I asked him to define productivity and he mentioned two factors; the right attitude and the ability to teach others to do the job. Then I asked him to describe the right attitude and he mentioned positive thinking, the ability to complete a job, and desire. I found this to be an interesting way of defining merit.

He also informed me that the decision to hire or not hire generally was made following the personal interview held at the company office. Campus interviews were just initial screening exercises. When I asked what the company looked for during the personal interview he mentioned the general attitude, appearance, if the person asked the right questions, how the person handled himself, and other similar attributes. I asked if grades were important and he said they were not. "Average grades might mean a person was out "cattin' around." That kind of personality is suitable for sales."

A representative of an insurance company said it was a "cardinal rule" to hire only college graduates for their sales force. The reason was simply that they relate better to the company's clientele. He related an incident where in 1974 a man without a college degree was hired but because of a downturn in the economy his particular clientele, blue-collar workers, could not afford to purchase insurance, so the company had to let him go. This representative said he would never again violate the "cardinal rule." I asked if nongraduates would be hired should the economy improve and he said no for two reasons. First

blue-collar workers would not necessarily alter their buying practices since they are more likely to live for today than to plan for the future. Second, even if blue-collar workers would start buying more insurance it would not be necessary to change their hiring practices since college graduates can relate to both blue-collar and white-collar workers. If one assumes that this representative had an accurate perception of the qualities needed to sell insurance and the contribution of formal education in training sales representatives, then the college degree requirement could be easily justified on job related grounds, but it is obvious that personality characteristics are most important and that the degree is valued for the noncognitive attributes college imparts.

Sales, of course, is only one of many occupations and it is only one of many for which a college education is required. Personality factors are more crucial in sales in terms of the intrinsic duties these workers perform on their jobs than in most if not all other jobs. A disproportionate number of the recruiters I spoke with were looking for sales representatives because, at the time, that was the type of worker a disproportionate number of recruiters were looking for at Michigan State University. One might expect recruiters to emphasize personality traits in regard to sales, but the same was also true when other jobs were discussed.

A representative of a cleaning products manufacturer emphasized maturity in reference to the value of college for sales, managerial, and other junior executive positions. I was told that a person gains a sense of maturity in college, and that college graduates are recruited because a person is more mature at the age of twenty-four than at the

age of eighteen. When I said almost everybody is more mature at twenty-four than they were at eighteen he concurred. When I suggested that college might actually stifle maturation he responded that, it could, but it did not have to be that way. And when I asked him if such practices might unjustifiably disqualify those without degrees or encourage some people to attend college who could spend their time more beneficially elsewhere if it were not for an overemphasis on credentials on the part of employers, he quipped, "if people had more philosophy and other college courses they would better understand why they could not find a job."

Engineering is one profession for which educational requirements would seem to almost certainly reflect the technical skill requirements of the job. Yet a recruiter for one office machine manufacturer (not the company referred to in the previous chapter) told me college graduates are recruited for engineering positions, not because of the specific knowledge learned in school, but for the social skills developed in school. Also, college graduates are recruited because they are considered to be more adaptable, better able to learn the various kinds of duties they will perform.

No widesweeping generalizations can be drawn about the occupational structure, or any segment of it, from the few conversations I had with recruiters. But their comments solidly support the findings of those studies which were based upon a larger segment of the work force and they suggest that the emphasis placed on noncognitive traits which those studies found may have been an underestimate of the extent to which those traits are actually stressed.

One statement in a Mobil Oil advertisement aimed at future

marketing representatives indicated what employers' attitudes are towards a college degree, perhaps better than any study possibly could. That statement was:

> You need a bachelor's degree to apply. We really don't care what it's in. Because the most important requirements are sales ability and motivation. And those are things you can't major in."[28]

Here Mobil is explicitly telling those without a degree that they are not employable as marketing representatives while at the same time admitting that there is no relationship between the content of formal education and the technical skill requirements of the job. No statement could better demonstrate the importance of a bachelor's degree, and the fact that it is valued because of noncognitive rather than the cognitive traits inculcated by schooling.

The fact that employers take noncognitive characteristics into consideration in their evaluations of potential new employees is no secret. Most jobseekers are at least aware of the fact that their personal appearance does influence an interviewer's evaluation of them. Some college students put on a coat and tie for the first time in their college career on the day of their first job interview. On occasion the apparel has to be borrowed from a friend. Most lists of the "dos" and "don'ts" of the interviewing procedure emphasize behavioral characteristics that reflect a candidate's acquisition of the noncognitive traits employers value.

In discussing what the interviewer is looking for, a 1975 Michigan State University Placement Manual placed the following words in bold type: appearance, manner, enthusiasm, how you handle yourself, self-

self-expression, self-confidence, ability to relate to others, motivation, interest span, personal values, career ambitions, well-adjusted, self-starters, self-motivators, not afraid to work.[29] Candidates are instructed to be on time and they are advised that "A neat business-like appearance is still a key factor in making a good first impression . . .Let basic good taste be your guide."[30] The negative factors candidates are warned to avoid are the following:

1. Dress and grooming not compatible with vocational standards.
2. Lack of planning for career - no purpose or goals - no interest in employer.
3. Lack of enthusiasm - passive, indifferent.
4. Lack of confidence and poise - no eye contact.
5. Lack of courtesy - ill mannered.
6. Lack of social understanding-radical ideas.* [31]
7. Lack of knowledge of field of specialization.

One could assume that candidates' resumes provide any necessary information concerning their technical training or cognitive abilities and that the only purpose of the interview, from the employers' perspectives, is to obtain information about candidates which cannot be provided in a written format, such as their noncognitive characteristics.**

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*The assumption that radical ideas are an indication of a lack of social understanding is certainly questionable if not, in fact, blatantly incorrect. If radical refers to unconventional thinking or ideas held only by a minority of people, this cannot be equated with an inaccurate interpretation of social life, even though the majority may believe that to be the case. If this rule is taken to mean that employers shy away from those who do not espouse traditional beliefs and who do not readily submit to "business as usual," which is reasonable to believe, this constitutes further support for the primacy of attitudinal and behavioral factors in employment selection practices.

**Keyser stated in his study that: "The extreme importance of the interview stems from the personnel manager's ability to observe the intrinsic abstract qualities of the applicant which cannot be conveyed through written communication." (page 65) Drake, Kaplan, and Stone's study also indicated that the value of the interview was to identify these kinds of traits.

Therefore, the emphasis placed on these factors in the interview would not indicate an overall emphasis on the noncognitive over the cognitive attributes of candidates. However, companies that send out recruiters to meet personally with candidates spend much more time and energy in doing so than would be involved if they merely requested that resumes be sent to their home offices. Obviously, whatever they learn in a personal interview must be more important to them than the information included in a written resume. Therefore, the emphasis placed on identifying noncognitive traits in the interviewing session is indicative of the overall emphasis on these traits in the entire selection process, not just in the interview.

I asked Frank Endicott if the Northwestern University Placement Office had conducted any studies to determine whether employers were more concerned with personality and other noncognitive traits or technical abilities and other cognitive skills. He wrote back:

> It seems to me that we have nailed this one to the wall. PERSONAL QUALITIES are most important in getting a job, in keeping a job, and in succeeding in it over a long period of time, with special reference to college graduates.

The Issue of Control

Recognizing the greater concern employers express for noncognitive over cognitive attributes raises what is perhaps an even more important question, one which is more difficult to answer. That question is, simply, why? The conventional interpretation cannot satisfactorily explain the consistent findings of the evidence reviewed here, since it would predict that employers would emphasize cognitive factors. The contention of the class perspective that concern with the problem of

social control, the legitimization of the social relations of production, has dictated the bureaucratization of work, the expansion of formal education, the growing emphasis placed on educational requirements and the emphasis on education because of its noncognitive components, is most consistent with these findings. And there is evidence other than employer testimonials which suggests that formal education is valued for the noncognitive traits it imparts and that the concern with social control is the reason why employers emphasize noncognitive attributes.

In a study of 100 employees of the Lockheed - California company who had graduated from a Los Angeles high school, had attended that school for at least two years, were employed by Lockheed within one year of graduation, and were employed for at least one year, Brenner obtained data on grade point averages, school and work absences, teachers' work habits and cooperation ratings and supervisors' ability, conduct, and production ratings. He found that teachers' ratings, grade point averages, and school absences were significantly related to supervisors' ratings.[32] The following table shows the intercorrelation of these variables.

Gintis, Bowles, and Meyer reanalyzed Brenner's data to determine the source of the correlation between grades and supervisors' ratings. As they stated, one possibility is thatgrades measure cognitive abilities and cognitive performance determines job performance. But when teachers' work habits and cooperation ratings and school absences were controlled, grades had no additional prediction value of job performance. Therefore, they concluded:

TABLE VI-2. INTERCORRELATION OF SCHOOL AND WORK PERFORMANCE VARIABLES

	1	2	3	4	5	6	7
1. School Absences		-.11	-.28	-.27	-.25	-.31	-.21
2. Three Year Grade Point Averages	-.11		-.78	.67	.36	.37	.34
3. Teachers' Work Habits Rating	-.28	.78		.85	.34	.44	.41
4. Teachers' Cooperation Ratings	-.27	.67	.85		.30	.45	.39
5. Supervisors' Ability Ratings	-.25	.36	.34	.30		.61	.72
6. Supervisors' Conduct Ratings	-.31	.37	.44	.45	.61		.73
7. Supervisors' Production Ratings	-.21	.34	.41	3.9	.72	.73	

Source: Data were taken from Brenner (page 30). A correlation of .20 is necessary for significance at the .05 level. A correlation of .26 is necessary for significance at the .01 level.

> . . .grades predict job adequacy only through their noncognitive component; and. . .the teachers' evaluations as to behavior in the classroom is strikingly similar to the supervisors' ratings as to behavior on the job.[33]

If rising educational requirements reflect employers' concerns for social control then educational requirements should be higher in those organizations which emphasize other indicators of social control. In his analysis of a 1967 survey of 309 organizations, drawn at random from all San Francisco bay area organizations employing 100 or more workers, Collins compared educational requirements with employers' reluctance to hire workers with police records and those who had held several previous jobs. The assumption here is that workers with police records and job-hoppers represent problems when it comes to exercising

control over employees. He found that educational requirements were positively related to a reluctance to hire such workers.[34] Several other factors including size and the occurrence of technological change were also positively related to educational requirements. Overall, however, organizational emphasis on social control was found to be the strongest determinant of educational requirements with size being a weaker determinant and technological change being the weakest of the three.[35]

Edwards took a different approach in his study of 455 Boston area workers who were employed in large organizations but he drew similar conclusions regarding employers' concerns for social control.[36] He argued that the bureaucratization of work reflects efforts to thwart class consciousness on the part of workers, and to maintain control over production. In order to maintain bureaucratic control workers must internalize certain work habits and attitudes which are supportive of the organization. Edwards identified three principle modes of compliance: rules orientation, an awareness of and sustained propensity to follow the rules; habits of predictability and dependability; and the internalization of the enterprise's goals and values. He obtained measures of behavioral traits reflecting these three modes of compliance and two measures of organizational incentives or rewards; supervisors' ratings and, for 340 workers, wages. Using multiple regression analysis he found a positive correlation between each of the three behavioral traits and the two organizational rewards. In five instances the relationship was statistically significant at the .001 level and in the sixth case the relationship was significant at the .02 level. When I.Q., sex, age, educational attainment, job history, and family background

were included in the equation, the relationships between the behavioral traits and the reward factors were basically unchanged. The behavioral traits accounted for 38 percent of the variance in supervisors' ratings and 20 percent of the differences in wages within each work group. Edwards also found a distinct pattern in terms of the kinds of behavioral traits which were most important at different levels in the occupational hierarchy. Rules orientation was most important at the lowest level. Dependability and reliability were most important at the middle levels, including maintenance, sales, and clerical positions, which were not mechanized or time paced to the extent that the lowest jobs were. Internalization of enterprise goals and values was most important at higher level professional and technical positions. Therefore, not only do these findings reinforce the overall emphasis on noncognitive traits, but they indicate that those traits which are most important and appropriate for maintaining control at each level in the hierarchy are those which are stressed at each level.

Conclusions

At least for the past thirty years employers have stated that they value formal education more for the noncognitive than for the cognitive abilities it imparts. If the attitudinal surveys are biased in any respect, it appears that such bias is in the direction of understating the primacy of noncognitive attributes. It comes as no surprise, therefore, to find evidence that employers reward their employees on the basis of noncognitive attributes and to find that it is the noncognitive component of formal education which appears to pay off. The evidence which is available concerning the kinds of attributes employers

look for in their employees and attach to formal education, refutes the conventional interpretation and firmly supports the class perspective of the role of education in the United States.

As indicated above, most observers agree that work has become increasingly bureaucratized. Few people would argue with this observation. The trend towards bureaucratization and the employer preferences described in this chapter are not isolated phenomena. They both reflect a concern for social control within specific organizations and in the class structure in general.

In any society where rewards are distributed unequally some method of legitimizing that inequality is required in order to maintain a stable social system.[37] The existence of bureaucratic structures facilitates the legitimization process in the United States. Functions of bureaucratic organizations are carried out according to formal rules, seemingly dictated by rational considerations like the demands of efficiency, rather than by the personal whims of individuals. Individuals assume roles in an organization on the basis of seemingly objective indicators of ability, like educational background, and they are rewarded on the basis of what appear to be universal criteria of merit. People receive different rewards but the reward system is viewed as objective and fair. What is frequently forgotten, however, is that it is the dominant classes who make the rules and who determine the criteria that are rewarded, and they do so in their own interests, not in the interests of society as a whole. This does not mean that every decision or action directly benefits the dominant classes at the expense of others. Many reforms have been implemented in American history, but, as the class perspective contends, the thrust of such reforms has been to stabilize

a basically exploitative social system. Formal education, for example, is one of the criteria on the basis of which rewards are distributed and it is no coincidence that children of wealthy parents get more and better education than children of poor parents. In other words, many of the seemingly objective characteristics of bureaucracies are not so objective in that there are frequently important subjective and ascriptive dimensions to them and, as a result, they serve the interests of certain classes more adequately than others. As Katz stated, the structure and function of organizations are closely linked. He used the Boston school system to illustrate a principle that certainly has much wider applicability when he argued that the structure of bureaucracy evolved in order to facilitate the processing of children into social statuses commensurate with that of their parents.[38]

In order for this function to be effectively carried out within the bureaucratic form of organization on a societal level, that is for the legitimization of the social relations of production to be successful, participants must be socialized in such a way that they will support that system. Employers need, for examples, assembly line workers who are committed to following formal rules, sales and clerical workers who can be depended upon to perform their appointed duties, and executives who are committed to the goals and values of the organization and the system within which it operates. The following two statements, made over a century apart, point out the long held attitude of employers regarding the value of formal education. In 1841 a cotton manufacturer wrote to Horace Mann:

> I have never considered mere knowledge. . .as the only advantage derived from a good Common school education

> . . .[Workers with more education possess] a higher and better state of morals, are more orderly and respectful in their deportment, and more ready to comply with the wholesome and necessary regulations of an establishment. . .In times of agitation, on account of some change in regulations or wages, I have always looked to the most moral for support. The ignorant and uneducated I have generally found the most turbulent and troublesome, acting under the impulse of excited passion and jealousy.[39]

And more than 100 years later the President and Chairman of the Board of the American Canning Company stated:

> An investment in higher education is an investment in the self-interests of the corporations. The colleges and universities of the nation are producing the young men and women who will fill the corporate vacancies. Obviously, an investment in young people assures business a supply of chemists, engineers, statisticians, business managers, marketing experts and technicians. Second, businessmen who are committed as the protectors and defenders of the American system of economics know that an educated people will protect and defend the free system of economic enterprise which they value.[40]

If social control, as it has been described above, is a central concern of employers, one would expect that they would emphasize the noncognitive attributes of workers in their selection practices. The evidence reviewed in this chapter indicates that this is the case. As Yavitz and Stanback concluded in their study of electronic data processing firms in New York:

> Some firms, admittedly, relish their ability to state that 'all our employees are high-school graduates,' as an indication of status or prestige. The great majority, however, view the diploma as a certification of responsibility, motivation, and reliability. . .'Sure, we can find out quickly if a girl can really punch cards. But will she come in every Monday? Will she stay after 5 o'clock when we're pushed for overtime? Will she drift to another job after three weeks?' These are the kinds of questions that are repeatedly raised by employers.[41]

As indicated in the previous chapter, the rising educational requirements of jobs cannot be explained in terms of the technical skill requirements of jobs. It is not surprising to learn, therefore, that employers are not primarily concerned with the cognitive abilities of their employees. The expressed concern on the part of employers for the noncognitive attributes of their employees, particularly those attributes that are conducive to cooperative relationships within a bureaucratic organization, more adequately explains the growing emphasis on formal education. In addition, the findings of the last two chapters suggest that people are rewarded on the basis of their educational attainment not because of any absolute value attached to a given level of attainment, but because of their relative position in the labor queue signified, in part, by the years of schooling they have completed and the degrees they have earned. In other words, employers reward those with more schooling because they are assumed to have more of the qualities employers are looking for, not because a particular level of schooling is essential for performing on a given job. The value employers attach to formal education can be summed up in a statement made over twenty years ago by a group of business executives:

> . . .industry places a high value on the college degree, not because it is convinced that the four years of schooling insure that individuals acquire maturity and technical competence, but rather because it provides an initial starting point of division between those more trained and those less trained; those better motivated and those less motivated; those with more social experience and those with less.[42]

Such selection practices certainly raise questions about the presumed role of schooling as an equalizing mechanism, which is the subject of the following chapter.

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CHAPTER VII

EDUCATION AND ECONOMIC EQUALITY

A principle justification for the expansion of formal education has been to create greater economic equality and/or equality of opportunity. The assumption, of course, is that as formal education expands more people will have greater educational opportunities and those opportunities will become more equally distributed. Greater educational equality, in turn, will lead to greater economic equality. At the same time poverty will be reduced, greater upward social mobility will result, and progress will be made towards solving a host of other domestic social problems. As indicated in the third chapter, schools are often credited with having contributed toward the achievement of such objectives in the past and they are looked upon as the mechanism for furthering that progress in the future by many people.

Achieving greater equality, at least among different races, has generally been an expressed objective of policy makers in recent years as indicated by the proliferation of government programs and civil rights activity, much of which has focused on education. The focus of this chapter is on the relationship between the distribution of educational resources and the distribution of income, wealth, occupational prestige poverty, and unemployment.* The basic question, as stated in the first

*Some observers have questioned the wisdom of the pursuit of greater equality as an objective of social policy.[1] The issue to be addressed here, however, is not the merits and demerits of equality but the effectiveness of education in creating greater equality.

chapter is: Has formal education performed the democratizing function with which it has been credited? More specifically, has the expansion of formal education led to greater economic equality? For the reasons cited in the first chapter the thrust of this examination will be on what has occurred since World War II, particularly regarding black/white* and male/female differences.

Educational Equality

The distribution of educational resources and the extent to which they have or have not become more equally distributed will be measured in terms of years of educational attainment and degrees earned. To be sure, these are not ideal measures of the distribution of educational resources or changes in terms of equality or equality of opportunity. There are differences in the quality of education offered by different institutions. A degree at one point in time might represent a different kind and different quality of education than it does at another time. Some people, undoubtedly, choose not to pursue a degree even though they have every opportunity and all the ability required to do so. Defining, measuring, and explaining educational quality, equality and equality of opportunity have proven to be most difficult tasks with which educational sociologists have wrestled for a long time, but particularly since the publication of the Coleman Report.[3] There is much

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*Most of the racial data will be presented in terms of differences between non-whites and whites rather than between blacks and whites. The principal reason for this breakdown is that most government publications report data in this manner, particularly for the 1940s and 1950s. Since blacks constitute over 88 percent of the non-white population and since the discrimination suffered by blacks and other non-whites is similar in many respects, the purposes of this inquiry can be better served by utilizing non-white/white comparisons rather than black/white comparisons.

debate as to whether equal results or equal opportunities should be the appropriate objectives. No consensus has been achieved on what the principle causes of educational inequalities are, in terms of either results or opportunities. And there is no unanimously agreed upon indicator of how inequalities have changed over time, which makes it difficult to measure progress towards any goals in this area. While the number of years spent in school and the number of degrees earned do not constitute perfect measures of the distribution of educational resources, other measures have as many, if not more difficulties, particularly in terms of trying to determine changes in the degree of educational inequality over time.

The issues of quality and equality of education have been approached from several different directions. Organizational characteristics of schools such as total or per student expenditures, facilities (laboratories, libraries, textbooks, etc.), curriculum, characteristics of the teachers, the availability of counselors, psychologists and other specialists, the authority structure of the institutions and others, have been emphasized by some researchers.[4] In recent years, however, it has been argued that contextual factors like the socio-economic background of the student and other students in the classroom explain more of the variance in educational achievement than organizational factors.[5] Closely related to the social context of school is the social climate of school. Attitudes and expectations and perceptions of attitudes and expectations on the part of students, parents, and teachers also significantly influence the quality and equality of education.[6] These contextual and climatic variables, and the interaction of all the factors which influence the quality and, therefore, the

equality of education indicate how difficult it is to determine the causes of educational inequality and to select measures of that inequality.

All of these factors, and more, should be investigated in order to develop as full an understanding as possible of the complexities of educational inequality. However, in order to determine how the extent of educational inequality has changed on a national level over any length of time by analyzing changes in most of these variables, the amount of data which would be required would be prohibitive. Some of the data, particularly the social psychological data, would be impossible to obtain. Years of schooling and degrees earned, however, are readily available for the population as a whole and for such segments of the population as racial minorities and women. While this kind of information may not indicate why changes have occurred, it provides a convenient yardstick by which to measure those changes.

In addition, when employers use education as a criterion for selecting people for various slots in their work force, they generally focus on years of schooling and degrees to make their decisions. In certain cases employers will use the prestige or perceived quality of the schools which candidates attend in their hiring decisions.[7] But generally it is the level of educational attainment which is of primary importance in determining the kinds of job opportunities a person will have. A Harvard law school graduate may have a better chance to secure a position with a Wall Street law firm than a graduate from Ohio State University, but a graduate from any law school is likely to find a job as a lawyer whereas there is virtually no such opportunity for a person without the law degree. The first objective of this chapter, therefore,

is to examine changes in the relative educational attainment of various segments of the U.S. population in terms of years of school completed and degrees earned.

As indicated in the second chapter each generation of Americans has spent more time in school than its predecessor. People are attending school for a greater number of years and they are earning more and higher educational credentials. However, in the last forty years the proportion of people finishing elementary and secondary school has increased faster than the proportion entering college or graduate school. The educational floor has been rising faster than the educational ceiling, therefore, the number of years of schooling completed has become increasingly more equal. According to Jencks,et. al., the coefficient of variation in the number of school years completed consistently declined from .42 for all individuals born between 1895 and 1904 to .23 for those born between 1940 and 1944. In other words, the inequality in the number of school years completed has been reduced 45 percent in that period of time.[8]

The overall trend towards equalization holds within and between most segments of the population. For example, among adult white males the gap between the most and least educated declined between the years of 1950 and 1970. When divided into fifths and ranked in terms of each group's percentage share of the total number of years of educational attainment of all adult white males, the equalization can be shown as in the table on the following page.

Perhaps more significant, however, are the changes which have occurred between whites and non-whites. The median number of school years completed by whites 25 years of age and older steadily increased

	Percent Share of Years of Educational Attainment	
	1950	1970
Lowest Fifth	8.6	10.7
Second Fifth	16.4	16.4
Middle Fifth	19.0	21.3
Fourth Fifth	24.9	22.3
Highest Fifth	31.1	29.3[9]

from 9.7 in 1950 to 12.3 in 1972. For nonwhites the increase was from 6.9 to 10.5. The ratio of nonwhite/white median school years completed, therefore, rose from .71 to .85. For whites between the ages of 25 and 29 the median number of school years completed rose from 12.2 to 12.7 while for nonwhites the increase was from 8.7 to 12.4. The nonwhite/white ratio went from .71 to .98.

The percentage of whites 25 years of age and older who completed four or more years of high school increased from 35.5 to 60.4 during these years compared to 13.4 and 39.1 for nonwhites. The nonwhite/white ratio increased from .38 to .65. For whites between the ages of 25 and 29 the percentage with four or more years of high school increased from 55.2 to 81.5 compared to 23.4 and 66.6 for nonwhites. The nonwhite/white ratio, therefore, changed from .42 to .82.

The same pattern obtains when college education is examined. The percentage of whites 25 years of age and older with four or more years of college increased from 6.4 to 12.6 compared to 2.2 and 6.9 for nonwhites. The ratio increased from .34 to .55. For those between the ages of 25 and 29, the percentage of whites with four or more years of college rose from 8.1 to 19.9 compared to 2.8 and 11.6 for nonwhites. The ratio, therefore, went from .34 to .58.[10]

In terms of the years of schooling completed and the percentages

of whites and nonwhites with high school diplomas and college degrees, there has been a clear trend towards an equalization in education between whites and nonwhites.* The declining college enrollment rates of 18-24 year old whites in the early 1970s and the increasing enrollment rates of nonwhites suggest that racial differences will continue to narrow in the near future.[11]

Changes in the differences in educational attainment between men and women do not follow as consistent a trend . The median number of years of schooling completed by male workers 18 years old and over has increased from 10.6 in 1952 to 12.4 in 1970 compared to 12.0 and 12.4 for women. The female/male ratio, therefore, declined from 1.13 to 1.00. The percentage with four or more years of college changed from 8.3 to 14.2 for men and from 7.7 to 10.7 for women. The female/male ratio, therefore, dropped from .93 to .75.[12] While men have caught up with and surpassed women in the last three decades, it appears that this trend reversed itself in the late 1960s and early 1970s. The white female/male ratio of the percentage of those between the ages of 25 and 34 who completed four years of college or more increased from .53 in 1960 to .59 in 1970 and to .69 in 1973. The black female/male ratio of the percentage of those between the ages of 25 and 34 who completed four years of college or more change from .98 in 1960 to 1.10 in 1970 and to .86 in 1974.[13] Women in general, however, have made some progress in recent years.

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*Attending an institution for four years is not synonymous with graduation. But even if a higher percentage of nonwhites completed four years of high school or college and did not receive a diploma, it is still safe to assume that these figures do reflect a trend in the direction of greater equality in terms of the percentages of whites and nonwhites who are earning degrees.

Equality in education, by almost any definition, is still a long way from being a reality in American society. Even if we achieved absolute equality in terms of years of school completed and degrees earned, an objective of dubious value, in and of itself that would still not result in equal education. A high school diploma or a college degree can represent widely divergent and frequently highly unequal educational experiences for different people who have earned the same diploma. For example, high school graduates who were placed in the vocational track and those who were in a college preparatory track both end up with a high school diploma, but the latter group is generally better able to capitalize on the credential than is the former. For this reason, differences between the education of whites and nonwhites, for example, are suppressed by focusing on school years completed.[14] In a similar manner a college degree frequently has greater value for a man than for a woman. Among college graduates, women are over-represented in such fields as home economics, education, social work, and nursing and they are underrepresented in such fields as engineering, law, and medicine. A college degree, therefore, leads to lower paying jobs for women than for men.[15] However, despite the different meanings which are attached to similar levels of educational credentials, the trend towards greater equality in years of school completed and degrees earned within groups and between various groups does indicate that the distribution of educational resources has been moving in the direction of greater equality. The next question, therefore, is whether or not economic resources have also been distributed on a similarly more equal basis.

Economic Equality

According to the conventional perspective the trend towards an equalization in education should have been translated into more equal distributions of income and wealth. The increasing educational attainment of the population should also have resulted in a decrease in the nation's unemployment rate as workers accumulated greater amounts of human capital. The class perspective would predict that an equalization of education would not significantly alter the distributions of income or wealth. The rate of unemployment would also not necessarily be altered according to the latter perspective. An examination of what has occurred since World War II shows that, once again, the class analysis more adequately explains social reality.

Income

One of the most telling facts about the American social structure is that the distribution of income has remained virtually unchanged since the end of World War II. Table VII-1 shows that when families are ranked according to their annual incomes, the percentage of the total national income going to families in each fifth and to the top five percent in the income distribution has been constant since 1947.

Studies based on other sources of data have yielded the same pattern, for the post World War II era and throughout most of this century.[16] For example, Kolko found that the percentage of the before tax personal income received by the top fifth was 46.2 in 1910 and 44.7 in 1959. Comparable figures for the bottom fifth were 8.3 and 4.0.[17] He also found that the after tax income distribution between the years of 1947 and 1955 was substantially the same as the before tax income

TABLE VII-1. PERCENTAGE OF TOTAL FAMILY INCOME RECEIVED BY EACH FIFTH AND BY TOP FIVE PERCENT OF FAMILIES, SELECTED YEARS BETWEEN 1947 AND 1974

Families	Year				
	1947	1955	1969	1972	1974
Lowest Fifth	5.1	4.8	5.6	5.4	5.4
Second Fifth	11.8	12.2	12.3	11.9	12.0
Middle Fifth	16.7	17.7	17.7	17.5	17.6
Fourth Fifth	23.2	23.4	23.7	23.9	24.1
Highest Fifth	43.3	41.8	40.6	41.4	41.0
Top 5 Percent	17.5	16.8	15.6	15.9	15.3

Sources: Statistical Abstract of the United States 1974, Bureau of the Census, U.S. Department of Commerce (Washington,D.C.: U.S. Government Printing Office, 1974), No. 619, p. 384. "Money Income and Poverty Status of Families and Persons in the United States: 1974," Current Population Reports, Series P-60, No. 99, Bureau of the Census, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1974), Table 4, p. 8.

distribution. Taxes reduced the percentage going to the highest tenth by two or three precent while the percentage going to the bottom tenth remained unchanged.[18]

While the income distribution has remained virtually unchanged, the absolute income gaps have increased. For example, the mean family income of families in the highest fifth was $13,955 in 1944 (1971 constant dollars) compared to $1,616 in the lowest fifth, a gap of $12,339. In 1971 the mean family income in the highest fifth was $24,559 compared to $3,247 in the lowest fifth, a gap of $21,312.[19] Therefore, the difference between the mean income of the top and bottom fifths increased by $8,973. Families in the top fifth had, on the average, $10,604 more

dollars to spend in 1971 than they had in 1947 while those in the bottom fifth had only $1,631 more in 1971. In other words, while the income distribution remained the same, those at the top have had many more additional dollars to spend each year than those at the bottom have had. Therefore, the perpetuation of that distribution masks what has in fact been a growing inequality in the amount of income accruing to various sectors of the population. In addition, if one assumes that a given increment of additional income represents a greater improvement in the life of a poor family than it does for a wealthy family (i.e., an additional $1,000 would make a greater difference to a family earning $4,000 annually than to a family earning $25,000) then the inequality of recent trends is further suppressed by the constancy of the income distribution.

When the family is the unit of analysis, it is clear that no substantial equalization in the distribution of income has occurred. But people are educated individually, not in family units. Therefore, an analysis of the distribution of individual incomes would allow for a more precise understanding of the effects of education on income. If the individual is the unit of analysis, the conventional perspective is further weakened. Among white males, for example, the income distribution moved in the direction of greater inequality between the years of 1949 and 1969 despite the fact that, as indicated in the previous section, the educational attainment of this group became more equal during these years. The percentage of the total adult white male income received by each fifth of this group changed in the following way:

	Percent Share of Total Adult White Male Income	
	1949	1969
Lowest Fifth	3.2	2.6
Second Fifth	10.9	9.4
Middle Fifth	17.5	16.7
Fourth Fifth	23.7	25.0
Highest Fifth	44.8	46.3

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The income distributions among white females, black males, and black females have also become more unequal since World War II, as indicated in the following table.

TABLE VII-2. DISTRIBUTION OF INCOME FOR WHITE FEMALES, BLACK MALES, AND BLACK FEMALES, 1949-1969

	1949	1969
White Females	100%	100%
Lowest Fifth	6.4	3.0
Second Fifth	6.4	6.8
Middle Fifth	15.1	14.0
Fourth Fifth	24.0	25.1
Highest Fifth	48.1	51.1
Black Males	100%	100%
Lowest Fifth	6.5	3.0
Second Fifth	7.1	9.0
Middle Fifth	19.4	17.3
Fourth Fifth	26.0	26.4
Highest Fifth	41.1	44.3
Black Females	100%	100%
Lowest Fifth	11.0	3.6
Second Fifth	11.0	7.4
Middle Fifth	11.0	14.3
Fourth Fifth	20.7	25.2
Highest Fifth	46.3	49.6

Source: Leonard Berkey, "The Internal Colonial Model of Race Relations in the United States: An Empirical Test" Unpublished M.A. Thesis, Michigan State University, 1974 p. 24. Berkey's calculations were based on data provided in, U.S. Bureau of the Census, Census of Population: 1950, P-C1, Table 138; Census of Population 1960, PC(1)-1C, Table 97; Census of Population 1970, PC(1)-C1, Table 84; Current Population Reports, Series P-60, No. 87, Table 5, 1973.

The Gini coefficients of income inequality increased between these years for each group as follows:

	1949	1969
White Males	.43	.45
White Females	.44	.49
Black Males	.37	.42
Black Females	.35	.47

[21]

Although much is said about the nation's supposed major effort to redistribute income since World War II, the fact of the matter is that no such redistribution has taken place.

Wealth

Much less is known about the distribution of wealth, primarily because that information is more difficult to come by. Two things are clear, however. First wealth is more highly concentrated in the hands of a few people than is income. The distribution of wealth and income in 1962 is shown in Table VII-3. Families are grouped into fifths and ranked in terms of the amount of wealth owned and income earned by each fifth as a percentage of total wealth and income.

Second, it is clear that wealth has become more highly concentrated among the top wealth holders in recent years. In his study of wealth holders Lampman found that the percentage of total personal wealth held by the top wealth holders decreased between 1922 and World War II, but has increased since then. Table VII-4 illustrates this trend.

Precisely comparable data for years after 1956 are not available but similar data collected since that time indicate that wealth has not become more equally distributed. In 1962 Projector and Weiss found

TABLE VII-3. DISTRIBUTION OF WEALTH AND INCOME, 1962

Fifths of Families	Percent of Total Wealth	Percent of Total Income
Lowest Fifth	.2	5.1
Second Fifth	2.1	12.0
Middle Fifth	6.2	17.5
Fourth Fifth	15.5	23.7
Highest Fifth	76.0	41.7

Source: Social Indicators 1973, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1973) Table 5/15 "Distribution of Wealth: 1962," p. 182 and Table 5/10 "Mean Family Income Received by Each Fifth of Families: 1947-1971," p. 179.

TABLE VII-4. SHARE OF PERSONAL WEALTH HELD BY TOP WEALTH HOLDERS, SELECTED YEARS 1922 TO 1956

Year	Top 1% of Adults	Top .5% of All Persons
1922	31.6	29.8
1929	36.3	32.4
1933	28.3	25.2
1939	30.6	28.0
1945	23.3	20.9
1949	20.8	19.3
1953	24.2	22.7
1956	26.0	25.0

Source: Robert J. Lampman, The Share of Top Wealth-Holders in National Wealth 1922-1956. (Princeton: Princeton University Press, 1962) p. 24.

that the top .34 percent of all consumer units owned 22 percent of the nation's total wealth and 1.2 percent of consumer units owned 35 percent.[22] An interpolation of those figures based on the curves calculated by Lampman indicate that the top 1 percent of consumer units owned at least 32 percent of total wealth.[23] James D. Smith, one of the leading authorities on the current distribution of wealth, estimated that as of 1972 the top 1 percent of adults owned at least 25 percent of all personal property and financial assets. This compares, according to Smith, to 28 percent in 1962.[24] So while the concentration of wealth may be less today than it was in the early 1960s, as in the case of income it does not appear that there has been any significant trend towards an equalization of wealth since World War II.

Unemployment

If the inability to secure gainful employment is a function of an individual's lack of the technical skills required in our modern industrialized society, and if more education is the key to putting the unemployed back to work, as the conventional perspective maintains, then the nation's unemployment rate should gradually decline as the level of educational attainment increases. But while the educational attainment of the work force has increased substantially in recent years, the unemployment rate has not steadily declined. In fact, as indicated in Chapter V, it has gradually increased since 1947. While the annual average unemployment rate has fluctuated and has dipped below the 1947 rate eight times since then, the general tendency has been for unemployment to increase.[25] In addition, long term unemployment (those out of work for fifteen weeks or more) as a percentage

of total unemployment has fluctuated in recent years but since 1969 it has also shown a slight tendency to increase. Since 1963 this figure has changed in the following manner:

Year	Long Term Unemployment as Percent of Unemployment
1963	26.1
1965	21.8
1967	15.1
1969	13.2
1971	23.6
1973	18.8
1975 (first 6 months)	30.7[26]

Some of those who are out of work are voluntarily unemployed. However, job leavers have accounted for approximately 15 percent of the unemployed since 1967 while 35 percent to 55 percent of the unemployed have been job losers, and this figure has been rising steadily since 1969. The remaining unemployed consist of new entrants or re-entrants into the labor force.[27] In other words, unemployment has been increasing, the unemployed have been out of work for longer periods of time, and it is people who are seeking work who have inflated the unemployment rate rather than those who have voluntarily become unemployed.*

While formal education has expanded and educational attainment has become more equal throughout the population of the United States since World War II, the distribution of income has remained basically

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*This analysis is based on the Labor Department's official unemployment rate. If discouraged workers and underemployed workers were added to these figures, the overall employment picture would be even bleaker.[28]

unchanged, the distribution of wealth has become more highly concentrated at the top, and unemployment has increased. These findings are in direct contradiction with what the conventional perspective would predict and they are entirely consistent with what the class viewpoint contends. They seriously challenge the conventional assumptions that education has performed an equalizing role in the past and that it is an appropriate vehicle for achieving greater equality in the future. It could be argued that education has been an equalizing force but one which is not strong enough to counteract those mechanisms in society which generate inequalities. Therefore, income, wealth, etc. would be more unequally distributed if it were not for the counterbalancing effects of formal education. If this is true, and achieving greater economic equality is assumed to be a desirable objective, it only serves to point out the ineffectiveness of education in creating greater economic equality and the need to identify and deal with those mechanisms which account for the persistence of existing inequalities.

Many observers argue, however, that economic inequality, on a societal level, is not a problem or an injustice which should be dealt with. Indeed, such inequality is considered to be functional for the maintenance of any social system and beneficial for the individual participants.[29] Inequalities in general should not be tampered with, except perhaps in cases where serious deprivation results or where an individual due to age, physical handicap or some other factor beyond the individual's control, cannot provide for himself or herself. Inequalities in opportunities which result from discrimination based on considerations other than some objective criteria of merit, like racial

discrimination, are, however, considered to be unjustifiable by such theorists. The elimination of these forms of inequality is considered to be a desirable objective. Social policies should be implemented so that individuals who suffer from these kinds of injustices can have an equal opportunity to compete. A key to equal economic opportunity, according to this perspective, is equal educational opportunity. The next section will examine how effectively the trend towards greater educational equality between whites and nonwhites has been translated into economic equality.

Racial Economic Equality

Whether or not the trend towards greater educational equality between whites and nonwhites has been translated into greater economic equality cannot be answered with a simple "yes" or "no." Changes in some measures of economic disparities between the majority and minority populations suggest that great strides have been made in the direction of greater equality while others would suggest that no progress at all has been made towards this end. And while some dimensions of economic inequality can be measured fairly accurately, isolating the component of such change which can be accounted for by formal education is not nearly as easy.

Occupation

An important, if not the most important, determinant of an individual's economic status is his or her job. Shifts in the occupational distribution of whites and nonwhites among the nine major occupational classifications, as determined by the Census Bureau, indicate that not

only have nonwhites moved up the occupational scale, but they have also improved their status relative to whites. Table VII-5 shows how the percentages of whites and nonwhites in these nine major occupational classifications have changed since 1958.

Nonwhites have been catching up with whites at the upper end of the occupational structure, particularly in professional and technical occupations where the nonwhite/white ratio of the percentage of each group employed in this capacity increased from .35 in 1958 to .69 in 1973. The percentage of nonwhites in managerial and sales positions has also moved closer to the percentage of whites, although the extent of this change could not be interpreted as substantial progress by any means. The nonwhite/white ratio for managerial workers increased from .20 to .37 and the comparable change for sales workers was from .17 to .33. In addition, the percentage of nonwhites in positions at the lower end of the occupational structure has declined, and at a more rapid pace than that of whites. In general, therefore, not only have nonwhites improved their occupational status absolutely, but relative to whites there has also been some improvement.

Income

There are important distinctions within these broad occupational classifications. For example, nonwhite sales workers may be concentrated in the lower paid retail sales jobs while whites may still hold a disproportionate number of the higher paid sales positions. However, it appears that nonwhites have improved their occupational status relative to whites, and these changes are reflected in the rising nonwhite/white family income ratio.

TABLE VII-5: Distribution of White and Nonwhite Workers by Occupational Classification, Selected Years 1958-1973

Year	Professional & Technical			Managers & Administrators			Sales			Clerical			Craft & Kindred			Operatives			Non-farm Laborers			Service Workers			Farm Workers		
	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W	W	NW	NW/W
1958	11.8	4.1	.35	11.7	2.4	.20	6.9	1.2	.17	15.4	6.1	.40	14.3	5.9	.41	17.9	20.1	1.12	4.5	14.7	3.27	9.5	33.0	3.47	8.0	12.5	1.56
1963	12.9	6.1	.47	11.7	2.7	.23	6.6	1.7	.26	16.1	7.3	.45	13.9	6.6	.47	18.1	20.6	1.14	4.1	12.8	3.12	10.4	32.8	3.15	6.1	9.5	1.56
1968	14.3	7.8	.54	11.1	2.8	.25	6.6	1.9	.29	17.5	11.8	.67	13.8	8.0	.58	17.7	23.6	1.33	4.0	10.7	2.67	10.4	28.3	2.72	4.5	4.9	1.09
1970	14.8	9.1	.61	11.4	3.5	.31	6.7	2.1	.31	18.0	13.2	.73	13.5	8.2	.61	17.0	23.7	1.39	4.1	10.3	2.51	10.7	26.0	2.43	4.0	3.9	.97
1973	14.4	9.9	.69	11.0	4.1	.37	6.9	2.3	.33	17.5	14.9	.85	13.9	8.9	.64	16.3	16.9	1.04	4.6	9.7	2.11	11.7	25.3	2.16	3.7	2.8	.76

Source: Manpower Report of the President, 1974, U.S. Department of Labor (Washington, D.C.: U.S. Government Printing Office, 1974) Table A-12, p. 269.

Since 1947 the median nonwhite family income as a percentage of the median white family income has changed in the following way:

Year	Ratio of Nonwhite/White Median Family Income
1947	.54
1955	.55
1960	.55
1965	.55
1970	.64
1971	.63
1972	.62
1973	.60
1974	.62[30]

Again, however, while the ratio has been moving in the direction of greater equality, the absolute income difference between these two groups has been getting larger. In 1947 the median white family income was $5,714 (1971 constant dollars) compared to $2,930 for nonwhites, a gap of $2,784. Comparable figures in 1971 were $10,672, $6,714, and $3,958. The gap between the median family income of whites and nonwhites increased, therefore, by $1,174. In other words, white families had $4,958 more dollars in 1971 than in 1947 compared to $3,784 additional dollars for nonwhites.[31] Nonwhite families, therefore, have been falling further behind whites since 1947. In addition, since a greater proportion of wives in nonwhite families work, income inequality is further suppressed by focusing on family income. When the income of unrelated individuals is the unit of analysis, the nonwhite/white ratio has declined. This ratio dropped from .71 in 1947 to .58 in 1960, then rose to .73 in 1965 and declined again to .67 in 1971.[32] Much

has been made in recent years of the rising black middle class,[33] but the facts do not support prevailing beliefs about the supposed equalization of the races, at least in terms of income.

The occupational gains which have been made by some nonwhites, however, cannot be totally ignored. But what these gains reflect can be more accurately described as a trend towards polarization within the nonwhite community rather than as a movement towards a general equalization among various racial groups. The elites in the minority population have made some progress in recent years, but minorities continue to be burdened with the disproportionate share of unemployment and poverty they have long endured.

For example, among men 25 years of age and older, black income increased during the 1960s faster than did white income. But while the black/white median income rose from .54 in 1959 to .60 in 1972, an increase of 11 percent, the black/white median income ratio among those men with four years of college increased from .63 to .74, an increase of 17.5 percent. And while the income of black males increased faster than the income of white males within all but the clerical occupational category, the largest increase was among managers where the ratio of the medians increased 37 percent, from .53 to .73.[34] For years better educated blacks fared worse relative to their white counterparts than did the lesser educated.[35] Therefore, much of the progress made by the black educated elite could be attributed to the fact that they had the longest way to go.

Unemployment

At the other end of the occupational structure, the unemployed, nonwhites have traditionally suffered approximately twice as much

unemployment as whites, and this has not changed in recent years. In 1948 the nonwhite/white unemployment ratio was 1.69[36] and by the middle of 1975 it reached 1.77.[37] Among the unemployed, nonwhites constitute a disproportionate share of those who are unemployed for fifteen weeks or more, and this gap has changed little in recent years. Since 1963 about one out of five long term unemployed workers has been nonwhite.[38] In terms of the official unemployment rate, therefore, the relative status of nonwhites has not changed.

Year	Official Unemployment Rate			Percent Nonwhite of Those Unemployed for 15 Weeks or More
	White	Nonwhite	Nonwhite/ White	
1948	3.5	5.9	1.69	---
1955	3.9	8.7	2.23	---
1960	4.9	10.2	2.08	---
1963	5.0	10.8	2.16	26.0
1968	3.2	6.7	2.09	20.7
1970	4.5	8.2	1.82	18.7
1973	4.3	8.9	2.07	22.9
1975 (2nd Qtr.)	8.0	14.2	1.77	19.5

Source: Manpower Report of the President 1974, U.S. Department of Labor (Washington, D.C., U.S. Government Printing Office, 1974). Table A-22, p. 280. Quarterly Economic Report on the Black Worker, National Urban League Research Department (Washington, D.C.: National Urban League, 1975) Tables 1 and 4, p. 5, 6.

The official unemployment rate, of course, does not provide a completely accurate picture of the pervasiveness of unemployment. If discouraged workers and part-time workers seeking full-time work are added to the official rates, unemployment is more severe, and the

discrepancy between whites and nonwhites is even greater. Whereas the nonwhite/white unemployment ratio, according to the official rates, was 1.77 in the second quarter of 1975, when these latter two groups are included, the ratio rises to 1.83.[39] In addition, among those not working, whites are more frequently voluntarily unemployed. In the first quarter of 1975 91.3 percent of the whites not in the labor force did not want a job at that time while 8.0 percent did. For nonwhites the comparable figures were 82.3 percent and 17.2 percent.[40]

Unemployment is particularly acute among young workers and the nonwhite/white discrepancy is greater for the young. For example, the unemployment rate among workers between the ages of 20 and 24 has generally been twice the national unemployment rate. For males between the ages of 20 and 24 the nonwhite/white unemployment ratio increased from 1.83 in 1948 to 1.94 in 1973. Comparable figures for women were 2.43 and 2.51.[41] More critical, however, is the increasing unemployment among teenagers and the gap between nonwhite and white teenagers which has increased rapidly in recent years. The unemployment rate for nonwhites between the ages of 16 and 19 was 27.2 in 1964 compared to 14.8 for whites. In 1974 the nonwhite teenagers unemployment rate rose to 32.9 while for whites this figure dropped to 14.0. The nonwhite/white teenage unemployment ratio therefore jumped from 1.8 to 2.4 in ten years.[42] Again, if previous job experience contributes to a person's ability to secure gainful employment, the rising teenage unemployment rate, particularly among nonwhites, coupled with the rising college enrollment rates among nonwhites suggests that the minority population will become further polarized in the future.

Poverty

Closely linked to the problem of unemployment is the problem of poverty. A brief examination of America's poor people provides further evidence that the gains some minorities have made in employment reflect a polarization within the minority community rather than an equalization between whites and nonwhites.

Michael Harrington may have awakened the nation to the existence of poverty in the United States in the early 1960s,[43] and the Great Society programs may be responsible for reducing the percentage of people in poverty in half between 1959 and 1974.[44] Despite this progress, however, the proportion of nonwhites among the nation's poor has increased during these years. In 1959 18.1 percent of all whites and 56.2 percent of all nonwhites lived in low income families. By 1974 only 8.9 percent of all whites and 29.5 percent of all nonwhites were officially defined as poor. The ratio of the percentage of nonwhites to whites living in poverty, however, increased from 3.10 to 3.31.[45] Recognizing that the official poverty line was set so low that it excludes from the official ranks of the poor many families who in fact live in poverty, the Census Bureau has also calculated the percentage of people living on incomes between 100 percent and 125 percent of the official poverty level. Again, nonwhites have constituted an increasingly disproportionate share of this group since 1959.[46] (See Table VII-7.) So while some nonwhites have improved their economic status relative to whites, in recent years the poor, like the unemployed, have been comprised of an increasingly nonwhite population.

While the elites of the nonwhite population have made some progress

TABLE VII-7. PERSONS BELOW THE LOW INCOME LEVEL AND BETWEEN 100 PERCENT AND 125 PERCENT OF THE LOW INCOME LEVEL, BY RACE: SELECTED YEARS 1959-1974

Year	Nonwhite/White Ratio of Percent of Persons Below the Low Income Level	Nonwhite/White Ratio of Percent of Persons Between 100 Percent - 125 Percent of Low Income Level
1959	3.10	1.23
1965	3.54	1.66
1969	3.26	2.44
1970	3.23	2.11
1971	3.12	2.13
1972	3.54	1.95
1974	3.31	2.32*

*This 2.32 figure is based on the percentage of black persons living at this income level while the remaining figures are based on all nonwhite persons. While this ratio would be slightly smaller if all nonwhites were included, the difference would not be great. For example, the 1974 ratio of nonwhites to whites below the low income level is 3.31 compared to the black/white ratio of 3.52.

Sources: "Money Income and Poverty Status of Families and Persons in the United States: 1974," Current Population Reports, Series P-60 No. 99, Bureau of the Census, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1974) Table 15, p. 18. Statistical Abstract of the United States 1974, Bureau of the Census, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1974) No. 633, p. 390.

relative to whites, there is little evidence of such progress at the top of the corporate structure in the United States. Ownership of productive assets, which is practically synonymous with power in the United States, remains almost entirely in the hands of white America. As of 1966 blacks owned just 1.9 percent of the following assets: money in banks, government bonds, stocks, farm equity, business equity, and equity in homes.[47] In 1973 the two largest black owned businesses, Motown Records and Johnson Publishing Company, did not even appear on Fortune magazine's list of the 1,000 largest industrial companies in the United States. In fact, the 1,000th company with $80.4 million in sales that year had more than the combined total of Motown ($46.0 million) and Johnson ($27.8 million).[48] Only 3.9 percent of nonwhite income came from self-employment while just 2.1 percent resulted from property ownership in 1971. The ratio of nonwhite per capita income to per capita income of the total population accruing from self-employment was .31 and for property income the ratio was .17.[49] Thus the American power structure, as indicated by capital ownership, remains virtually all white.

The Role of Education

Anyone who watches television, visits the urban affairs department of any large corporation, or observes a local, state, or federal unit of government is likely to see some nonwhite faces which would not have been visible a few years ago. As indicated earlier, since the end of World War II the nonwhite/white family income ratio has increased, although it has been on the decline in the 1970s, and the ratio of nonwhite/white individual income also increased during the 1960s before

dropping again in the 1970s. Meanwhile, the educational attainment of nonwhites and whites has consistently moved in the direction of greater equality during these years. But to what extent has education contributed to the intermittent success that at least some nonwhites have had? One thing which is clear is that much more progress has been made in equalizing educational attainment than in equalizing income, as shown in Table VII-8.

While better educated minorities have long earned more money and held better jobs than lesser educated minorities, what little progress has periodically occurred regarding the status of nonwhites relative to whites can be accounted for by a combination of factors, education being a minor one at best.

Internal migration is one major factor which explains the improvement in black male income relative to whites during the 1950s and 1960s. Between 1949 and 1969 the black/white male income ratio increased from 52.5 to 60.1.[50] During these years there was a substantial migration of blacks from the South to other parts of the country, where wages have traditionally been higher. In 1950, 68 percent of the nation's blacks lived in the South compared to 53 percent who lived in that region in 1970.[51] As Table VII-9 shows, except in the South, the relative status of black males has changed little within regions. Therefore, much of the improvement in the relative status of black males is due to movements from a low wage region to higher paid regions rather than from any reduction of discrimination.

Another contributing factor to the improved occupational status of minorities has been the wave of civil rights legislation passed since

TABLE VII-8. RATIOS OF NONWHITE/WHITE FAMILY INCOME AND MEDIAN YEARS OF SCHOOL COMPLETED, SELECTED YEARS, 1950-1974

Year	Family Income Ratio	Ratio of Median Number of School Years Completed (25 Years of Age and Older)
1950	.54	.71
1960	.55	.76
1970	.64	.83
1972	.62	.85
1974	.62	.89

Year	Ratio of % Completing 4 or More Years of High School (25 Years of Age and Older)	Ratio of % Completing 4 or More Years of College (25 Years of Age and Older)
1950	.38	.34
1960	.50	.43
1970	.63	.53
1972	.65	.55
1974	.70	.57

Sources: The Social and Economic Status of the Black Population in the United States, Bureau of the Census, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1974) Table 9, p. 25. Digest of Educational Statistics, 1974, U.S. Department of Health, Education, and Welfare, Office of Education (Washington, D.C.: U.S. Government Printing Office, 1974) Table 14, p. 14.

TABLE VII-9. RATIO OF BLACK/WHITE MALE INCOME BY REGION, SELECTED YEARS, 1949-1969

Region	Year		
	1949	1959	1969
North East	74.7%	71.9%	75.3%
North Central	81.2%	76.6%	79.8%
West	73.6%	71.1%	71.9%
South	50.0%	46.7%	55.8%
U.S.	52.5%	53.0%	60.1%

Source: David H. Swinton and Julian Ellison, Aggregate Personal Income of the Black Population in the U.S.A. 1947-1980 (New York: Black Economic Research Center, 1973) p. 45.

1964.[52] Despite the inadequacies of the federal government's enforcement effort,[53] some opportunities have undoubtedly opened up for minorities as a result of this legislation and the litigation which has followed. In 1964 fewer than one out of five black workers was in a white collar occupation compared to approximately one out of three in 1974. Among blue collar workers there was significant progress in terms of the number who left the ranks of unskilled laborers and became skilled craftsmen and operatives. And the decline in the proportion of nonwhites in service occupations accelerated after 1964.[54]

Formal education has undoubtedly contributed to the upward mobility of some minorities. But in general the payoff for a given level of educational attainment remains greater for whites than for nonwhites, even when the quality of education is controlled.[55] Since a disproportionately large number of nonwhites are poor, if education is to contribute to the elimination of poverty and is to perform an equalizing role, then it is the poor and particularly the nonwhite poor who need educational

benefits the most. But in a study of twelve urban ghettos Harrison found that whites on the average earn twice as much for each year of school completed as nonwhites. The weekly wage of white high school graduates was $25 higher than that of whites who never entered high school while the comparable difference for nonwhites was $8.33. In other words, the payoff of a high school diploma was three times greater for whites than for nonwhites.[56] Those nonwhites who have been able to reach the upper end of the occupational structure apparently have needed more education than whites in order to do so. The median number of school years completed by nonwhite professionals and managers in 1959 was 15.1 compared to 13.4 for whites. Comparable figures for 1973 were 16.2 and 15.5.[57] While it is difficult to pinpoint the effect of formal education on racial inequality, all things considered it appears that it has been given far more credit than it deserves in terms of reducing that inequality.

The economic welfare of minorities has improved since World War II. More are in high skilled jobs and fewer are in low skilled jobs. They earn more money and fewer live in poverty. But the same is true, if not more so, for whites. The position of minorities relative to the majority population has not substantially changed. While some of the nonwhite educated elites have been better able to capitalize on their education, both absolutely and relatively, than were their counterparts of a few years ago, this appears to be more indicative of a polarization within the minority community rather than an equalization between whites and nonwhites.

One factor which partially explains the economic position of minorities is that they are more dependent on their female members for their income than are whites. More minority families are headed by women and more minority wives are forced to work in order to make ends meet.[58] As in the case of minorities, education is frequently cited to be a key to improving the economic opportunities of women. The following section will examine how effectively women have been able to capitalize on their education and how the general economic status of women relative to men has changed in recent years.

Sexual Economic Equality

The women's movement in America can be traced at least as far back as 1650 and Ann Hutchinson[59] with perhaps the first large scale organizing occurring at the Women's Rights Convention in Seneca Falls, New York in 1848.[60] The development of the movement, however, has been quite uneven in that there have been periods of intense activity and other times when the feminist struggle was, for all practical purposes, nonexistent. For example, the 1950s, a period of relatively little feminist activity, was followed by a strong resurgence of the movement beginning in the early 1960s and continuing up to the present time.[61] And during the 1960s women began to regain some of the ground they gradually lost over a number of years to men in terms of the relative levels of educational attainment. The focus of this section will be, therefore, on changes in the economic status of women which occurred during the 1960s and 1970s.

In recent years women have become more active participants in the United States economy. More women are working, they constitute an increasing proportion of the labor force, and more families are dependent

on the income earned by their female members. If ever there was a time when women worked just to bring a few extra dollars into the family and were marginal to the nation's productivity, the work performed by women can certainly no longer be characterized in this manner. This is particularly true for racial minorities.

The percentage of all women 16 years of age and older in the labor force, increased from 37.8 percent in 1960 to 44.7 percent in 1973.[62] For nonwhite women the labor force participation rate increased from 48.2 percent to 49.1 percent.[63] Women constituted 32.3 percent of the labor force in 1960 and 38.0 percent in 1973.[64] These figures reflect an increase in the labor force participation rates of young married women as well as single women and older married women returning to work. While less than 30 percent of married women between the ages of 25 and 34 years of age were working in 1963, over 40 percent were employed in 1973.[65]

More women have assumed the role of the breadwinner. In 1965 9.0 percent of all white families and 23.7 percent of all nonwhite families were headed by women. By 1975 these figures reached 10.5 percent and 35.3 percent.[66] There are many married women, with a working husband present in the family, who are forced to work because of economic necessity. In 1968, 30 percent of all working women had husbands whose incomes were between $3,000 and $7,000 at a time when the official poverty level for an urban family of four was $6,567. In addition, 23 percent were single and 17 percent were widowed, divorced, or separated from their husbands. In other words, at least 70 percent of the working women were earning money that was essential

in order to provide themselves and their families with the basic necessities of life.[67] In addition, working wives contributed approximately 25 percent of the total income of families earning more than $7,000. For families in the $10,000-$15,000 range, working wives contributed 28 percent of the total family income.[68]

Clearly women work for the same reason men do; they need the money. As Gloria Steinem pointed out, "More women than men may be working out of that motive, since the jobs open to women are far less likely to offer a sense of accomplishment, respect in society, or other rewards."[69] More women are working today and they are working in order to provide the necessities, not just the luxuries, of life. The question which arises is to what extent the educational gains made by women, and the resurgence of the women's movement in the 1960s, and their increasing participation in the economy have been translated into greater economic equality between the sexes.

Occupation

The occupational status of women, in terms of the nine major census classifications, has improved throughout this century and that improvement has continued through the 1960s and 1970s.[70] But relative to men their position has declined. The female/male ratio of the percentage of each group entering professional and technical occupations has steadily decreased, although at a slower rate in recent years. This ratio was 2.4 in 1900, 1.69 in 1950, 1.14 in 1960 and 1.07 in 1973. At the same time, women have accounted for an increasing proportion of clerical workers. This ratio has risen during these years as follows: 1.43 in 1900, 4.34 in 1950, 4.21 in 1969, and 5.20 in 1973.[71] Table VII-10 shows

TABLE VII-10: Distribution of Male and Female Workers by Occupational Classification, Selected Years 1960-1973

Year	Professional & Technical			Managers & Administrators			Sales			Clerical			Craft & Kindred			Operatives			Non-farm Laborers			Service Workers			Farm Workers		
	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M	M	F	F/M
1960	10.9	12.4	1.14	13.6	5.0	.37	5.8	7.7	1.33	7.2	30.3	4.21	19.0	1.0	.05	19.6	15.2	.76	7.9	0.4	.05	6.5	23.7	3.66	9.6	4.4	.46
1970	14.0	14.5	1.04	14.2	4.5	.32	5.6	7.0	1.25	7.1	34.5	4.86	20.1	1.1	.05	19.6	14.5	.74	7.3	0.5	.07	6.7	21.7	3.24	5.3	1.8	.34
1973	13.6	14.5	1.07	13.6	4.9	.36	6.1	6.9	1.13	6.6	34.3	5.20	20.8	1.4	.07	18.8	13.8	.73	7.7	0.9	.12	7.9	21.6	2.73	4.8	1.6	.33

Source: Manpower Report of the President, 1974, U.S. Department of Labor (Washington, D.C.: U.S. Government Printing Office, 1974) Table A-11, p. 268.

how the distribution of male and female workers changed between 1960 and 1973.

Minority women, however, have made some progress relative to white women. For example, the female nonwhite/white ratio of the percentages of each group in professional occupations has increased from .57 in 1964 to .80 in 1974 while the ratio in service occupations has declined from 2.95 to 1.95 during these years.[72]

The seeming parity of the proportion of men and women in professional occupations suppresses important inequalities within that occupational group. Men predominate in the higher paid professions while women are more likely to be found in the lower paid areas. For example, in 1970 95 percent of the lawyers and judges, 91 percent of the physicians and 98 percent of the engineers were men. On the other hand, 70 percent of all teachers (except college and university), 59 percent of all social and recreation workers and 81 percent of all librarians were women.[73] Comparable figures for 1960 indicates that little change has occurred in the distribution of men and women within professional occupations. In 1960, 96 percent of the lawyers and judges, 93 percent of the physicians and 98 percent of the engineers were men while 72 percent of all teachers, 63 percent of all social and recreation workers, and 85 percent of all librarians were women.[74] Considering the fact that women comprised a larger proportion of the labor force in the early 1970s than they did in 1960, the barriers women have faced were even stronger than these figures indicate.

It is possible that the educational gains made by women in the 1960s and the recent revival of feminist activity in general will favorably influence the relative occupational status of women in the middle

and late 1970s. Perhaps a more complete analysis of specific occupations would uncover significant progress which this brief examination has not detected. However, it is safe to conclude that women have not made the progress relative to men that nonwhites in general have made relative to whites. In fact, it appears that if the position of women, in terms of their occupational status relative to men, has changed at all it has changed for the worse.

Income

While the Equal Pay Act of 1963 requires employers to provide equal pay for men and women doing similar work, the income gap between men and women has increased since that time. Among year-round, full-time workers, the median income of women was 63.9 percent of the male median in 1955, 59.6 percent in 1963, and 57.2 percent in 1974.[75] As Table VII-11 indicates, the income of women either dropped further behind or remained practically the same relative to men in every occupational category and educational level during the 1960s. These data suggest that even if every woman was a professional worker or had five or more years of college, they would still have earned less than three dollars for every five earned by men in 1960, and the same would have been true ten years later.

Black women have been catching up with white women. The black/white median income ratio increased from .61 to .84 between 1959 and 1969 and then again to .91 in 1972.[76] However, the income gap between men and women in general was not reduced at all in the 1960s nor has it been reduced in the 1970s.

TABLE VII-11. MEDIAN INCOME OF FEMALE WORKERS AS A PERCENTAGE OF MALE INCOME BY OCCUPATION AND BY EDUCATION: 1960 AND 1970

Occupation (14 years of age and older)	1960	1970
Professional and technical workers	57.8%	57.7%
Managers and Administrators	45.2%	48.9%
Sales Workers	30.2%	27.4%
Clerical Workers	62.3%	58.3%
Operatives	55.6%	55.4%
Service Workers (except private household)	47.9%	45.6%
Education (25 years of age and older)		
High school - 4 years	40.1%	38.7%
College - 1 - 3 years	40.3%	37.7%
College - 4 years	45.0%	44.1%
College - 5 or more years	58.5%	58.7%

Source: Statistical Abstract of the United States 1972, Bureau of the Census, U.S. Department of Commerce (Washington, D.C.: U.S. Government Printing Office, 1972) No. 536, p. 328. Pamely Roby, "Women and American Higher Education," The Annals of the American Academy of Political and Social Science, November, 1972, p. 132.

Unemployment

Unemployment trends in recent years further indicate that the economic status of women, relative to men, has not improved. The ratio of the female/male unemployment rate has increased from 1.09 in 1960 to 1.34 in 1970 and 1.40 in 1974.[77] Women have constituted an increasing proportion of those unemployed for fifteen weeks or more. Of those workers unemployed for this length of time 34.3 percent were women in 1963 compared to 40.8 percent in 1973.[78] The higher unemployment rates of women can be explained in part by the fact that women are more likely to leave work in order to tend to household duties. While some observers might view this as voluntary unemployment, it is highly questionable

that women who feel coerced into returning to the home would take this position.[79] But the increasing participation of women in the labor force suggests that, if anything, more women want to work and that the growing discrepancy between the male and female unemployment rates is not a function of voluntary unemployment on the part of women.

The unemployment rate of nonwhite women relative to white women has not changed significantly since 1960. The ratio of female nonwhite/white unemployment rates was 1.77 in 1960, 1.72 in 1970 and 1.75 in 1974.[80] Among the long term unemployed the relative position of nonwhite and white women has also changed little with whites accounting for approximately three times the number of nonwhites in this group each year since 1963.[81] While the status of black women relative to white women has not deteriorated, in terms of unemployment rates, women in general have fallen further behind men.

Poverty

Another way to view the economic disparities between men and women is to compare the economic status of families headed by men with those headed by women. If sex discrimination is viewed in these terms, then women are falling much further behind men than individual comparisons suggest, and the consequences of sex discrimination affect a more diverse segment of the population than just the female members. When a family's economic status is hindered by sex discrimination the children, both male and female, and other male members of the family suffer. Often it is not just a matter of a few dollars of income that is lost each year. Female headed families are much more likely to be in poverty, and this likelihood has increased in recent years. The situation is particularly

acute for racial minorities.

While the percentage of families headed by women has increased in recent years, the median income of such families has declined relative to families headed by men. The median income of female headed families as a percentage of male headed families was 50.7 in 1960, 48.6 in 1970 and 44.7 in 1973.[82] The female headed/male headed ratio of the percentages of each family type living on income below the low income level was 2.38 in 1959, 4.59 in 1970 and 5.80 in 1974.[83] As indicated earlier, the percentage of black families headed by women has increased much faster than that of white families. The median income of such black families has been approximately 62 percent of what comparable white families have earned since 1967,[84] and the percentage of female headed black families in poverty has been around twice as high as whites since 1959.[85] The constancy of the relative economic status of black and white female headed families coupled with the greater increase in black families headed by women indicate how the combination of sexism and racism have contributed to the inequalities between blacks and whites in general.

Between 1970 and 1973 the percentage of children under 18 years of age living in families headed by women increased from 10.2 to 13.0. For black families the increase was from 31.4 percent to 39.0 percent. In 1972 the percentage of children living in poverty was 14.2. In families headed by men 8.3 percent of the children lived in poverty compared to 53.9 percent of the children in female headed families. But in black families headed by men 23.6 percent of the children lived in poverty compared to 71.2 percent of those in female headed families.[86] If the socio-economic background of an individual effects his or her life

chances, then it is clear that sex discrimination effects those chances of many males as well as females. Children brought up in families headed by females generally are disadvantaged and they are much more likely to be brought up under poverty conditions. The growing number of female headed families, and of children brought up in them, and the declining relative economic status of those families portend greater inequality in the future. Again, the situation is particularly bleak for racial minorities.

Sex discrimination does not effect just a few middle-class women who are marginal to the economy or who want to work in order to bring a few extra dollars into the family. While women are still concentrated in positions which have traditionally been "women's" jobs, they have become increasingly vital to the economic productivity of the United States. At least 70 percent of the working women earn money which provides the basic necessities of life for themselves and their families. Sex discrimination limits not only the life chances of many women, it also effects the opportunities of men who are brought up in families which are dependent on the earnings of their female members, families which comprise an increasing proportion of all family units in the United States.

Women do earn more money today. More women are working in higher status jobs today than in previous years. Fewer women live in poverty. But as in the case of racial minorities, while there has been absolute improvement in the economic status of women, little progress has been made relative to the dominant group in American society. Nonwhite women

have made some progress relative to white women, but for women in general if there has been any change in their economic status relative to men, it has been for the worse.

Conclusion

Since World War II, and particularly during the 1960s, formal education has expanded substantially in almost every industrialized country. This is true for both communist and non-communist countries. In the United States and in most of the other industrialized nations, formal educational attainment has become more equal, although important class distinctions still remain. Despite these trends, economic inequality has remained largely unaffected.[87] The United States is not alone in its failure to translate greater educational equality into greater economic equality.

In the United States not only has the distribution of income remained constant while the distribution of wealth has been increasingly concentrated at the top for the population in general, but the economic status of minority groups relative to the majority has remained basically unchanged. A more detailed examination of specific occupations, industries, age groups or geographic regions might reveal pockets of progress which have not been uncovered here, but it is doubtful that the overall trend described above would be controverted. In fact, the closer one looks the greater the discrepancies appear to be. For example, while greater proportions of women have moved into professional positions in recent years, women made virtually no progress in gaining greater access to the higher paid professions such as law, medicine, or engineering during the 1960s. The unemployment rate for young nonwhites, particularly

teenagers, has increased at a much faster rate than that of young whites, even though it is the younger nonwhites who have made the greatest educational gains relative to whites. And while the income of black males increased relative to white males during the 1950s and 1960s, there was little change within specific geographic locations.

The trends described in this chapter are in direct contradiction with what the conventional perspective would predict. This does not mean that formal education, alone, was or is expected to eliminate racial discrimination and economic inequality in general, or that absolute economic equality has ever been a conscious social policy objective. But the increasing investment made in formal education and the efforts made to create a more equal distribution of educational resources should have resulted in a more distinct trend towards economic equality than has occurred if the conventional perspective accurately reflected social reality.

Perhaps one could argue that technological advance has accelerated in recent years and that the educational upgrading which has taken place has been insufficient to keep pace. What is needed, therefore, is more education and continued pressure to further equalize educational opportunities. But as the findings of Chapters V and VI indicated, this is not the case. If anything the educational attainment of the population has surpassed the level which technological changes have required. Jobs are not left unfilled because of a lack of trained manpower. In fact, many workers are unable to find jobs for which they are fully qualified, in part because others who are relatively better educated though not necessarily better qualified, have taken them. Underemployment and a shortage of jobs for which many unemployed workers are qualified appear

to be the problems rather than shortages of adequately skilled workers and surpluses of untrained workers. The emphasis employers place on noncognitive attributes and their use of educational credentials to sort and select people for various slots within their organization on the basis of the relative educational attainment of workers rather than on the basis of an absolute level of education deemed necessary for the technical skill requirements of jobs, provide further evidence that technology and education are not linked in the manner portrayed by the conventional perspective. In light of these findings, it is not surprising to find that the expansion and equalization of formal education have not been translated into greater economic equality.

The conventional perspective in general, and human capital theory in particular, are clearly inadequate frameworks for understanding the linkages between education and the occupational structure, and for explaining economic inequality in our society. The class perspective, which focuses on structural rather than individualistic explanations for the distribution of rewards is supported by these findings and appears to provide a much more satisfactory framework for understanding the relationship between education and jobs and for understanding inequality in the United States.

If greater economic equality is a socially desirable objective, how is it to be achieved? Obviously, this is a highly complex question which no individual or group of high powered politicians or generously funded social scientists have been able to answer. In the following concluding chapter, however, some general guidelines will be discussed, in light of the major conclusions of this study, for moving in the direction of greater economic equality.

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CHAPTER VIII

THE CHALLENGE UPHELD

The objective of the foregoing examination has been to assess two predominate competing perspectives of the role of education, the linkages between education and the occupational structure, and the nature of social stratification in the United States. The central tenets of each perspective and the crucial points on which they diverge have been evaluated in this analysis by focusing on three specific questions. The evidence which has been brought to bear on the issues represented by these questions, both individually and as a group, provides the basis for some closure on these issues and for some broad guidelines regarding future action in these areas.

Interpretation of Major Findings

One of the most firmly ingrained beliefs in the American Weltanschauung is that technological change and the ensuing upgrading of job skills have dictated the need for an expanding formal education apparatus. If the validity of this belief is not accepted for its face value, then the correlation between unemployment and low levels of education is offered as final proof. Yet when the technology, job skill, education nexus is placed under closer scrutiny, the conventional wisdom is not sustained. As the findings in Chapter V indicated, almost any line of inquiry into this issue reveals that technological changes cannot account for the extent to which education has grown.

While the nature of jobs has changed over time, in large part because of technology, it can no longer be assumed that the change has been in terms of a universal upgrading of skills required on jobs throughout the occupational structure. About all that can be assumed is the phenomenon of change itself, sometimes resulting in a downgrading and sometimes in an upgrading of skill requirements. Where technological change has resulted in the need to retrain workers, such retraining has usually taken a few weeks or perhaps a few months and it has generally been conducted on the job. Rarely has it been necessary for workers to obtain extended amounts of retraining, in schools or in company training programs. While new jobs requiring high levels of technical skills, and extended years of formal schooling, have been created, this has mistakenly been interpreted as evidence that an increasing percentage of jobs throughout the occupational structure have been similarly effected. Except in the extreme minority of jobs requiring such skills and education, in those cases where some objective measure of performance has been established and the relationship between performance and education has been examined, no clear-cut pattern has emerged. The fact that older workers have less education than younger workers in every occupational category and that frequently the veterans have less than what is currently required of new entrants, indicate that the function of increasing requirements is more to sort and select among candidates on the basis of their relative educational attainment and to restrict access to jobs rather than to insure that candidates are technically qualified. Despite the increasing amount of time people are staying in school, when it comes to learning job skills formal education is not a major factor, and frequently it is irrelevant.

The technological justification for the expansion of formal education is further challenged by the attitudes employers express concerning the kinds of characteristics they seek in employees and the contribution of formal education in developing these characteristics, and in the behavior of employers in terms of the kinds of characteristics they reward. As the findings of Chapter VI indicated, since at least the 1940s employers have shown greater concern for the noncognitive rather than the cognitive attributes of workers, particularly for the better paid, higher status positions in which the educational requirements are the highest. In addition, many employers openly admit that educational requirements are frequently adjusted to the available supply of workers with a given level of educational attainment, independently of any determination of an absolute amount of education needed to perform the duties called for on the job. Such requirements are often established purely for the purpose of limiting the number of candidates who will be considered for certain jobs. Efficiency in the selection process rather than technical capabilities of workers is, therefore, assured by using educational attainment in this manner.

In light of these conditions, it is not surprising to find that the expansion of education has not had the democratizing or equalizing effect which the conventional perspective asserts. As indicated in Chapter VII, formal educational attainment has become more equal since World War II among the population in general and between minority and majority groups, but this has not been translated into greater economic equality. The distribution of income has remained intact while wealth has become more concentrated at the top. The economic conditions of minority groups have improved absolutely but little change has occurred in terms of the status

of nonwhites or women relative to the dominant groups in American society.

If better educated people are rewarded on the basis that they are relatively better educated rather than because such education has tangibly contributed to their ability to perform a productive, socially desirable function, and if other lesser educated but technically qualified people receive fewer rewards (i.e. receive lower wages or are unemployed) purely because of their lower relative educational attainment, then that distributive pattern cannot be explained in terms of the proficiencies or deficiencies of individuals. The correlation between one's education and the rewards one receives, such as income, cannot be explained in terms of technical abilities of individuals if education is not rewarded for the technical abilities it imparts. In other words, since technology, education, and inequality are not linked in the manner asserted by the conventional perspective, its meritocratic underpinnings do not hold up. To understand inequality in American society, therefore, one must focus on the system which generates patterns of differential rewards rather than on the characteristics of individuals who function within that system.

The Centrality of Class

The principle problem with the conventional perspective in general, and with human capital theory in particular, is a failure to recognize the centrality of class. The basic system defining institutions of capitalism, the private ownership of wealth producing assets (the means of production), the operation of those assets for the profit of the owners, and the ensuing hierarchical division of labor which emerges, are either ignored or treated as unalterable givens, rather than as unique and, in

terms of the history of mankind, fairly new sets of social relationships deserving of critical analysis. As indicated earlier, American capitalism is erroneously treated as being synonymous with industrialization rather than as one form of it. Therefore, the inequalities generated by a system in which the surplus wealth is accumulated by those individuals who own the productive resources, the class antagonisms which are inherent in that system and the ideological functions of the hierarchical division of labor are not considered. Educating people, increasing their productivity, or somehow otherwise altering the characteristics of individuals essentially represent marginal alterations within a larger social, economic, and political framework. The conception of a free market in which individuals openly compete for resources on the basis of their marginal productivity is misleading in and of itself and it ignores the dynamic process of the history of capitalist development along with the influence of that economic development in shaping the social and political fabric of society.[1]

The challenge to the conventional viewpoint, particularly the radical component, recognizes the centrality of class in American society. The primary determinants of the distributive process are more accurately understood, from this viewpoint, as being rooted in the class structure of the United States. The findings of this study certainly make more sense when interpreted within this latter framework. By recognizing that a capitalistic system gives rise to a class structure in which different classes interact in a set of exploitative relationships, and that conflict and inequality are inherent in such a system, then it is clear that some mechanism must be created to provide an ideological justification for such relationships in order to maintain

the stability of that system. Social control under such conditions, is perpetually problematic. Given this set of circumstances the emphasis employers place on the noncognitive attributes of workers, the use of education credentials as a sorting device to allocate workers among hierarchical (unequal) job opportunities, the lack of a relationship between technological change and education, and the general expansion of education can all be better understood.

Formal education, of course, has been a key to substantial upward mobility for many individuals. Differences in the characteristics of individuals like educational attainment, technical skills, personality attributes, etc. may well explain why certain people have obtained access to good jobs and high salaries while others have not. But such differences cannot account for the systemwide perpetuation of inequality. Mobility on the part of some should not be interpreted as a change in the distributive process itself or the distributive patterns which emerge. And as Bottomore has cogently argued, a circulation of elites or a competition of so-called representative elites cannot be equated with democracy.[2] A society can be characterized by both high rates of social mobility and a clearly defined class structure. Indeed such mobility is one factor which sustains that structure. From this perspective, it is conceivable that racism and sexism could be eliminated while the basic structure of the class system remains intact.

Formal education is not exogenous to the larger society in the United States. Educators may be among the most sensitive, concerned, well intentioned people. But despite the intentions of those involved in the American educational enterprise, its effect has been largely to reinforce the economic, political, and social structure of society including the inequality inherent in our society.

Policy Implications

The fourth question to be examined in this study has, in large part, already been answered. That question is: In light of the answers to the first three questions, to what extent can educational reform contribute to the creation of greater economic equality in the future? Again, the objective of this study is not to assess the merits or demerits of equality or inequality. One of the objectives is, however, to evaluate the effectiveness of certain strategies in creating greater economic equality. As indicated immediately above, strategies aimed at altering the characteristics of individuals within society are marginalist approaches to consequences or manifestations of processes and patterns which are rooted more deeply in the structural or institutional framework of society. Attempts to alter processes and patterns, which class structural factors dictate, by educating or somehow otherwise changing the characteristics of the individuals subject to these larger forces are not likely to succeed.

The Failure of Equality of Opportunity

One reason why education has been viewed as a key to achieving greater economic equality is the belief that through education people can be provided the training necessary to develop their abilities in order to be able to compete in a free market which rewards people on the basis of objective criteria of merit rather than on the basis of ascribed characteristics. Education, in other words, is the key to the notion of equality of opportunity. By creating equality of opportunity, it is believed that greater economic equality will result because modern industrialized societies reward people on the basis of what they can do rather than on the basis of who they are. What advocates of equal

opportunity fail to recognize is that inequality is rooted in the class or occupational structure itself, and that there are important subjective dimensions imbedded within the social relations of production which influence the distribution of rewards. The concept of equal opportunity also presupposes the existence or inequality. As long as inequality exists, the more privileged members of society will be able to provide greater opportunities to their offspring because of the skills, resources, contacts, etc. they have access to as individuals and as part of the upper class. In other words, it is difficult to conceive of equal opportunity becoming a reality in an unequal society. And even if some method could be devised for giving all people equal opportunity in a highly stratified society, like the United States, such equal opportunity to compete for unequal rewards would at best randomize inequality. In and of itself equal opportunity cannot be translated into equal results.

As indicated above, individual characteristics may well explain why some people rather than others are rich or poor. But they cannot explain why a system generates a constant distributive pattern year in and year out. The constancy of the income distribution in the United States since World War II can only be understood in systemic, not in individualistic terms. Providing low income people with more education might raise their position in the labor queue relative to others, but it will not alter the larger distributive pattern. As indicated in the previous chapters, what generally has happened when lesser educated, low income people receive more education, is that the educational level of the population in general rises, leaving them in the same relative position. While the educational floor has been rising faster than the educational ceiling, and educational attainment has become more

equal, such expansion and equalization have not been translated into greater economic equality.

The strategy of equalizing opportunities, the heart of the liberal reform policy of the 1960s, failed to generate greater equality, therefore, because the assumptions on which it was built were incorrect. Such strategies are no more likely to succeed in the future. For example, as Farley pointed out, even if the incomes of black families were to improve relative to whites at the rate they were progressing in the 1960s, it would not be until the year 2000 that equality would be achieved. And since the growth rate of the 1960s has not carried over into the 1970s, it will take even longer.[3]

Is Greater Equality Possible?

In order to create greater economic equality, attention must be focused on the class structure itself, particularly the hierarchical division of labor which constitutes an important ideological support mechanism for that structure. Inequality must be dealt with by direct intervention into the differential rewards which accrue to various positions within the occupational structure and into the economic system which generates the distributive patterns. In recent years it has not been just the radical critics of capitalism who have argued that attempts to equalize education or to create equal opportunity by some other means must be augmented by more direct attacks on the structural roots of inequality.[4] Equalizing educational opportunities is a desirable policy objective but it is an inadequate approach to creating greater economic equality.

For decades the prosperity of the United States, and the optimism

for improving the lives of all classes and for creating greater equality have been based on the expansion and the expectations of future expansion of the economy.[5] Yet that expansion has not been accompanied by an equalization of the rewards available in American society, again because expansion alone does not alter the structural determinants of inequality.[6] If such an equalization is to occur, it appears that redistribution of the existing pie rather than an expansion of the total pie in hopes that greater equality will somehow follow, must occur. Essentially this means reallocating the wealth which private individuals accumulate as a result of their ownership of productive resources. This could be done through some genuinely progressive income tax, by redistributing (socializing) ownership of wealth producing assets, or simply by direct confiscation. The issue of equalization, in other words, is not tactical but political. There are ways to create greater economic equality. The problem is that none are politically feasible at the moment, particularly for those who own the largest share of resources.

Socialism, at least as an idea and occasionally in actual practice, is one alternative to the present system which has long been proposed. But there are strong barriers to the establishment of socialism in the United States. In addition to the power of those who have an economic interest in perpetuating existing relationships, there is strong opposition from other segments of society. Tampering with the market mechanism is still perceived as a threat to cherished individual freedoms by many Americans from all walks of life, even though the free market of laissez-faire capitalism disappeared long ago and such freedom often means the right of some individuals to exploit others. Many people fear there will be no motivation to produce and the economy will stagnate if people cannot

accumulate private wealth and capitalize personally on risks which pay off, even though over time the proportion of workers who accumulate vast fortunes from such ventures has diminished while more people have become wage laborers or salaried employees. If we are to have a planned economic system, questions are raised concerning who is to do the planning, and who will plan the planners. And it is frequently pointed out that there is inequality in socialist countries. In other words, there is much ideological support for our present system and reaction against anything which smacks of socialism or threatens the status quo in any way.

These objections are not totally without merit, but they serve more to perpetuate prevailing inequalities than as valid reasons for not considering alternatives. Worker control experiments such as the ones at GAF Corporation in Lowell, Vermont[7] and at Harmon International Industries, Inc., in Bolivar, Tennessee,[8] suggest that work can be more productively and more efficiently performed and that worker motivation can be improved when work is organized democratically rather than in the traditional bureaucratic hierarchy. As more successful experiments like these occur, socialism may, in the long run, develop a wide enough appeal to threaten the prevailing system.

Given the logic of capitalist development, the natural tendency towards monopoly or oligopoly, and the accumulation of wealth in the hands of fewer private individuals, economic expansion is not likely to result in greater equality either in the short or long run.[9] The kinds of structural change required in order to redistribute wealth are not likely to occur, at least in the near future. It is to be hoped that a politically feasible strategy resulting in meaningful progress towards equality will emerge. A stronger commitment, in terms of money, manpower,

or good-will, to the marginalist kinds of strategies of the 1960s can no longer, however, be considered a solution.

Research Implications

The role of education in the United States, racial discrimination, inequality and the interrelationships of these phenomena have been the subject of volumes of research and they undoubtedly will be for years to come. The findings of this study suggest some lines of inquiry which would be productive in terms of sheding further light on the issues which have been discussed above, issues which represent some of the most challenging and longstanding problems confronting American society.

The Expansion of Formal Education

First, however, there are certain dimensions to the expansion of formal education not examined in this study which should be investigated. Unionization on the part of education employees is one factor which has contributed to an expansion of educational expenditures in recent years that cannot be explained by rising enrollments or any other apparent change in the educational functions of schools. Between the 1957-58 and 1971-72 school years, outlays for public elementary and secondary education more than tripled, from $13.6 billion to $46.8 billion. A recent Brookings Institution study estimated that only one-fourth of that increase could be attributed to rising enrollments.[10] The bulk of that increase went to pay rising personnel costs. In Detroit, for example, 89 percent of the increase in educational expenditures between the 1966-67 and 1970-71 school years went for salaries and fringe benefits. The increasing salaries of instructional employees contributed the most

to rising expenditures.[11] During those years the school budget of the city of Chicago doubled and the administrative costs tripled while enrollment increased by two percent.[12] As the fiscal crisis worsens and as more educators organize, the shape of education in the future will become more and more dependent on the outcomes of these labor-management confrontations.

Educational institutions, like most other bureaucracies, tend to create new needs for their services when the demand for those services they were created to provide lessens. The growing emphasis on adult or life-long education on the part of colleges and universities does not just happen to coincide with declining enrollments of college age students. As Fred Hechinger stated, "In the United States, the most obvious reason for the sharp turn to adults as tomorrow's students is the prospect of declining college enrollments."[13] Not only have educational institutions turned to more intensive recruiting and advertising, but educational advertising has become a more prominent specialty within the advertising business. A sign of the times is an advertisement in a recent issue of The Chronical of Higher Education which read as follows:

> Up Your Enrollments! Imaginative, sharply-focused advertising can do it.
>
> Your educational institution, like so many these days, probably has limited funds for enrollment advertising and promotion--just when you need them most.
>
> That's why you should be more accurate, more demanding with every advertising dollar you spend.
>
> Where can you start? With your advertising agency. LJR is an advertising agency with strong experience in the student market. As specialists in education advertising, we have the know-how to meet your enrollment needs. . .no matter how big the problem. . .or how small the budget.[14]

If it has not been clear in the past, it is obvious now that educational institutions are much like any other business in that those who are dependent on such organizations for a living are constantly seeking to perpetuate and if possible increase the demand for their services. In addition, there is a continuous struggle between the employers and the employees. These factors cannot be ignored if we are to develop a more complete understanding of the past, present, and future shape of American education.

Technology, Job Skills and Education

Much also remains to be learned about the relationships among technological change, job skill requirements, employers' educational requirements and educational attainment. Case studies of specific work settings provide valuable information on the organizations under examination. Bright's studies of the effect of technological change on job skills in thirteen of the most modern automated plants in the mid 1950s allow for somewhat broader generalizations. But what would be particularly informative is a nationwide cross-sectional investigation, conducted perhaps under the auspices of the Department of Labor. Such a study would provide the basis for more precise conclusions regarding the effect of technological change on job skills. Differences within and among different industries, occupations, and regions should be explored by examining representative samples of the labor force. Mueller's survey represents one attempt to draw some conclusions which are generalizable to the national work force. As indicated in Chapter V, however, Mueller's findings that better educated workers were more likely to be using more sophisticated equipment and that workers expressed

a felt need for further education merely beg the questions she claimed she was trying to answer. What is needed is a more thorough and direct investigation of how technology has effected job skills and of how employers' educational requirements have changed in relationship to the changes in job skills.

It has been more than twelve years since the Department of Labor surveyed a representative sample of the nation's work force regarding the ways workers learned their current jobs. A replication of Formal Occupational Training of Adult Workers would indicate what kinds of changes, if any, have occurred in terms of how workers have learned the skills they use on the job. This kind of a study would be particularly informative if workers with three or more years of college were asked the same questions as those with less schooling. The schedule used to survey these better educated workers in 1963 again served to beg important questions about the linkages between technology, job skills, and formal education.

A broader investigation of employers' selection practices would be informative in terms of the relationship between technology and education and in terms of other factors which enter into this decision-making process. Access to the inner circles of private industry policy makers is difficult to obtain. But an expanded version of my examination of selected occupations in six firms is feasible. If nothing more than the age and educational attainment of workers within specific occupations could be obtained from a broader sample of organizations, this would provide greater insight into the selection practices.

Equality

Legitimizing inequality has long been problematic, in the United States and elsewhere. Educational credentials have provided employers with a convenient mechanism for allocating workers to various slots within their organizational hierarchy. The allocation of rewards on the basis of educational attainment has generally been recognized as a legitimate way of carrying out this stratifying function. But in recent years this mode of operation has been challenged, and there is evidence that it will become a more critical point of contention in the future. Title VII of the Civil Rights Act of 1964, the guidelines under which it has been implemented, and several court cases such as the Griggs decision have made it much more difficult for employers to use education in their selection practices. The challenge to industry now, and an issue which should be the subject of future research, is how the stratifying function will be carried out and the basis on which it will be legitimized. If the legitimization of distinctions based on race, sex, age, and education is weakened, along with informal methods of job recruitment, one hypothesis would be that the class conflicts in society would intensify. Further economic growth might temporarily quell any disruption but it is becoming apparent that the United States must find some alternative solution to its domestic problems. Whether or not a solution can be found within the framework of a capitalist society is a question which is more frequently raised. If unemployment rates and the cost of living should continue to rise, or if they should not be significantly abated, the potential for conflict would increase and the consequences of heightened conflict could be most severe.

Another, perhaps more likely, possibility is that as the economy

continues to decline or fails to expand adequately and as the traditional sources of authority and legitimacy break down, conflict will intensify but primarily along racial lines. Busing and affirmative action are two tactics which are aimed essentially at redistributing scarce resources between whites and nonwhites. Both are issues which have already generated much ill will and, in the case of busing, occasional violence. While racism certainly would not disappear if economic class distinctions could somehow be eliminated, future research into race relations should take into consideration the larger class structure, which currently does exist, and in which racial conflict is rooted.

The current attack on credentialism represents one dimension of the erosion of formal education's authority. The truancy rates and the crime rates within schools, particularly inner city schools, suggest that for at least some students schools are not inculcating cognitive or non-cognitive attributes. While the number of such students at the present time could be considered inconsequential in terms of society in general, the increasing problem of discipline within the schools indicates that this is another pehnomenon, or perhaps a manifestation of a larger problem, which could have serious consequences in the near future. One could argue that this is a problem which is unique to a certain set of individuals, albeit a growing number, and that the solution is to find out what is wrong with these people and cure it. If this cannot be done then perhaps they should be isolated from society for the protection of the rest of us. But perhaps these individuals are just responding rationally to their life situation. If schools are not providing them with an adequate education, or if for them there is little likelihood that an education will pay off, the problem again might be

systemic rather than individualistic. For whatever reason, at least some schools have lost their authority in the minds of some people. Further research on these problems would be more productive if they are viewed from a systemic rather than an individualistic perspective.

The declining authority of education in some circles points up the fact that there are contradictory forces which shape education and American society in general. While education has expanded in large part because of the legitimization function it has performed, that expansion has also raised expectations for many people which have gone unfulfilled. It has also generated a critical re-examination of the role of schooling and the dynamics of American society. The sources of these contradictions must be examined if we are to fully understand how our society got where it is today, and where it may lead to in the future.

Another issue which should be investigated in the near future is the impact of affirmative action programs and other attempts to create equal opportunities for minorities. As indicated in the previous chapter, the evaluations which have so far been conducted indicate that the civil rights enforcement effort has been less than comprehensive. Only a small percentage of eligible contractors are reviewed and frequently affirmative action plans are approved which do not meet federal regulations.[15] Sanctions are rarely enforced, more because enforcement officials either are not familiar with the guidelines they are supposed to enforce or because they rely on attempts to informally negotiate a settlement rather than because contractors are generally in compliance.[16] Instances where compliance officials have provided confidential assurances that civil rights regulations will not be

enforced have been uncovered.[17] At least two federal agencies have been taken to court for failure to enforce civil rights regulations which they have been legally empowered to enforce.[18] In its recent assessment of the federal government's efforts to enforce the nondiscrimination clauses of federal contracts the General Accounting Office found a pattern of "almost nonexistence of enforcement actions" which could lead contractors to believe "that the compliance agencies do not intend to enforce" those regulations.[19] Despite these difficulties some companies have lost huge sums of money for civil rights violations. For example, American Telephone and Telegraph has paid over $17 million in back pay awards and penalties and an additional $50 million in yearly payments for promotion and wage adjustments to minority and female employees.[20] Undoubtedly some employers have altered their practices without having been forced to by government agencies in order to avoid expensive litigation. What is lacking is a comprehensive evaluation of the effects of these efforts on the economic status of minorities.

In a conversation with one official of the Equal Employment Opportunity Commission I was informed that no evaluation of affirmative action plans had been conducted by that agency. It would be informative to examine changes which have occurred within specific organizations that have adopted affirmative action plans. Questions such as how effectively have goals been met, how many additional minorities and women have been hired and promoted, and how high within the organizational hierarchy have they reached, should be answered. Of even greater importance is how many minorities and women have been affected by these programs. In other words, how has the economic status of these groups changed as a result of affirmative action? Wolkinson

concluded in his analysis of seventy-five conciliation cases involving labor union discrimination that the EEOC has compiled a poor record and has achieved only limited success in eliminating discrimination.[21] In fact, Wolkinson subtitled his book, A Study of Administrative Futility. The income data reported in the previous chapter suggest that Wolkinson's findings would be reinforced by further investigation into the concrete effects of affirmative action and other civil rights activity on the lives of protected groups.

One of the perhaps unintended consequences of affirmative action has been the charge of reverse discrimination made by many whites, particularly during the current recession when many people are losing jobs and other jobs are harder to find. Some whites maintain that as a result of affirmative action they are losing jobs to minorities which they should rightfully have. As indicated above, such occurrences may generate increasing racial hostility in the future. Whether or not affirmative action in fact denies whites jobs, is a divide and conquer technique orchestrated by the ruling class, or is an effective strategy for eliminating discrimination are all general issues which should be explored in the future.

Another approach to the study of equality which should be undertaken is an investigation of socialist countries that have taken more direct action to achieve greater equality. Cuba and the People's Republic of China in particular have undergone vast transformations in recent years. Undoubtedly much could be learned about the organization of work and the delivery of such services as medical care and education. While the socialist models that have been adopted in other countries might not be transferable, in total, to the United States, certain

dimensions of them could conceivably be productively implemented. Some private individuals stand to lose by any significant reorganization of American society and it is difficult to determine the extent to which social change would be rejected on political or on other grounds. But as the worker control experiments mentioned earlier suggest, at least some of the ideological justifications for the status quo have been called into question.

The lines of inquiry suggested here do not constitute a systematic research program that would comprehensively resolve these issues. Some of these proposals constitute straightforward and quite specific research projects while others are merely recommendations for general areas to be explored. The major point of these suggestions and the principle implication of this study for future research is that the focus of attention should be on dynamic structural or systemic determinants of social phenomena rather than on the characteristics of individuals. Instead of calculating rates of return to education or correlation coefficients between education and unemployment or socio-economic background and education, income, occupation, etc., which serve more to beg vital questions than to answer them, the focus of future research should be on the historical development of institutions and social relationships which evolve, the technical as well as the social forces which dictate change, and the sources of dissensus as well as consensus which are rooted in the structural framework of American society.

The Role of Education: Technical Training or Social Control?

At the end of the first chapter I stated that perhaps the most important question this study would examine is essentially whether the thrust of schooling has been technical or ideological. That is, have schools functioned more to contribute to the welfare of American society and the individuals living in it, or to legitimize an exploitative status quo. I also indicated that proponents of the conventional and class perspectives acknowledge there is some truth to both sides of this debate. While the dichotomy posed in this study does suppress some commonalities among all observers and some differences within each camp, what I have labelled as the conventional and class perspectives do represent two reasonably distinct views of the role of education, the linkages between education and the occupational structure, and the nature of social stratification in the United States. The findings of this study strongly support the latter framework as representing a more accurate interpretation of these issues.

This investigation has shown that the conventional perspective cannot account for many longstanding facts about American society. Not surprisingly the traditional liberal reforms which evolved from this perspective have failed to solve our most serious social problems, despite huge investments of both money and well intentioned manpower. To view class distinctions as central characteristics in American society and class conflict as the principle force which propels political, economic, and social change, and to interpret educational and other institutions as superstructural factors which serve to legitimize the social relations of production and the inequality which rises out

of those relations, constitutes a far different portrayal of the United States than is generally accepted. But until this basic picture is accepted along with the policy implications which logically flow from it, attempts to deal with the major problems of our society are not likely to meet with much success.

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[16]Ahart, loc. cit. The Federal Civil Rights Enforcement Effort-1974. Volumes I-VII, loc. cit.

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In both cases the court found in favor of the plaintiff and ordered the respective federal agencies to take specific enforcement actions.

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APPENDICES

APPENDIX A

THE MEANING OF THE GED SCORE OF JOBS PROVIDED IN ESTIMATES OF WORKER TRAIT REQUIREMENTS FOR 4,000 JOBS

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In Estimates of Worker Trait Requirements for 4,000 Jobs each job is rated according to the general educational development (GED), specific vocational preparation, twelve different temperaments, ten different interests, six physical capacities, and seven working conditions which relate to the job. This study, and most others which use Estimates, focus on the GED scores in analyzing the educational requirements of jobs. General educational development was defined as:

> . . .those aspects of education which contribute to the worker's (a) reasoning development, adaptability to the social environment, and ability to follow instructions, (b) acquisition of 'tool' knowledges such as language and mathematical skills. It is education of a general academic nature ordinarily obtained in elementary school, high school, or college which does not have a recognized, fairly specific occupational objective. It may derive also from experience and self-study. (Page 110)

Three kinds of abilities; reasoning, mathematics, and language, were evaluated according to a seven point scale in determining the GED score. (In the 1966 revision of Estimates, entitled Selected Characteristics of Occupations, the seven point scale was collapsed into a six point scale.) The GED score assigned to each job was the highest of the three scores which were given to the job for each of the specific abilities. The seven levels were described as follows:

Level	Reasoning Development	Mathematical Development	Language Development
7	Apply principles of logical or scientific thinking to a wide range of intellectual and practical problems. Deal with nonverbal symbolism (formulas, scientific equations, graphs, musical notes, etc.) in its most difficult phases. Deal with a variety of abstract and concrete variables. Apprehend the most abstruse classes of concepts.	Work with a wide variety of theoretical mathematical concepts and make original applications of mathematical procedures, as in empirical and differential equations.	Comprehension and expression of precise or highly connotative meanings, as in —Journal of Educational Sociology. —Scientific Monthly. —Works in logic and philosophy, such as Kant, Whitehead, Korzybski. —Literary works, such as Stein, Elliot, Auden.
6	Apply principles of logical or scientific thinking to define problems, collect data, establish facts, and draw valid conclusions. Interpret an extensive variety of technical instructions, in books, manuals, mathematical, or diagrammatic form. Deal with several abstract and concrete variables.	Make standard applications of advanced mathematics, as differential and integral calculus.	Comprehension and expression as of —Saturday Review of Literature, Harper's. —Scientific American. —Invitation to Learning (radio program).
5	Apply principles of rational systems[3] to solve practical problems. Interpret a variety of instructions furnished in written, oral, diagrammatic, or schedule form. Deal with a variety of concrete variables.	Perform ordinary arithmetic algebraic, and geometric procedures in standard, practical applications.	Comprehension and expression as of —Popular Science. —America's Town Meeting of the Air (radio program).
4	Apply common sense understanding to carry out instructions furnished in written, oral, or diagrammatic form. Deal with problems involving several concrete variables.	Make arithmetic calculations involving fractions, decimals and percentages.	Comprehension and expression as of —Readers' Digest. —American Magazine. —Lowell Thomas (radio program).
3	Apply common sense understanding to carry out detailed but uninvolved written or oral instructions. Deal with problems involving a few concrete variables.	Use arithmetic to add, subtract, multiply, and divide whole numbers.	Comprehension and expression as of —"Pulp" detective magazines. —Movie Magazines. —Dorthy Dix. —Radio "soap operas".
2	Apply common sense understanding to carry out spoken or written one- or two-step instructions. Deal with standardized situations with only one or two, very occasional, variables entering.	Perform simple adding and subtracting.	Comprehension and expression of a level to —Sign name and understand what is being signed. —Read simple materials, such as lists, addresses and safety warnings. —Keep very simple production records.
1	Apply common sense understanding to carry out very simple instructions given orally or by demonstration. No variables.	None	No speaking, reading, or writing required.

[3] Examples of "principles of rational systems" are: bookkeeping, internal combustion engines, electric wiring systems, house building, nursing, farm management, ship sailing.

The task statements provided in the Dictionary of Occupational Titles (DOT) were used by job analysts as the basis for their ratings. For example, according to the DOT Volume I the job of Carpenter, Foreman was described in the following manner:

> Supervises and coordinates activities of workers engaged in construction, installation, and repair of wooden structures and fixtures. Examines blueprints to determine dimensions of structure. Lays out floor plan and cabinet work, using rule, framing square, and calipers. Selects materials, such as lumber, prefabricated doors and cabinets of wood or plastic, and paneling, and inspects them to insure conformance with provisions of building code and local ordinances. Determines sequence of activities concerned with fabrication, assembly, and erection of structure. Assigns workers to such tasks as cutting material to size, building concrete forms, erecting wooden framework.

> and laying flooring. Inspects work performed by subcontractors, including ductwork, wiring, and pipe installations, to insure conformance with specifications. Installs doors, builds stairs, and lays hardwood floors. May supervise workers engaged in building timber structures, such as cofferdams, trestles, and supports for concrete forms. May make cost estimates for contracts. Performs other duties as described under FOREMAN. May be designated according to area of specialization as COFFERDAM-CONSTRUCTION FOREMAN; FORM-BUILDING FOREMAN; TIMBERING FOREMAN. (Page 101)

From this information the GED score of 5 was assigned to this job.

Neither Estimates nor the DOT delineates the specific criteria used to determine a rating from the job description. According to Estimates, analysts were given over 100 hours of training in job analysis and classification. Several analysts were used to rate each job in an attempt to maximize the validity of the ratings. For a more complete description of how these data were compiled see pages iv-ix and 110-158 of Estimates.

APPENDIX B

SELECTED INDUSTRIES, OCCUPATIONS, AND NUMBER OF EMPLOYEES IN EACH OCCUPATION IN SIX PRIVATE CORPORATIONS

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SELECTED INDUSTRIES, OCCUPATIONS, AND NUMBER OF EMPLOYEES IN EACH OCCUPATION IN SIX PRIVATE CORPORATIONS

The companies from which the data were obtained include; (1) a retail clothing chain, (2) a beer manufacturer, (3) a meat processor, (4) a pharmaceutical drug manufacturer, (5) a communications equipment manufacturer, and (6) an, office machine manufacturer. The positions within each company and the number of employees within these positions are:

retail clothing chain
- assistant manager (52)

beer manufacturer
- design engineer (25)
- chemist (44)

meat processor
- credit representative (12)
- food service representative (74)
- food service district sales manager I (20)
- relief sales representative (23)
- retail sales representative (103)
- sales representative (46)
- account representative (81)
- account supervisor (43)
- district sales manager I (23)
- production supervisor (37)
- production foreman/forelady III (114)
- production foreman/forelady II (140)
- livestock station manager II (12)
- livestock station manager I (19)
- livestock buyer II (50)
- area supervisor-industrial engineer (16)
- industrial engineer II (43)
- product control supervisor II (12)
- distribution center manager II (19)
- sales manager I (15)
- technician I (13)

design engineer II (12)
industrial nurse II (18)
assistant production scheduler (11)
sanitation foreman/forelady (27)
SQC inspector (132)
laboratory technician (30)
product control technician (28)
product control technologist (34)

pharmaceutical drug manufacturer (agricultural division)
district sales manager (31)
sales representative IV (23)
sales representative III (54)
sales representative I (53)
sales representative II (51)

communications equipment manufacturer
engineer (16)
staff engineer (13)

office machine manufacturer
sales representative (copier/duplicator) (1112)

Some data were obtained on employees within other occupations but for the purposes of this study, only those positions in which information was provided for ten or more employees were included. This was done partly as a matter of convenience and partly because comparison among so few cases does not provide much useful information.

The retail clothing chain is a regional business concern while the remaining firms operate on a nationwide basis. The company headquarters are located in the following states:

retail clothing chain	- Michigan
beer manufacturer	- Missouri
meat processor	- Wisconsin
pharmaceutical drug manufacturer (agricultural division)	- North Carolina
communications equipment manufacturer	- Illinois
office machine manufacturer	- New York

APPENDIX C

EDUCATIONAL ATTAINMENT BY AGE, INDUSTRY, AND OCCUPATION IN FIVE PRIVATE CORPORATIONS

APPENDIX C

EDUCATIONAL ATTAINMENT BY AGE, INDUSTRY, AND OCCUPATION IN FIVE PRIVATE CORPORATIONS

Company and Position	No. of employees under 35 and % of them with Bachelor's Degrees	No. of employees 35 or older and % of them with Bachelor's Degrees	Difference in % of younger & older workers with bachelor's Degrees
Retail Clothing Store			
assistant manager	27 (48.1%)	25 (0%)	48.1
Beer Manufacturer			
design engineer	11 (90.9%)	14 (57.1%)	33.8
chemist	24 (95.8%)	20 (90.0%)	5.8
Meat Processor			
credit representative	5 (80.0%)	7 (42.8%)	37.2
food service representative	57 (96.5%)	17 (11.8%)	84.7
food service district sales manager I	18 (100.0%)	2 (0%)	100.0
relief sales representative	19 (100.0%)	4 (25.0%)	75.0
retail sales representative	55 (92.7%)	48 (14.6%)	78.1
sales representative	24 (87.5%)	22 (22.7%)	64.8
account representative	49 (83.7%)	32 (21.9%)	61.8
account supervisor	10 (90.0%)	33 (15.1%)	74.9
district sales manager I	19 (94.7%)	4 (25.0%)	69.7
production supervisor	10 (70.0%)	27 (29.6%)	40.4
production foreman/ forelady III	52 (53.8%)	62 (11.5%)	42.3
production foreman/forelady II	75 (66.7%)	65 (7.7%)	59.0
livestock station manager II	6 (100.0%)	6 (0%)	100.0
livestock station manager I	10 (100.0%)	9 (0%)	100.0
livestock buyer II	28 (71.4%)	22 (4.5%)	66.9
area supervisor-industrial engineer	12 (91.7%)	4 (50.0%)	41.7
industrial engineer II	36 (88.9%)	7 (57.1%)	31.8
product control superviosr II	6 (100.0%)	6 (100.0%)	0
distribution center manager II	8 (87.5%)	11 (63.6%)	23.9
sales manager I	2 (100.0%)	13 (46.2%)	53.8
technician I	8 (37.5%)	5 (40.0%)	-2.5
design engineer II	0	12 (58.3%)	--
industrial nurse II	4 (50.0%)	14 (35.7%)	14.3
assistant production scheduler	6 (50.0%)	5 (20.0%)	30.0
sanitation foreman/forelady	15 (73.3%)	12 (8.3%)	65.0
SQC inspector	99 (19.2%)	33 (15.6%)	3.6
laboratory technician	26 (26.9%)	12 (16.7%)	10.2
product control technician	24 (33.3%)	4 (25.0%)	8.3
product control technologist	29 (93.1%)	5 (80.0%)	13.1
Pharmaceutical Drug Manufacturer			
district sales manager	12 (100.0%)	19 (100.0%)	0
sales representative IV	11 (90.9%)	12 (91.7%)	-.8
sales representative III	33 (97.0%)	21 (95.2%)	1.8
sales representative I	53 (88.7%)	0	-
sales representative II	41 (97.6%)	10 (90.0%)	7.6
Communications Equipment Manufacturer			
engineer	9 (33.3%)	71 (0%)	33.3
staff engineer	4 (75.0%)	9 (22.2%)	52.8

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