
Samuel Bowles
Herbert Gintis
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"Every child born into the world should be looked upon by society as so much raw material to be manufactured. Its quality is to be tested. It is the business of society, as an intelligent economist, to make the best of it."

Lester Frank Ward, "Education," 1872

INTRODUCTION

A central tenet of Marxist social theory is that consciousness develops through the social relations into which people enter in their daily lives. Among the manifold relations formative of consciousness, those involving the production of material life hold a pre-eminent position. Thus in the Manuscripts, Marx says:

[Labor is] a process going on between man and nature, in which man, through his own activity initiates, regulates and controls the material reactions between himself and nature. He confronts nature as one of her own forces... By thus acting on the external world and changing it, he at the same time changes his own nature. ¹

The vision of a perfect dialectic between individuals and nature, in which each acquires its character from its interaction with its antagonist, Marx notes in his later writings, is broken in class societies. The existence of dominant and subordinate classes produces on the one hand history as class struggle rather than the embodiment of communal wills; and on the other hand, consciousness as class-specific, class-differentiated, and alienated according to the way people enter into the social division of labor.

This paper treats an area in the reproduction of consciousness relatively unexplored in the Marxist literature: the role of such institutions of reproduction as the educational system and the family. We shall argue that consciousness is reproduced not only directly through the individual's contact with work and membership in a particular class, but also through these institutions of reproduction. Thus both inequality and repressiveness in the educational sphere, to take a case in point, are best under-

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stood as reflections of the social relations of hierarchy and subordination in the capitalist economy.

We shall here suggest that the key which unlocks the secret of the social relations of U.S. education lies in the capitalist economy itself.

The most fruitful way to understand the relationship between schooling and economic life in the U.S. is to grasp the essential structural similarity between their respective social relations. The correspondence between these social relations is pervasive, and accounts for the ability of the educational system to reproduce the social relations of production by reproducing an amenable labor force. The experience of schooling, and not merely the content of formal learning is central to this process, and the process is efficacious because the structures of the schooling and work experiences are conformable.

In our view, it is fruitless to ask if the net effect of U.S. education is toward equality or inequality, repression or liberation. These issues pale into insignificance before the major fact: the educational system is an integral element in the reproduction of the class structure. The liberal educational creed is mistaken because the stance of schooling vis-a-vis equality and liberation are molded by its role in the reproduction of the class structure. The experience of work and the articulation of the class structure are the fixed points around which educational values are formed, social justice assessed, the realm of possible delineated in people's consciousness, and the social relations of the educational encounter historically transformed. Educational and economic transformation go hand in hand.

The theme of this paper is the unity of lived experience through the structural similarities of its diverse spheres. Structural correspondence lies at the heart of the reproduction of social life. Yet at the base of reproduction lies contradiction, and the correspondences we shall describe have arisen through struggle. Both the evolution of the educational system and the prospects for a liberated future must be analyzed in terms of both reproduction and contradiction. But here we shall stress the former.

In the next section we argue that the economic system must be understood in light of the need to reproduce consciousness and modes of personal interaction through the lived experiences of daily activity. In the section following we suggest that the stability of the economic system in this reproduction process is facilitated by the prior experiences which individuals undergo in the educational system. Thus, that section presents the basic descriptive, analytical, and statistical support for our principle of the correspondence between the social relations of schooling and work. We then turn to the role of the family in the reproduction of the class structure. In the third section we shall argue that the social relations of the educational encounter are predicated on prior experiences in family life. In the contemporary U.S., education works because, and insofar as, the family works. Finally, we shall argue that there is also a tendency for the social relations of family life to correspond to the social relations of production, in the sense that the positions individuals hold in the hierarchy of production influence the structure of family life and the mode of raising children. In light of this, the role of family life in reproducing the class structure and affecting the transmission of economic status from one generation to the next can be understood, as well as the interaction of social background and education in the individual's maturation process.

ON REPRODUCING CONSCIOUSNESS

Economic life exhibits a complex and relatively stable pattern of interactions and power relations among individuals and groups. The stability of social intercourse is by no means automatic.
As with a living organism, it is the result of explicit mechanisms constituted to maintain and rejuvenate these systemic relationships. We call these mechanisms of reproduction.

Amidst the various types of social relations experienced in daily life, a few stand out as central to our analysis of education. These are (a) inter-class relations: the social relations obtaining among classes defined by the capitalist mode of production; (b) intra-class relations: the social relations obtaining among members of the same class, and in particular the degree of solidarity, mutuality, and social distance they normally exhibit; (c) production relations: the social relations of cooperation, competition, dominance, and sub-ordination obtaining in the production process itself.

What are the mechanisms of reproduction of these aspects of the social relations of production in the U.S.? To a significant extent, stability is insured by threat of force. The system-defining institutions of U.S. capitalism are embodied in law and backed by the coercive power of the state. Our jails are filled with individuals who have tried to gain access to capital, goods and services outside the framework of the private-ownership market system. The modern urban police force as well as the national guard originated in large part in response to the fear of social upheaval evoked by militant labor action. Legal sanction, within the framework of the laws of private property, also channels the actions of groups (e.g., unions) into conformity with the external social relations of production. No less is force the basis of the reproduction of the internal social relations of an enterprise: dissenting workers are subject to dismissal and directors failing to conform to "capitalist rationality" will be overwhelmed by their stockholders or competitors.

But to attribute reproduction to naked force borders on the absurd. Under normal circumstances, the efficacy of coercive power is based at least on the inability or unwillingness of those so subjected to join together in its opposition. More auspiciously, the economic system enjoins their positive acceptance and approbation. Laws generally considered illegitimate lose their coercive power, and force too frequently applied tends to contradict its intended effect. The consolidation and extension of the capitalist relations of production have engendered struggles of furious intensity no less today than in past times. Yet instances of force deployed against a united and active opposition are sporadic. They have usually given way to detente through the annihilation of opposing forces, through structural change, and through ideological accommodation. Thus it is clear that the consciousness of workers—beliefs, values, self-concepts, types of solidarity and fragmentation, as well as modes of personal behavior and development—is integral to the perpetuation, validation and smooth operation of economic institutions. The reproduction of the social relations of production depends on the reproduction of consciousness.

Under what conditions will individuals accept the pattern of social relations that frame their lives? Believing that the long-run development of the existing system holds the prospect of fulfilling their needs, they might actively embrace these social relations. Failing this, and having no vision of a fundamental transformation of economic life that might significantly improve their situation, individuals might merely accept their condition with some resignation. Even with such a vision, vaguely adumbrated or fully articulated, they might passively submit to the framework of economic life and seek individual solutions to social problems, believing that the possibilities for forging a powerful movement for change are remote. The issue of the reproduction of consciousness enters each of these three assessments.

First, the economic system will be embraced when the perceived needs of individuals are congruent with the types
of satisfaction the economic system can objectively provide. While perceived needs may be in part biologically determined (e.g., minimal physical and psychological requisites), in larger part needs arise through the aggregate experiences of individuals in society itself. That is, the social relations of production are reproduced in part through a harmony between the perceived needs which the social system generates, and the means at its disposal for satisfying these needs.

Second, the assessment of fundamental social transformation as infeasible, unoperational, and utopian is normatively supported by a complex web of ideological perspectives deeply embedded in the cultural and scientific life of the community, and reflected in the structure of consciousness of its members. But fostering the "consciousness of inevitability" is not the office of the cultural system alone. In addition, mechanisms systematically thwarting the spontaneous development of social experiences of contradicting these beliefs must exist. Such mechanisms include direct suppression of counter-institutions (e.g., workers' or consumers' co-ops and communes) by dominant classes, as well as channelling their development in directions compatible with the prevailing constellation of power, prerogatives and consciousness.

Third, the belief in the futility of organizing for fundamental social change is facilitated by social distinctions which fragment the conditions of life and consciousness of subordinate classes. Thus the strategy of "divide and conquer" has been basic to the maintenance of power of dominant classes since the dawn of civilization. Once again the splintered consciousness of a subordinate class is not the product of cultural phenomena alone. Rather, the fragmentation of subordinate groups, with its consequent chaotic pattern of divergent interests, must be reproduced through the social relations of daily life.

The reproduction of consciousness develops in part through the individual's direct perception of and participation in social life. For instance, when the social division of labor stratifies the working class, individual needs and self-concepts develop in an accordingly fragmented manner. Youth of different racial, sexual, ethnic or economic backgrounds directly perceive the economic positions and prerogatives of "their kind of people," and by appropriately adjusting their aspirations, not only reproduce stratification on the level of personal consciousness, but bring the development of their needs into (at least partial) harmony with the objective conditions of economic life. Similarly, individuals tend to gear the development of their personal capacities--cognitive, emotional, physical, aesthetic, and spiritual--in directions where options for their exercise are available. For instance, the alienated character of work leads people to guide their creative and human potentials to areas outside economic activity: consumption, travel, sexuality, and family life. Thus needs and need-satisfaction again tend to fall into congruence. Alienated labor is reproduced on the level of personal consciousness.

But this congruence is continually disrupted; the satisfaction of needs give rise to new needs--which derive from the logic of personal development and in turn undercut the social integration of consciousness. Thus the reproduction of consciousness cannot be the unintended by-product of social experience. On a deeper level, social relations are often organized to facilitate the reproduction of consciousness through the day-to-day activities of the individual. For instance, power configurations, job contents, interpersonal relations and hiring criteria in the enterprise are organized to reproduce the workers' self-concepts, the legitimacy of their assignments within the hierarchy, the technological inevitability of the hierarchical division of labor itself, and their social distance from other workers in the organization. Indeed, workers' participation in decision-making
becomes a threat to profits because it tends not to reproduce patterns of consciousness compatible with capitalist control. By generating new needs and possibilities, by demonstrating the feasibility of more thoroughgoing economic democracy, by increasing worker solidarity to a potentially threatening degree, worker involvement in decision-making may undermine the power structure of the enterprise.

But the reproduction of consciousness cannot be insured through the direct mechanisms alone. In addition, the initiation of youth into the economic system is facilitated by a series of institutions more immediately related to the formation of personality and consciousness. Among these institutions are the family and the educational system.

How does the educational system reproduce consciousness? In a very general way, schooling fosters and rewards the development of certain capacities and the expression of certain needs, while thwarting and penalizing others, and by tailoring the self-concepts, aspirations, and social class identifications of individuals to the requirements of the capitalist division of labor. The educational system accomplishes this through the institutional relations to which students are subjected.

More concretely, we may isolate four main functions of the educational system. First, schooling produces many of the technical and cognitive skills required for adequate job performance. This process is well understood and, as we have suggested elsewhere, cannot account for either the association between schooling and economic success or the repressive nature of U.S. education. We shall not pursue it further. Second, the educational system helps legitimate economic inequality.

The objective and meritocratic orientation of U.S. education, the cumulative process of reconciling the aspirations of individuals with their future positions, reduces discontent over both the hierarchical division of labor and the process through which individuals attain position in it. Once again, the generation of needs is rendered compatible with the means of satisfying them—in this case the personal need for the attainment of valued social positions. Third, the school generates rewards, and selects personal characteristics relevant to the staffing of positions in the hierarchical division of labor. Fourth, the educational system, through the pattern of status distinctions it fosters, reinforces the stratified consciousness on which the fragmentation of subordinate economic classes is based.

What aspects of the educational system allow it to serve these various functions? We shall suggest that the educational system's ability to reproduce the consciousness of workers lies in a straightforward correspondence principle: for the past century at least, schooling has contributed to the reproduction of the social relations of production largely through the correspondence between school structure and class structure.

EDUCATION AND CONSCIOUSNESS: THE CORRESPONDENCE PRINCIPLE

The oft discussed tension between "business" and "academic" values obscures an underlying communality: the structure of social relations in education—including sources of motivation, authority, and control, and types of sanctioned interpersonal relations—not only inure the student to the discipline of the work-place, but develop the types of personal demeanor, modes of self-presentation, self-images, and social class identifications which are the curcial ingredients of job adequacy.

Specifically, the social relations of education—the relations between administration and teachers, teachers and students, students and students, and students and their work—replicate the hierarchical division of labor. Hierarchical relations are reflected in the vertical authority lines from administrators to teachers to
students. Alienated labor is reflected in the student's lack of control over his or her education, the alienation of the student from curriculum content, and the motivation of school work through a system of grades and other external rewards rather than the student's integration with either the process (learning) or the outcome (knowledge) of the educational "production process." Stratification and fragmentation in work is reflected in the institutionalized and rarely constructive competition among students, continual and ostensibly meritocratic ranking and evaluation of students. By attuning young people to a set of social relations similar to those of the workplace, schooling gears the development of personal needs to its requirements.

The correspondence of schooling with the social relations of production goes beyond this aggregate level, however. First, different levels of education feed workers into different levels within the structure of production and correspondingly tend towards an internal organization comparable to levels in the hierarchical division of labor. The lowest levels in the hierarchy of the enterprise emphasize rule-following, middle levels dependability and capacity to operate without direct and continuous supervision, and the higher levels internalization of norms of the enterprise and sensitivity to interpersonal relations without the organization. Similarly, lower levels of education (junior and senior high school) tend to severely limit and channel the activities of students; junior colleges, teacher colleges, and community colleges allow more breadth for independent activity and less overall supervision, with the four-year colleges tending toward social relations conformable with the higher levels in the production hierarchy. Thus schools continually maintain their hold on students. As they "master" one type of behavioral regulation, they are either allowed to progress to the next, or tend to be channeled into the corresponding
level in the hierarchy of production.

Second, even within a single school, the social relations of different tracks tend to conform to different behavioral norms. Thus high school vocational and general tracks emphasize rule-following and close supervision, while the college track tends toward a more open atmosphere emphasizing the internalization of norms.

These differences in the social relations among and within schools, in part reflect both the social backgrounds of the student body and their future economic positions as well. Thus blacks and other minorities tend to concentrate in schools with the most repressive, arbitrary, and coercive authority structures, and which offer the most minimal possibilities for advancement—in all respects mirroring the characteristics of secondary job structures. Similarly, predominantly working class schools tend to emphasize behavioral control and rule-following, while schools in well-to-do suburbs utilize relatively open systems involving greater student participation, less direct supervision, more student electives, and in general a value system stressing internalized standards of control.

Much of this description will likely be familiar to the reader, and has been documented many times. But only recently has there been an attempt at statistical verification. Jeanne Binstock, in her 1970 Brandeis University doctoral dissertation, investigated the different patterns of social relations of higher education by analyzing the college handbooks covering rules, regulations and norms of 52 public junior colleges, state universities, teacher-training colleges, private, secular, denominational, and Catholic colleges. Binstock rated each school along a host of dimensions including the looseness or strictness of academic structure, extent of regulations governing personal and social conduct, and the degree of control of the students over their cultural affairs and extra-curricular activities.

Binstock's conclusion is quite simple: The major variations of college experiences are linked to basic psychological differences in work perception and aspiration among the major social class (occupational) groups who are its major consumers. Each social class is different in its beliefs as to which technical and interpersonal skills, character traits, and work values are most valuable for economic survival (stability) or to gain economic advantage (mobility). Each class (with subvariations based on religion and level of urban-ness) has its own economic consciousness, based on its own work experiences and its own ideas (correct or not) of the expectations appropriate to positions on the economic ladder above their own.... Colleges compete over the various social class markets by specializing their offerings. Each different type of undergraduate college survives by providing circumscribed sets of "soft" and "hard" skill training that generally corresponds both to the expectations of a particular social class group of customers and to specific needs for sets of "soft" and "hard" skills at particular layers of the industrial system.

Binstock isolated several organizational traits consistently related to the various educational institutions. First, she distinguishes between behavioral and motivational control. Behavioral control involves rules which emphasize the student's behavior rather than intentions, external compliance rather than internalized norms, and rules and prohibitions as opposed to options, alternatives and tolerance of lapses of behavior. Motivational control emphasizes unspecified, variable and highly flexible task-orientation, while promoting value systems stressing ambiguity and innovation over certainty, tradition and conformity.

Second, Binstock isolated a leader-vs-follower orientation with some schools...
stressing the future subordinate positions of its charges and preaching docility, and with others stressing the need to develop "leadership" self-concepts.

As we see in Table 1, institutions comprising lower social class students and oriented toward staffing lower-level jobs in the hierarchy of production emphasize followship and behavioral control, while the more elite schools, emphasizing leadership and motivational orientation, tend to staff the higher-level jobs. Binstock concludes:

Although constantly in the process of reformation, the college industry remains a ranked hierarchy of goals and practices, responding to social class pressures, with graded access to the technical equipment, organizational skills, emotional perspectives and class (work) values needed for each stratified level of the industrial system. 10

The differential socialization patterns of schools attended by students of different social classes, and even within the same school, do not arise by accident. Rather, they stem from the fact that the educational objectives and expectations of administrators, teachers and parents, and the responsiveness of students to various patterns of teaching and control, differ for students of different social classes.

At crucial turning points in the history of U.S. education, changes in the social relations of schooling have been structured in the interests of a more harmonious reproduction of the labor force, and usually through the direct intervention of elites most highly benefited by these changes. But in the day-to-day operation of the schools, the consciousness of social classes, derived from their cultural milieu and work experience, is crucial to the maintenance of the correspondences we have described. That working class parents seem to favor stricter educational methods is a reflection of their own work experiences, which have demonstrated that submission to authority is an essential ingredient in one's ability to get and hold a steady, well-paying job. That middle class parents prefer a more open atmosphere and a greater emphasis on motivational control is likewise a reflection of their positions in the social division of labor. Thus Burton Rosenthal has shown that when given the opportunity, higher status parents are far more likely than their lower status neighbors to choose "open classrooms" for their children. 11

Further, differences in the social relations of schooling are reinforced by inequalities in financial resources. The paucity of financial support for the education of children from minority groups and working class families leaves more resources to be devoted to the children of those with commanding roles in the economy; it also forces upon the teachers and school administrators in the working class schools a type of social relations that fairly closely mirrors that of the factory. Thus financial considerations in poorly supported working class schools militate against small intimate classes, against a multiplicity of elective courses and specialized teachers (except disciplinary personnel), and preclude the amounts of free time for the teachers and free space required for a more open, flexible educational environment. The lack of financial support all but requires that students be treated as raw materials on a production line; it places a high premium on obedience and punctuality; there are few opportunities for independent, creative work or individualized attention by teachers. The well-financed schools attended by the children of the rich can offer much greater opportunities for the development of the capacity for sustained independent work and the other characteristics required for adequate job performance in the upper levels of the occupational hierarchy.

Our correspondence principle should help us explain the observed association between educational attainment (years of schooling) and economic success (income and occupational status). This associ-
TABLE 1
THE SOCIAL RELATIONS OF HIGHER EDUCATION
EMPHASES BY TYPE OF INSTITUTION

<table>
<thead>
<tr>
<th>Ideological Domain</th>
<th>Academic Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broad:</td>
<td>Abstract: private secular colleges</td>
</tr>
<tr>
<td>private secular colleges</td>
<td>and state universities</td>
</tr>
<tr>
<td>and state universities</td>
<td>teachers colleges</td>
</tr>
<tr>
<td>junior colleges</td>
<td>Concrete: junior colleges</td>
</tr>
<tr>
<td>Narrow:</td>
<td></td>
</tr>
<tr>
<td>teachers colleges</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Social Goals</th>
<th>Mode of Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leader:</td>
<td>Motivational: private secular colleges</td>
</tr>
<tr>
<td>private secular colleges</td>
<td>state universities</td>
</tr>
<tr>
<td>and state universities</td>
<td>junior colleges</td>
</tr>
<tr>
<td>Follower:</td>
<td>Behavioral: teachers colleges</td>
</tr>
<tr>
<td>junior colleges</td>
<td></td>
</tr>
<tr>
<td>and teachers colleges</td>
<td></td>
</tr>
</tbody>
</table>

This table is drawn from Figure 3 of Binstock (1969). The types of colleges are listed in each category in the order in which they appear in the spectrum delineated by the polar characterizations to the left of each list. For example, private secular colleges and state universities have the broadest ideological domains and teachers colleges have the narrowest, while junior colleges lie somewhere in between, according to Binstock.
ation cannot be accounted for in terms of the acquisition of cognitive skills alone. We shall now show that much empirical evidence points to the importance of work-related personality traits in accounting for this association.

We have referred to the research of our colleague Richard Edwards, who found that job performance could be quite well predicted by three personality factors--rule-following, dependability, and internalization of norms--with the first relatively more important at the lowest levels of the hierarchy of production, internalization of norms predominant at the highest, and with dependability salient at intermediate levels. Are these traits in fact rewarded in schools? Our discussion certainly suggests that they are. In addition, we have surveyed the literature on the personality correlates of school success and have found that the best predictors consistently fall into four categories quite similar to Edwards' factors: Subordinacy, Discipline, Emotionally Neutral Orientation to Interpersonal Relations, and Motivation by External Reward.

A more direct confirmation of the proposition that the personality traits rewards in schools (through grading) are similar to those conducive of performance in the hierarchical division of labor can be obtained by using these same personality measures employed in Edwards' study on a group of school students, thus obtaining direct comparable evidence. We began with the personality measures used by Edwards. Gene Smith, the originator of these types of personality measures, had previously shown them to be excellent predictors of educational success (grade point average) in a series of well-executed studies. Noting that personality inventories suffer from low validities due to their abstraction from real-life environments, and low reliabilities due to the use of a single evaluative instrument, Smith turned to student peer-ratings of 42 common personality traits, based on each student's observation of the actual classroom behavior of his or her classmates.

Factor analysis allowed the extraction of five general traits, stable across different samples. These five traits may be labeled Agreeableness, Extroversion, Work-orientation, Emotionality and Helpfulness. Of these only the Work-orientation factor, which Smith calls "Strength of Character"--including such traits as "not a quitter, conscientious, responsible, insistently orderly, not prone to daydream, determined-persevering"--was related to school success. Smith then showed that in several samples Work-orientation exhibited three times the power to predict post-high school academic performance than any combination of thirteen cognitive variables, including SAT-verbal, SAT-mathematical, and high school class rank. Edwards' success with this test in predicting supervisor ratings of workers convinced us that applying the same forms to high school students would provide a fairly direct link between personality development in school and the requisites of job performance.

We chose for our sample the 237 members of the senior class of a single New York state high school, of whom most participated in the study. Analysis of this data provides striking confirmation of the correspondence principle. Following Edwards (1972), we created sixteen pairs of personality traits, and obtained individual grade-point averages, IQ scores, and College Entrance examination SAT-verbal and SAT-mathematical scores from the official school records.

As was expected, the cognitive scores provided the best single predictor of grade point average--indeed, that grading is based significantly on cognitive performance is perhaps the single valid element in the "meritocratic ideology." Yet the sixteen personality measures possessed nearly comparable predictive value, having a multiple correlation of .63 as compared to .77 for the cognitive variables. More important than the overall predictive value of the personality traits,
TABLE 2
THE IMPORTANCE OF PERSONALITY TRAITS IN PREDICTING GRADES

<table>
<thead>
<tr>
<th>Rewarded Traits</th>
<th>Penalized Traits</th>
<th>Neutral Traits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perseverant</td>
<td>.42*</td>
<td>-.33*</td>
</tr>
<tr>
<td>Dependable</td>
<td>.40*</td>
<td>-.27*</td>
</tr>
<tr>
<td>Consistent</td>
<td>.39*</td>
<td>-.23*</td>
</tr>
<tr>
<td>Identifies with School</td>
<td>.38*</td>
<td></td>
</tr>
<tr>
<td>Empathizes Orders</td>
<td>.37*</td>
<td></td>
</tr>
<tr>
<td>Punctual</td>
<td>.35*</td>
<td></td>
</tr>
<tr>
<td>Defers Gratification</td>
<td>.31*</td>
<td></td>
</tr>
<tr>
<td>Externally Motivated</td>
<td>.29*</td>
<td></td>
</tr>
<tr>
<td>Predictable</td>
<td>.25*</td>
<td></td>
</tr>
<tr>
<td>Tactful</td>
<td>.17*</td>
<td></td>
</tr>
</tbody>
</table>

* \( p < .01 \)  ** \( p > .05 \)

NOTE: These are partial correlations controlling for IQ, SAT-Verbal and SAT-Math.
Source: Meyer (1972); Bowles and Gintis (1975).

however, is their pattern on contribution to grades. To reveal this pattern, we first eliminated the effect of differences in cognitive performance in individual grades, and then calculated the correlation between grades and the personality measures. The results are presented in Table 2.

The pattern of resulting associations clearly supports our model. First, the only significantly penalized traits are precisely those which are incompatible with conformity to the hierarchical division of labor—Creativity, Independence, and Aggressivity. Similarly, all the personality traits we would expect to be rewarded are, and highly significantly so (see lines 4 through 12 of Figure 1), while those which are more or less neutral from the social relations of production framework are insignificant (lines 13 through 16).

As a second stage in our analysis of this data, we used the technique of "factor analysis" to consolidate the sixteen personality measures into three "personality factors." Factor analysis allows us to group together those measured traits which are normally associated with one another across all individuals in the sample. The first, which we call Submission to Authority, includes Consistent, Identifies with School, Punctual, Dependable, Externally Motivated, and Persistent. In addition, it includes Independent and Creative weighted negatively. The second, which we call Temperment, includes Not Aggressive, Not Tempermental, Not Frank, Predictable, Tactful, and Not Creative. The third, which we call Internalization of Norms, includes Empathizes Orders and Defers Gratification. Factor Loadings are presented in Table 3.

These three factors are not perfectly comparable to Edward's three factors. Rather, our Submission to Authority seems to combine Edwards' Rules and Dependability factors, while our Internalization is comparable to Edwards' Internalization factor. In the case of the latter factor, both Edwards' and
TABLE 3
FACTOR ANALYSIS OF HIGH SCHOOL PERSONALITY TRAITS

<table>
<thead>
<tr>
<th>Submission to Authority</th>
<th>Temperament</th>
<th>Internalization of Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent</td>
<td>.83&lt;sup&gt;a&lt;/sup&gt; Aggressive</td>
<td>-.80&lt;sup&gt;a&lt;/sup&gt; Empathizes Orders</td>
</tr>
<tr>
<td>Identifies with School</td>
<td>.81 Temperamental</td>
<td>-.78 Defers Gratification</td>
</tr>
<tr>
<td>Punctual</td>
<td>.80 Frank</td>
<td>-.74</td>
</tr>
<tr>
<td>Dependable</td>
<td>.78 Predictable</td>
<td>.58</td>
</tr>
<tr>
<td>Externally Motivated</td>
<td>.77 Tactful</td>
<td>.54</td>
</tr>
<tr>
<td>Perseverant</td>
<td>.73 Creative</td>
<td>-.51</td>
</tr>
<tr>
<td>Independent</td>
<td>-.69</td>
<td></td>
</tr>
<tr>
<td>Creative</td>
<td>-.52</td>
<td></td>
</tr>
</tbody>
</table>

NOTE: Numbers are factor loadings. The factor analysis was by principal components and quartimax rotation. The first factor accounts for 43.7% of the variance, the second for 15.9% of the variance, and the third for 11.8% of the variance.

Meyer's data depict an individual who sensitively interprets the desires of his or her superior, and who operates adequately without direct supervision over considerable periods of time.

Our theory would predict that on the high school level Submission to Authority would be most predictive of grades, while Internalization, which becomes important on the post-high school level, would be less important. The Temperment factor is essentially irrelevant to our theory, and might be expected to be unimportant. In Table 4, this prediction is confirmed. This Table exhibits the independent contributions of both cognitive measures and personality factors to the prediction of grades. We see that SAT-math is the most important, with Submission to Authority and SAT-verbal being equally important, and Internalized Control significantly less so. The Temperment and IQ variables have no independent contribution.

Thus the personality traits rewarded in schools, at least for this sample, seem to be quite closely related to those indicative of good job performance in the capitalist economy. Since both Edwards and ourselves used essentially the same measures of personality traits, this assertion can be tested directly. We may take the three general traits extracted by Edwards in his study of workers—Rules-Orientation, Dependability, and Internalization of Norms—and find the relation between grades and those traits in our school study. This is exhibited in Table 5, which shows a remarkable congruence.

Hence the correspondence principle stands up well in the light of grading practices. We must stress, however, that the empirical data on grading must not be conceived as revealing the "inner workings" of the educational system's reproduction of the social division of labor. First of all, it is the overall structure of social relations of the educational encounter which reproduces consciousness, and not merely grading practices. Second, personality traits...
TABLE 4

CONTRIBUTION OF PERSONALITY FACTORS TO THE PREDICTION OF GRADES

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>SAT-Math</td>
<td>.43*</td>
</tr>
<tr>
<td>Submission to Authority</td>
<td>.29*</td>
</tr>
<tr>
<td>SAT-Verbal</td>
<td>.31*</td>
</tr>
<tr>
<td>Internalization of Norms</td>
<td>.16*</td>
</tr>
<tr>
<td>Temperament</td>
<td>.08**</td>
</tr>
<tr>
<td>IQ</td>
<td>.01**</td>
</tr>
</tbody>
</table>

* p < .01  ** p > .05

NOTE: The numbers represent normalized regression coefficients when all variables are entered into a single regression.

TABLE 5

PREDICTING JOB PERFORMANCE AND GRADES FROM THE SAME PERSONALITY FACTORS

<table>
<thead>
<tr>
<th></th>
<th>Rules-Orientation</th>
<th>Dependable</th>
<th>Internalizes Norms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor Rating</td>
<td>.28</td>
<td>.28</td>
<td>.29</td>
</tr>
<tr>
<td></td>
<td>(6.96)</td>
<td>(7.19)</td>
<td>(7.07)</td>
</tr>
<tr>
<td>GPA</td>
<td>.22</td>
<td>.25</td>
<td>.17</td>
</tr>
<tr>
<td></td>
<td>(3.25)</td>
<td>(3.87)</td>
<td>(2.65)</td>
</tr>
</tbody>
</table>

NOTE: The Multiple R in the first equation is R = .613, and in the second equation, R = .523. The figures in parenthesis are beta coefficients. Sources: Edwards (1975); Bowles and Gintis (1975).
are not the only relevant personal attributes—others being modes of self-presentation, self-image, aspirations, and class identifications—which are not captured in this data. Third, the measuring of personality traits is tricky and difficult, and the studies mentioned probably only capture a small part of the relevant dimensions. Fourth, both traits rewarded in schools and relevant to job performance differ by educational level, class composition of schools, and the student's particular educational track. These subtleties are not reflected in the data.

For these reasons we would not expect student grades to be a good predictor of economic success. In addition, grades are clearly dominated by the cognitive performance of students, which we have seen is not highly relevant to economic attainment. Yet we might expect that in an adequately controlled study in which work performances of individuals on the job and with comparable educational experience are compared, grades would be good predictors. We have managed to find only one study meeting these requirements—a study which clearly supports our position, and is sufficiently interesting to present in some detail. Marshall S. Brenner studied 100 employees who had joined the Lockheed-California Company after obtaining a high school diploma in the Los Angeles City School Districts. From the employees' high school transcripts, he obtained their grade-point averages, school absence rates, a teachers' "work habits" evaluation, and a teachers' "cooperation" evaluation. In addition to this data, he gathered three evaluations of job performance by employees' supervisors; a supervisors' "ability rating," a supervisors' "conduct rating" and "productivity rating." Brenner found a significant correlation between grades and all measures of supervisor evaluation. We have reanalyzed Brenner's data to uncover the source of this correlation. One possibility is that grades measure cognitive performance and cognitive performance determines job performance.

However, when the high school teachers' "work habits" and "cooperation" evaluations as well as "school absences" are controlled for by linear regression, grades have no additional predictive value. Hence, we may draw two conclusions: first, grades predict job adequacy only through their non-cognitive component; and second, the teachers' evaluations as to behavior in the classroom is strikingly similar to the supervisor's ratings as to behavior on the job. The cognitive component of grades predicts only the supervisors' "ability rating"—not surprising in view of the probability that both are related to employee IQ. 23

In closing, we wish to emphasize that the correspondence principle has been introduced not only as the structural relationship between the economy and the educational system, but as the framework for understanding why individuals with greater educational attainment achieve higher levels of economic success. The question arises because the most obvious candidate for an answer—the difference in cognitive skills attained—actually accounts for only a small portion of this association.

Why then the association? Elsewhere we surveyed the reasoning and evidence indicating the importance of four sets of non-cognitive worker traits—work-related personality characteristics, modes of self-presentation, ascriptive characteristics and credentials.24 We believe all are involved in the association between educational level and economic success. We have emphasized that personality traits opposite to performance on different hierarchical levels are fostered and rewarded by the school system. A similar, but simpler argument can be made with respect to modes of self-presentation. Individuals who have attained a certain educational level tend to identify with one another socially and differentiate themselves from their "inferiors." They tend to adjust their aspirations and self-concepts accord-
ingly, while acquiring manners of speech and demeanor more or less socially acceptable and appropriate to their level. As such, they are correspondingly valuable to employers interested in preserving and reproducing the status differences on which the legitimacy of the hierarchical division of labor is based. In addition, insofar as educational credentials are an independent determinant of hiring and promotion, they will directly account for a portion of this association.

Finally, family background effects also account for a significant portion of the association between educational and economic attainment. For white males about 33% of the correlation between education and income is due to their common association with socio-economic background, even holding constant childhood IQ. That is, children whose parents have higher status economic positions tend to achieve more income themselves independent of their education, but they also tend to get more education. Hence the observed association is reinforced.

Indeed, there is a strong independent association between family background and economic success. What is the origin of this effect? We shall argue in the following section that the experiences of parents on the job tend to be reflected in the social relations of family life. Thus, through family relations children tend to acquire orientations toward work, aspirations, and self-concepts preparing them for similar economic positions themselves.

FAMILY STRUCTURE AND JOB STRUCTURE

Family experience has a significant impact on the welfare, behavior and personal consciousness of individuals, both in their period of maturation and their daily adult lives. The social relations of family life—relations between husband and wife as well as between parents and children and among children--
have undergone important changes in the course of U.S. economic development. The prospect for future changes is of crucial importance in the process of social transformation.  

The analysis of family life is not only of basic importance, but is of subtle and dynamic complexity. Compared to the social relations of family life, the economic and educational phenomenon we have been discussing appear as straightforward and rather mechanical. Hence rather than entertaining a broad analysis of family life we shall limit our discussion to a few issues directly linked to our central concern: the reproduction of the social relations of production. Like the educational system, the family plays a major role in the preparation of the young for economic and social roles. In particular, the family's impact on the reproduction of the sexual division of labor is distinctly greater than that of the educational system.

We maintain that the reproduction of consciousness is facilitated by a rough correspondence between the social relations of production and the social relations of family life. This correspondence is affected by the experiences parents encounter through their participation in the social division of labor. Thus there is a tendency for families to reproduce in their offspring not only a consciousness tailored to the objective nature of the work world, but to prepare them for economic positions roughly comparable to their own. These tendencies can be countered by other social forces (schooling, media, shifts in aggregate occupational structure), but they remain sufficiently strong to account for a significant part of the observed intergenerational status transmission processes.

The case of the sexual division of labor is particularly straightforward. The capitalist division of labor promotes the separation between wage labor and household labor, the latter being unpaid and reserved almost exclusively for women. This separation is reflected within the family as a nearly complete division of labor between husband and wife. The occupational emphasis on full-time work, the dependance of promotion upon seniority, the career-oriented commitment of the worker, and the active discrimination against working women, conspire to shackle the woman to the home while minimizing the possibility of sharing of domestic duties between husband and wife.

But how does the family help reproduce the sexual division of labor? First, wives and mothers themselves normally embrace their self-concepts as household workers. They then pass these onto their children through the differential sex role typing of boys and girls within the family. Second, and perhaps more important, children tend to develop self-concepts based on the sexual divisions which they observe around them. Even families which treat boys and girls equally in important respects cannot avoid sex role typing when the male parent is tangentially involved in household labor and child-rearing. In short, the family as a reproduction unit cannot but reflect its division of labor as a production unit—as the locus of household production and the sexual division of labor. This sex typing, unless countered by other social forces, then facilitates the submission of the next generation of women to their inferior status in the wage labor system and lends its alternative—child-rearing and domesticity—an aura of inevitability, if not desirability. Yet in essential respects, the family exhibits social patterns quite atypical of the social relations of production. The close personal and emotional relations of family life are a far cry from the impersonal bureaucracy and autocracy of the wage labor system. Indeed, the family is often esteemed as a refuge from the alienation and psychic poverty of work life. The fact that family structure and the capitalist relations of production differ in essential respects lies at the heart of our explanation of the necessary
role of schooling in the integration of young people into the wage labor system. Despite the tremendous structural disparity between family and economy, we shall argue there is a significant correspondence between the authority relations of production and child-rearing. This flows in part from the overall tenor of family life common to all social levels. The work-dominated family with its characteristically age-graded patterns of power and privilege replicates many of the aspects of the hierarchy of production in the firm. Yet we shall be more concerned with the difference among families whose income earners hold distinct positions in this hierarchy.

Successful job performance at low hierarchical levels requires the worker's orientation toward rule-following, or conformity to external authority, while successful performance at higher levels requires behavior according to internalized norms. These traits are not confined to work alone, but affect the individual's fundamental social values and orientations generally. It would be surprising indeed if these general orientations did not manifest themselves in parental priorities for the rearing of their children. Kohn, in his massive ten-year National Institute of Mental Health study, has documented important correspondences between authority in the social relations of work and the social relations of the family of precisely this type.

Kohn began in 1956 with a sample of 339 white mothers of children in the fifth grade, whose husbands held "middle class" and "working class" jobs. He inquired into the values parents would most like to see in their children's behavior. He found that parents of lower status children value obedience, neatness and honesty in their children, while higher status parents emphasize curiosity, self-control, consideration and happiness. The fathers of these children who were interviewed showed a similar pattern of values. Kohn concludes:

Middle class parents are more likely to emphasize children's self-direction, and working class parents to emphasize their conformity to external authority... The essential difference between the terms, as we use them, is that self-direction focuses on internal standards of direction for behavior; conformity focuses on externally imposed rules.

Kohn further emphasized that these values translate directly into corresponding authority relations between parents and children, with higher status parents punishing breakdowns of internalized norms, and lower status parents punishing transgressions of rules:

The principal difference between the classes is in the specific conditions under which parents--particularly mothers--punish children's misbehavior. Working class parents are more likely to punish or refrain from punishing on the basis of the direct and immediate consequences of children's actions, middle class parents on the basis of their interpretation of children's intent in acting as they do... If self-direction is valued, transgressions must be judged in terms of the reasons why the children misbehave. If conformity is valued, transgressions must be judged in terms of whether or not the actions violate externally imposed proscriptions.

In 1964 Kohn undertook to validate his findings with a national sample of 3,100 males, representative of the employed male civilian labor force. Of 13 traits similar to those in his first and smaller study, Kohn asked the 1,500 fathers among these men to choose (a) the most important, (b) the three most important, (c) the three least important, and (d) the least important, weighing them from 5 to 1 in order.

His results show a similar pattern: higher status fathers prefer consideration,
curiosity, responsibility and self-control in their children, while lower status fathers prefer good manners, neatness, good student, honesty and obedience. Moreover, Kohn showed that about two-thirds of these social status related differences are direct results of the extent of occupational self-direction, rather than the other correlates of status such as occupational prestige or educational level. He concludes:

Whether consciously or not, parents tend to impart to their children lessons derived from the conditions of life of their own social class--and thus help prepare their children for a similar class position. . . . Class differences in parental values and child rearing practices influence the development of the capacities that children will someday need. . . . The family, then, functions as a mechanism for perpetuating inequality.

Kohn's analysis provides a careful and compelling elucidation of one facet of what we consider to be a generalized social phenomenon: the reflection of economic life in all major spheres of social activity. The hierarchical division of labor, with the fragmentation of the work force which it engineers, is merely reflected in family life. The distinct quality of social relations at different hierarchical levels in production are reflected in corresponding social relations of the family. Families in turn reproduce the forms of consciousness required for the integration of a new generation into the economic system. Such differential patterns of child-rearing affect more than the worker's personality, as exemplified in Kohn's study. They also pattern his or her self-concept, personal aspirations, style of self-presentation, patterns of class loyalties and modes of speech, dress and interpersonal behavior. While such traits are by no means fixed into adulthood, their stability over the life cycle appears sufficient to account for the observed degree of intergenerational status transmission.

CONCLUSION

The economic system is stable only if the consciousness of the strata and classes it engenders remain compatible with the social relations which characterize it as a mode of production. Hence, the social division of labor must be reproduced in the consciousness of its participants. The educational system is one of the several reproduction mechanisms. By providing skills, legitimating inequalities in economic positions, and facilitating certain types of social intercourse among individuals, U.S. education patterns personal development around the requirements of alienated work. The educational system reproduces the capitalist social division of labor in part through a correspondence between its own internal social relations and those of the workplace.

We believe that the tendency of the social relations of economic life to be reproduced in the educational system and in family life lies at the heart of the failure of the liberal educational creed, and must form the basis of a viable program for social change. Patterns of inequality, repression, and forms of class domination cannot be restricted to single spheres of life, but reappear in substantially altered yet structurally comparable form in all spheres. Power and privilege in economic life surface not only in the core social institutions which pattern the formation of consciousness (family and school), but even in face-to-face personal encounters, leisure activities, and philosophies of the world. In particular, the liberal goal of employing the educational system as a corrective device, overcoming the "inadequacies" of the economic system is vain indeed. Transformation of the educational system and the pattern of class relations, power, and privilege in the economic sphere must go hand in hand as part of an integrated program of action.
To speak of social change is to speak of making history. Thus, we are motivated to look into the historical roots of the present educational system, to better understand the framework within which social change takes place and has taken place in the past. Our major question will be: what were the historical forces giving rise to the present correspondence between education and economic life, and how have these been affected by changes in the class structure and concrete peoples' struggles?

We believe that the historical development of the educational system reflects a counterpoint of reproduction and contradiction, as capitalist economic development leads to continual shifts in the social relations of production and the attendant class structure. These social relations have involved class conflicts which throughout U.S. history have periodically changed in both form and content. A major role of the educational system has been to defuse and attenuate these conflicts. Thus the changing character of social conflict, rooted in shifts in the class structure, has demanded periodic reorganizations of the network of educational institutions. We perceive the recurrent phenomenon of an educational system whose social relations are geared to a disappearing pattern of economic relations thrown into contradiction with the reproduction needs of the ascendent economic structure. Out of this recurrent contradiction have come structural transformations characterizing the "crucial turning-points" in U.S. educational history.

FOOTNOTES
3. For an extended treatment of these issues, see Gintis (1972).
8. Ibid., pp. 103-106.
9. Ibid., pp. 3-4.
10. Ibid., pp. 6-7.
16. Personality data was collected for 97% of the sample. grade-point average and test-scored data was available for 80% of the sample, and family background data was available for 67%. Inability to collect data was due usually to students' absences from school during test sessions.
17. These are described fully in Bowles and Gintis (1975), Appendix B.
18. The school chosen was predominantly higher income, so that most members had taken college entrance examinations.
19. The multiple correlation of IQ, SAT-verbal, and SAT-mathematical with grade-point average (GPA) was r= .769, while their correlation with the personality variables was r=.25, which is quite low.
20. That is, we created partial correlation coefficients between GPA and each personality measure, controlling for IQ, SAT-V and SAT-M.
21. This is taken from Meyer (1972) and Bowles and Gintis (1975), Appendix B.
22. This is taken from Edwards (1975), Table 3.
25. See Offe (1970). Offe quotes Bensen and Rosenberg from The Meaning of Work in Bureaucratic Society (in M. Stein et al. [eds.], Identity and Anxiety, New York: Free Press, 1960), pp. 183-184: "Old habits are discarded and new habits are nurtured. The would-be success learns when to simulate enthusiasm, compassion, interest, concern, modesty, confidence, and mastery; when to smile, and with whom to laugh and how intimate and friendly he can be with other people. He selects his home and his residential area with care; he buys his clothes and chooses styles with an eye to their probably reception in his office. He reads or pretends to have read the right books, the right magazines, and the right newspapers. All this will be reflected in the 'right line of conversation' which he adapts as his own. . . . He joins the right parties and espouses the political ideology of his fellows."
26. See Berg (1971), and Taubman and Wales (1972) for some evidence on this point.
29. The occupational index used was that of Hollingshead, which correlates .90 with the Duncan index. Bonjean et al. (1967.)
31. Ibid., pp. 104-105.
32. Two problems with the Kohn study may be noted: first we would like to have more direct evidence of the ways in which and to what extent child-raising values are manifested in child-raising practices. And second, we would like to know more about the impact of differences in child-rearing practices upon child development.

BIBLIOGRAPHY
VICTORY IN INDOCHINA

The Insurgent Sociologist celebrates the victory of the Cambodian and Vietnamese people with the graphics used in this issue. The valiant struggle of the Indochinese people against the forces of imperialism will remain one of the greatest human achievements of this century. The people of the world owe a tremendous debt to the people of Indochina for their victory marks the beginning of the end for U.S. imperialism. In this sense their victory is the victory of all oppressed people.

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