*Cuban Education and the Revolutionary Ideology**

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The rapid transformation of society in revolutionary Cuba vitally involves education. The author argues that school and society are always closely linked; in pre-revolutionary Cuba, schooling helped reproduce the class structure of economy and society from one generation to the next. In Cuba today education is attempting to serve the four major objectives of the revolution: economic growth; escape from the economic, political, and cultural hegemony of the United States; attainment of an egalitarian society; and the transformation of work into a creative activity for a new socialist man. The campaign against illiteracy, the general expansion of schooling, and the extension of education to the fields and factories are among the facets of the educational program described. Professor Bowles concludes with a discussion of dilemmas in Cuban education.

> To build communism, a new man must be created
> simultaneously with the material base. . . .
> Society as a whole must become a huge school.
> *Ernesto "Che" Guevara*[1]

> Revolution and education are the same thing.
> *Fidel Castro*[2]

[1] "Man and Socialism in Cuba," in *Venceremos! the Speeches and Writings of Che Guevara*, ed. John Gerassi (New York: Simon and Schuster, 1968), p. 391.

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The continuing social and economic revolution in Cuba since the overthrow of Batista in 1959 has been reflected in a radical transformation of the educational system.[3] The class structure, the social relations of production, the stagnation of the pre-revolutionary economy, and the imperialist domination of capitalist Cuba were replicated in the school system inherited by the revolutionary movement. Not surprisingly then, every major economic and social objective of the Revolution has been manifested in some aspect of educational change. Similarly, every major dilemma in the construction of a socialist society has had a counterpart in the school system.

The boundaries between school and society are never distinct: in revolutionary Cuba they have been blurred beyond recognition. Revolution and education are inseparable facets of social transformation. This paper examines the relation between the transformation of the Cuban economy and the development of Cuban education during the first decade of the Revolution: the first section surveys the major economic and social objectives of the revolutionary movement; the correspondence between economic and educational structures is discussed in section two; sections three and four describe the expansion and structural transformation of the Cuban educational system; the concluding section considers some dilemmas in the continuing revolutionary development of Cuban education.

Revolutionary Objectives and the Capitalist Legacy

The Cuban revolutionary government has sought to achieve four main objectives since 1959[4]:

[2] "Universidad Popular," *Educacion y Revolucion*, 6th Series (Havana: Imprenta Nacional de Cuba, 1961), p. 271.

[3] This paper is based on observations in Cuba during March, April, and May, 1969, as well as a survey of the available literature on education and the economy of Cuba. During my stay in Cuba, I taught at the Instituto de Economia of the University of Havana, and consulted with economists and educators in a number of ministries, including Sugar and Education, and with the planning staff of the University. Much of what I have written here is based on classroom observation by my wife, Nancy, and me in schools in all parts of Cuba, and on school attendance by our children in Havana. I have received helpful comments and criticism from Robin Hahnel, Valerie Nelson, Janice Weiss, members of the Harvard Union for Radical Political Economics seminar, and the Yale University seminar on the Cuban economy directed by Carlos Diaz Alejandro.

[4] A list of this type, though helpful for purposes of exposition, is necessarily somewhat arbitrary and ahistorical. Some objectives are necessarily left out. The relative importance of the objectives listed here has varied over time. The fourth objective—creation of the new socialist man—received very little explicit attention until the mid-1960's.

1. To expand and utilize fully the society's productive capacities. The Cuban economy, stagnant for the half century prior to the Revolution, was to be transformed into a rapidly growing system capable of ensuring increasing abundance for all.[5]

2. To eliminate economic, political, and cultural dependence on the United States[6]; to achieve national sovereignty within the framework of cooperation and mutual economic benefit among socialist countries.

3. To replace the rigid class structure of capitalist Cuba with a classless and egalitarian society; to eliminate sexism and racism; to end the city's economic, cultural, and political domination over the countryside.[7]

4. To transform work into a challenging and creative activity for a new socialist man, motivated by social consciousness and the desire for self-expression. No longer would work be a painful necessity characterized by alienation, the fear of starvation, or the lure of monetary gain.

The first three objectives scarcely require elaboration. The fourth is somewhat less familiar, even in the writings of the Left, and calls for a more extended discussion.

In both China and the Soviet Union, the road toward communism began with a revolution which overturned the power structure of what was essentially a peasant society. In Cuba, however, capitalist penetration of the economy was virtually completed by the end of the sugar boom which ran from the end of the nineteenth century through the 1920's. By 1930 the small property-holding peasantry was of minor significance in the economy. According to the 1953 Population Census, about two-thirds of the agricultural labor force worked for wages or salaries,[8] and 72% of the economically active population were employees.[9]

[5] Evidence on the stagnation of the Cuban economy in the half-century prior to the Revolution is summarized in Dudley Seers, ed., *Cuba: the Economic and Social Revolution* (Chapel Hill: University of North Carolina Press, 1964).

[6] The extent of dependence of capitalist Cuba on the U. S. is surveyed in James O'Connor, *The Origins of Socialism in Cuba* (Ithaca: Cornell University Press, 1970); Edward Boorstein, *The Economic Transformation of Cuba* (New York: Monthly Review Press, 1968); and Roberto Gonzalez Cofino, "On Cuban Foreign Trade," in *Essays on the Cuban Economy*, ed. Carlos Diaz Alejandro (New Haven: Yale University Press, forthcoming 1972). The record of U. S. political and military intervention in Cuba is traced by Ramon Eduardo Ruiz, *Cuba: the Making of a Revolution* (New York: Norton, 1968).

[7] Data on social inequalities in pre-revolutionary Cuba is presented by David Barkin, "The Redistribution of Consumption in Socialist Cuba," in *Essays on the Cuban Economy*, ed. Carlos Diaz Alejandro.

[8] Seers, *Cuba: The Economic and Social Revolution*, p. 80.

[9] Oficina Nacional de los Censos Demografico y Electoral, *Censos de Poblacion, Viviendas y Electoral, 1953* (Havana: 1953).

Thus, on the eve of the Revolution, Cuba was a capitalist country with a largely proletarian labor force and relatively few independent producers. This fact is central to an explanation of both the opportunities and the objectives of the Revolution.[10] Cuba did not face the problem encountered in the Soviet Union during the early part of this century, namely, the transformation of an independent peasantry into an industrial labor force. Although the Cuban economy was still primarily agricultural, the social relations of production were typical of capitalist production. Men and women worked for wages with no other source of income and with little or no control over their hours or conditions of work. The economy was characterized by a highly developed division of labor. Moreover, a hundred years of nationalist struggle and decades of radical labor organizing had made Cuban workers acutely aware that their interests were not those of the Cuban and North American capitalist class. For all these reasons, it is hard to imagine that workers had any intrinsic interest in either the product of their labor or in the process of production. Cuban workers worked in order to survive. Even for those with a modicum of security, the rewards of work were found in the pay. In short, pre-revolutionary Cuba epitomized the degradation of man predicted (although parenthetically) by Adam Smith,[11] and described in the mid-nineteenth century by Karl Marx:

> What, then, constitutes the alienation of labor?
>
> First, the fact that the labor is *external* to the worker, i.e., it does not belong to his essential being; that in his work, therefore, he does not affirm himself but denies himself, does not feel content but unhappy, does not develop freely his physical and mental energy but mortifies his body and ruins his mind. The worker therefore only feels himself outside his work, and in his work feels outside himself. He is at home when he is not working, and when he is working he is not at home. His labor is therefore not voluntary, but coerced; it is *forced labor*. It is therefore not the satisfaction of a need; it is merely a *means* to satisfy needs external to it. Its alien character emerges clearly in the fact that as soon as no physical or other compulsion exists, labor is shunned like the plague. External labor, labor in which man alienates himself, is a labor of self-sacrifice, of mortification. Lastly, the external character of labor for the worker appears in the fact that it is not his

[10] See Maurice Zeitlin, *Revolutionary Politics and the Cuban Working Class* (Princeton: Princeton University Press, 1967); and O'Connor, *The Origins of Socialism in Cuba*.

[11] "The man whose whole life is spent in performing a few simple operations . . . has no occasion to exert his understanding, or to exercise his invention. . . . He naturally loses, therefore, the habit of such exertion, and generally becomes as stupid and ignorant as it is possible for a human creature to become. The torpor of his mind renders him incapable . . . of conceiving any generous, noble, or tender sentiment. . . ." Adam Smith, *The Wealth of Nations* (1776; rpt. New York: Modern Library, 1937), pp. 734-735.

own, but someone else's, that it does not belong to him, that in it he belongs, not to himself, but to another.[12]

The Revolution has sought to fulfill what Ernesto "Che" Guevara called "the ultimate and most important revolutionary aspiration: to see man liberated from alienation."[13] The objective—to quote Che again—is based on "the Marxist concept that man truly achieves his full human condition when he produces without being compelled by the physical necessity of selling himself as a commodity . . ."; the ultimate goal is to "achieve complete spiritual recreation in the presence of his own work, without the direct pressure of the social environment, but bound to it by new habits. That will be communism."[14]

Among other things, transforming the social relations of work entails obliterating the distinction between manual and non-manual workers. Onerous manual work which cannot be eliminated—particularly cane cutting—is to be shared by all workers.

The strategy of the revolutionary government has been to move simultaneously toward all four objectives, an approach which reflects the interrelated nature of these objectives. At the heart of the problem of economic stagnation lay the low level of the nation's technological capacities, its uneducated labor force, and its outdated stock of productive physical equipment—in short, in the underdevelopment of the *forces of production*. Yet the reason behind the nation's stunted productive capacities lay in the established relations between worker and employer, in the patterns of ownership and control over the means of production—in short, in the *social relations of production*.[15] And it was these relations of production which in turn were the source of the class structure, of the alienation of labor, and of the international dependency of pre-revolutionary Cuba.[16]

Specifically, the relations of production between capitalist employers and proletarian workers defined the class structure.[17] The exclusion of the worker from

[12] Karl Marx, *The Economic and Philosophic Manuscripts of 1844*, ed. D. J. Struik (New York: International Publishers, 1964), pp. 110-111 (emphasis in original).

[13] Guevara, "Man and Socialism in Cuba," p. 393.

[14] Guevara, p. 394.

[15] See Thomas E. Weisskopf, "Capitalism, Underdevelopment, and the Future of the Poor Countries," in *Economics and World Order*, ed. Jagdish Bhagwati (New York: Macmillan, 1972 forthcoming), for an elaboration of this argument in general, and see O'Connor, *The Origins of Socialism in Cuba*, for its application to Cuba.

[16] An extended discussion of the social relations of production, alienation, and class in capitalist societies may be found in Andre Gorz, "Capitalist Relations of Production and the Socially Necessary Labor Force," *International Socialist Journal*, Year 2, (August 1965).

[17] The class position of the substantial segments of the Cuban population who were neither employers nor employees—the peasant proprietors, the small shopkeepers, the independent pro-

control over the production process and its product was the basis of the alienation of Cuban labor. And finally, in pre-revolutionary Cuba many important production, marketing, technological, financial, and other managerial decisions were dominated by foreigners. The existing imperialist division of labor and the resulting vertical stratification of the world labor force along national lines had made a mockery of Cuban sovereignty.[18]

Thus the revolutionary strategy required both an expansion of the forces of production and a radical transformation of the social relations of production. Fidel Castro voiced part of this strategy: "An advance in . . . the consciousness of the people must accompany every step forward in the development of the forces of production."[19] Education was to play a central role in both processes.

Education and Economy: the Correspondence Principle

The importance of education in the transformation of the Cuban economy derives from the influence of education on the material forces of production and its role in the reproduction of the social relations of production.

The contribution of education to the forces of production takes two main forms: first, the development of workers with those technical and scientific capacities needed for efficient production; and second, the inculcation of values, expectations, beliefs, and modes of behavior required for the adequate performance of adult work roles. Although very few of the intellectual skills learned in school are directly transferable to the workplace, basic scientific knowledge as well as communication skills and mathematical abilities are an essential ingredient in becoming and remaining competent in some jobs, particularly those involving directing and technical functions.

The role of education in shaping personalities, attitudes, and beliefs, on the other hand, is of importance for workers in all types of jobs. The "hidden" content of schooling—the values, expectations, and patterns of behavior which schools encourage—is primarily conveyed not by the formal curriculum, but by the social relations of the schooling process itself.[20] Whether established relations

fessionals, and others—is likewise defined by their role in the productive process, though not by the social relations of production *at the level of the individual enterprise*.

[18] A general treatment of the international specialization in managerial, technical, and laboring functions is found in Stephen Hymer, "The Multinational Corporation and the International Division of Labor" (mimeo, New School for Social Research, 1971).

[19] Speech on July 26, 1968, reported in *Granma*, July 27, 1968.

[20] Melvin Kohn, *Class and Conformity* (Homewood, Ill.: The Dorsey Press, 1969).

among students are competitive or cooperative, whether relations between students and teachers are democratic or authoritarian, and whether relations between students and their work are creative or alienated, are better indicators of what is taught in schools than texts or formal curricula. The authoritarian, competitive, and alienating social relations of schooling in capitalist societies are instrumental in the creation of a labor force attuned to the social relations of production of the capitalist enterprise.[21]

The expansion of the forces of production cannot easily be separated from the second main function of schooling in capitalist societies: the reproduction of the social relations of production. This process does not begin in the school, nor does it end there. Family structure and child rearing practices form an important part of the early socialization process.[22] Following school, the social relations of production in the place of work exert a continuing influence on personality development.[23] Some types of behavior are rewarded; others are penalized. The nature of the work process limits the range of attitudes, values, and behavior patterns which people can exhibit and still find employment.

Yet the school itself plays a central role, particularly in periods of rapid social change. The generation of an adequate labor force is greatly facilitated if the aspects of the socialization process operate in a complementary fashion. In capitalist countries, the preparation of young people for their future roles in production requires that the social relations of production take a particular form. The control of the educational process is denied to students, and success is measured by an external standard—grades and exam marks—which become the main motivation for work, so that any intrinsic interest in the product of one's effort —knowledge—or the process of production—learning—is eclipsed.

We thus arrive at the simplest statement of the correspondence principle: the social relations of production are replicated in the schools.

The correspondence between the social relations of schooling and the social relations of production does not necessarily imply a common education for all children. Capitalist societies, characterized by a hierarchical division of labor, require that a relatively small group—the future technical and managerial personnel—develop the capacity to calculate, decide, and rule, while a much larger

[21] For an exposition of this view see Herbert Gintis, "The New Working Class and Revolutionary Youth," *Socialist Revolution*, 1 (May-June 1970), pp. 13-43.
[22] See Robert Dreeben, *On What is Learned in Schools* (Reading, Mass.: Addison-Wesley, 1968).
[23] Benjamin Bloom, *Stability and Change in Human Characteristics* (New York: Wiley and Son, 1964).

group develop the capacity to follow instructions willingly and accurately in boring and alienating jobs. This stratification of the future labor force is accomplished in part through the different amounts and types of schooling for different children. Thus in capitalist societies the class structure is replicated in the school system: the children of parents in directing and technical positions tend, for example, to acquire an education which qualifies them to move into similar jobs.[24]

We can now restate and extend the correspondence principle: as the social relations of schooling reproduce the social relations of production in each age group, the class structure is also reproduced from generation to generation. The correspondence between educational and economic structures relates not only to the social relations at the level of the individual enterprise and school, but to the aggregate social structure as well. Where the imperialist division of labor results in a class structure dominated at the top by foreign management and technical personnel, we may expect to find a corresponding underdevelopment of the nation's advanced educational institutions.

The correspondence between education and the economy is vividly illustrated in pre-revolutionary Cuba. Economic stagnation was matched by educational retrogression. A cohort analysis of the 1953 Population Census permits approximate estimates of the level of enrollments for periods as far back as the turn of the century. Disregarding the problems of differential mortality and emigration or immigration rates by years of schooling, the available data indicate that the percentage of school-age Cubans who never attended school at all rose over the period 1938 to 1953, while the percentage completing primary school fell (see Figure 1).[25]

The impression of Cuban educational stagnation in the 1930's, '40's, and '50's is further strengthened by a comparison with other Latin American countries. In 1925-26, 63% of the primary school age children in Cuba were enrolled in school, a larger percentage (according to a Cuban government report) than in any other Spanish-speaking republic. Three decades later the level had fallen to 51%; all but three Latin American countries had by then a larger proportion enrolled in school, and the Latin American average was 64%.[26] By 1958-59, the eve of the

[24] See Samuel Bowles, "Unequal Education and the Reproduction of the Social Division of Labor," in *Schooling in a Corporate Society: the Political Economy of Education in America and the Alternatives Before Us*, ed. Martin Carnoy (New York: David McKay, forthcoming 1972).
[25] For a discussion of this, see Richard Jolly, "Education—the Prerevolutionary Background," in Seers, *Cuba: the Economic and Social Revolution*.
[26] Jolly, pp. 169-170.

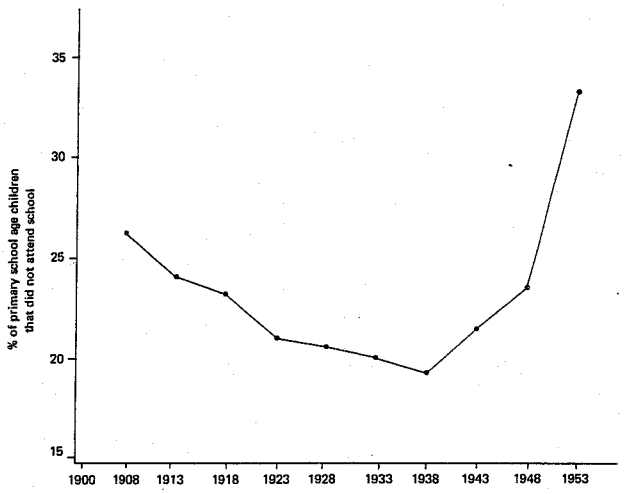

FIGURE 1.

Apparent Percentage of Primary School Age Group that Never Attended School, 1908-1953[a]

Source: Richard Jolly, "Education—the Prerevolutionary Background," in Dudley Seers (ed.), *Cuba: the Economic and Social Revolution* (Chapel Hill: University of North Carolina Press, 1964); based on *Oficina Nacional de Los Censos Demografico y Electoral Censos de Poblacion, Viviendas y Electoral, 1953* (Havana: 1953).

Revolution, the fraction of the 5- to 14-year age group enrolled in primary school in Cuba had fallen further—to less than one-half.[27] Although the percentages attending secondary and higher education grew somewhat over this period, the total enrollments at all levels as a fraction of the school age population fell.

Cuba's economic dependence on the U.S. was equally reflected in her distorted

[27] Jolly, p. 227; and Junta Central de Planificacion (JUCEPLAN), *Resumen de Estadisticas de Poblacion, No. 3* (Havana: 1968).

and underdeveloped educational system. The concentration of technical, research, and managerial functions in the hands of North Americans—often outside Cuba—manifested itself in the sorry state of pre-revolutionary Cuban higher education. Enrollments in higher education had risen during the pre-revolutionary decades, no doubt in response to the politically powerful Cuban upper and upper middle classes' attempts to direct public largesse towards the education of their own children. Nonetheless, Cuba had proportionally fewer students enrolled in higher education in 1958 than less dependent Latin American countries at similar levels of development. The only fields with substantial enrollments were those of little production value—the humanities—as well as a few preparing students for professions not dominated by foreigners—undergraduate training in accounting and business administration, as well as law and medicine.

Inequalities in the educational system both reflected and reproduced the class structure and other social and economic inequalities of pre-revolutionary Cuba. Zeitlin's sample of workers, for example, displays a strong relationship between class and educational attainments: the sons of agricultural laborers or peasants were only one-fifth as likely to have completed sixth grade as were the sons of those in non-manual salaried occupations.[28] Presumably comparison with the sons of capitalists would indicate even greater inequalities. Rural education was particularly underdeveloped.

The social relations in Cuban schooling also mirrored the social relations of production in the predominant capitalist sector of the economy: autocratic, teacher-centered education was the rule, with discipline a major (if sometimes vainly sought) objective, and students' success dependent on their financial resources and ability to reproduce fragmented bits of knowledge largely irrelevant to their lives and interests during examinations.

The correspondence between pre-revolutionary Cuban education and the capitalist economy was complete: the objectives the Revolution set for the economy were reflected in parallel objectives in the school system. First, stagnation in education was to be replaced by rapid growth in enrollments. Fidel Castro stated this theme with characteristic simplicity: "The levels of development that the country will reach can be measured only by the percentage of young people carrying on advanced studies. . . ."[29] But the expansion of education was to do more than expand the material forces of production. Quoting Castro again, "The

[28] Zeitlin, *Revolutionary Politics and the Cuban Working Class*, p. 141.
[29] Speech of March 13, 1969, reported in *Granma*, March 14, 1969.

possibility of a man's being motivated by the content of his work is in direct relation to the individual's knowledge and his cultural level."[30]

Second, national dependency in the scientific and cultural spheres was to be eliminated by the expansion of high level educational, technical, and research facilities. Third, the class structure of Cuban education was to be destroyed; education was to be made available to all: "The revolution cannot reconcile itself with the idea that in the future there should always be a minority in society with a monopoly on technical and scientific knowledge and a majority shut out from this knowledge."[31]

Last, the social relations of Cuban education were to be transformed to develop the new socialist man, to help produce "the fully developed individual, fit for a variety of labors, . . . to whom the different social functions he performs are but so many modes of giving free scope to his own natural and acquired powers," to borrow a phrase from Marx.[32] The motivation for study was to be changed, too, so that "coming generations" would "receive the heritage of education . . . that is totally devoid of selfish sentiment."[33]

The Educational Revolution: Quantitative Dimensions

Verbal and quantitative description captures only weakly the diversity and breadth of educational activities initiated by the Revolution. In a stable society not undergoing rapid change, the education of adults occupies only a peripheral role devoted almost exclusively to the transmission of narrowly defined skills. By contrast, where a sharp revolutionary break with the past is made, the educational process must extend throughout the population, encompassing the old and middle-aged as well as the young. The role of formal schooling in this process of re-education of the Cuban population is for this reason relatively limited. Herein lies a basic problem confronting post-revolutionary Cuban education: The potential economic output sacrificed by withdrawing any sizable portion of the adult population from directly productive activity in order to attend schools is simply prohibitive. Effective channels for education must be developed outside the schools—through labor organizations and the armed forces; through partici-

[30] *Granma*, March 14, 1969.
[31] *Granma*, March 14, 1969.
[32] Karl Marx, *Capital* (New York: Modern Library, 1906), I, p. 534.
[33] Fidel Castro, speech on September 28, 1964, as quoted in Richard Fagan, *The Transformation of Political Culture in Cuba* (Stanford: Stanford University Press, 1969), p. 13.

pation in the Committees for the Defense of the Revolution, the Federation of Cuban Women, and other mass organizations; and through direct political education such as that which has invariably surrounded every major political event in Cuba since 1959. Even though formal schooling occupies a comparatively minor role in the education of adults, more than 10% of Cubans past the school-leaving age are enrolled in formal adult education classes, and a substantial portion of all workers are engaged in continuing or intermittent *"superacion"* (improvement) courses. Thus while the statistical information below pertains almost exclusively to formal education, mostly of young people, it should be remembered that this is only a part of the entire educational effort in Cuba.

The structure and quantitative dimensions of Cuban education in 1958-59 and the growth of schooling since the Revolution are described in Figures 2 and 3, and Table 1.

Rates of educational expansion at the elementary level, as well as the spread of literacy in Cuba, have far exceeded the performance reported for other Latin American countries. In the course of a decade the educational system of Cuba has grown from a position of relative backwardness to a position considerably in advance of most of her Latin American neighbors.[34]

Enrollments in higher education have grown much less rapidly than in the rest of the educational system. However, the internal structure of higher education has changed drastically. The importance of technical and scientific studies has risen. Scientific research related to production has been promoted both in the university and in numerous newly established research institutes. The numbers studying humanities have fallen. In 1968-69 a fifth of the university students (those enrolled in the faculty for workers and peasants) were graduates of the adult education programs in elementary and secondary education. Some aspects of these changes are indicated in Table 2.

The dramatic expansion of enrollments, particularly at the lower levels, has required the allocation of a major portion of Cuba's productive resources to the education sector. Even without considering the numerous on-the-job training programs and the substantial adult education system, about one-fifth of Cuba's total productive capacity was devoted to formal schooling in 1968-69, a figure

[34] Figures for higher and secondary education are not comparable across countries because of substantial study abroad in some countries and differing definitions of secondary education. A glance at Figure 2, however, suggests that educational expansion at these levels may not have been as high in Cuba as in a number of other countries.

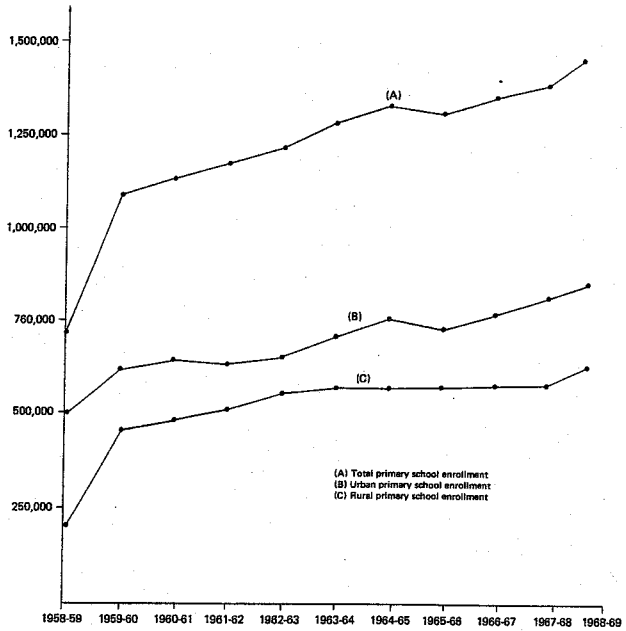

FIGURE 2.

Primary School Enrollments, Urban and Rural, 1958-59 to 1968-69

Source: Junta Central de Planificacion (JUCEPLAN), *Compendio Estadistico de Cuba, 1968* (Havana, 1968), pp. 32-33.

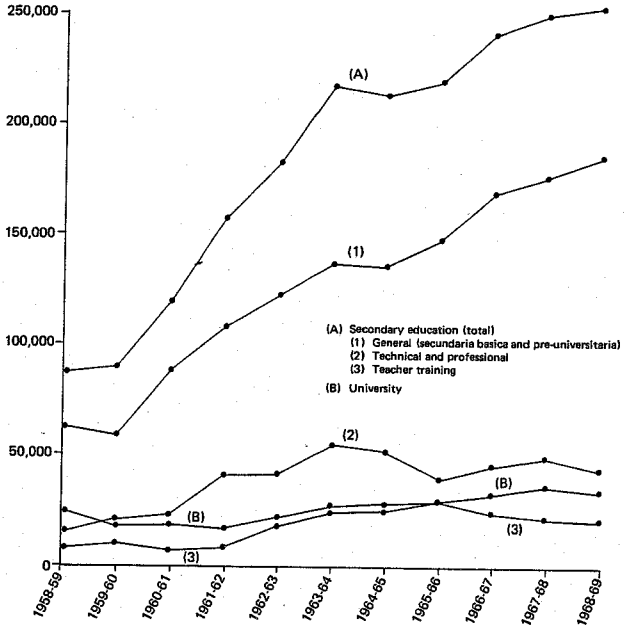

FIGURE 3.

Enrollments in Secondary and Higher Education, 1958-59 to 1968-69

Source: Junta Central de Planificacion (JUCEPLAN), *Compendio Estadistico de Cuba, 1968*, pp. 32-33.

TABLE 1.

Enrollments, School Year 1967-68[a]

Type of Education	*Number of students*
Primary education (total)	1,391,478
Secondary education (total)	177,087
Secondary basic	160,308
Pre-university	16,779
Technical and professional education	45,612
Primary school teacher training	18,121
University	34,532
Adult education	405,612
Workers' technological institutes	46,595
Agricultural and fishing schools for youth	28,832
Construction schools	10,663
Technical Institute	1,626
Ministry of Public Health	6,060
Physical education schools	2,462
Others	7,092
Total	2,352,859

[a] I do not have data on all types of courses for the more recent school years.

Source: Comite Central del Partido Comunista de Cuba, *La Productividad del Trabajo y Factores de su Aumento* (Havana, undated), p. 47.

unsurpassed among the major countries of the world, rich or poor.[35] Education rivals sugar as Cuba's largest productive sector.

It may be thought that an educational expansion of the magnitude achieved during the first ten years of the Revolution would be associated with a lowering of standards. While it is difficult to determine if this has in fact occurred—and many believe that it has—the available quantitative information provides no evidence for a deterioration of quality. Table 3, which presents teacher-student ratios

[35] This figure represents the percentage of the actual and potential labor force above the age of 14 allocated to the education sector. Those allocated to education included all post-primary school students (excluding adult education) and all teachers. The total labor force estimate of 2.5 million was inflated to include those potential workers currently enrolled in school as defined above. The figure cited is an underestimate of the true percentage of Cuba's resources devoted to education. First, I have excluded almost half a million adults enrolled in primary and secondary school as part of the adult education program. Second, the calculation takes no account of the fact that the potential and actual members of the labor force working in the educational system are on the average considerably more educated than the average Cuban worker, and thus represent greater foregone production opportunities than the simple head count calculation above would indicate. The education and labor force statistics are from C. Paul Roberts and

TABLE 2.

Students Per Teacher at Various Levels of Schooling: 1958-59 and 1968-69

Level of Schooling	*1958-59*	*1968-69*
Primary school	41.3	29.8
Total secondary school (general)	14.0	16.5
Total secondary school (technical and professional)	12.3	12.9
Total secondary school (teacher training)	12.9	18.2
University education	24.3	7.9
Total	35.3	21.4

Source: JUCEPLAN, *Compendio Estadistico de Cuba, 1968*, pp. 30-33.

at each level of schooling for the years 1958-59 and 1968-69, suggests that the number of teachers relative to students has increased substantially at the primary level and not declined significantly at any level except in teacher training ("normal").[36] Moreover, the curriculum reforms (for example, new math), the establishment of an educational equipment factory, and the widespread introduction of new methods—particularly educational television—have probably had some positive effect on the quality of schooling.

The Education Revolution: New Forms

The revolutionary content of Cuban education is conveyed primarily outside the classroom. It is in the fields and the factories, at least as much as in the schools, that one finds the development of a new concept of education and the evolution of new social relations of production in the process of education itself. I will outline here some of these changes.

First chronologically and also in symbolic importance is the campaign against illiteracy, waged during the Year of Education, 1961. The task of the literacy brigades was to locate and to teach the one-quarter or so of the Cuban population which was illiterate. This objective was virtually accomplished (the illiteracy

Mukhtar Hamour, ed., *Cuba 1968: Supplement to the Statistical Abstract of Latin America* (Los Angeles: Latin American Center, University of California, 1970), pp. 92-99, 102-103, and 202. The enrollment figures there have been augmented by the enrollment data for special educational programs enumerated in Table 1.

[36] Of course, the rapid increase in the number of teachers implied by these data may have been associated with a fall in the level of formal training among the teachers, particularly in the early years. I have no evidence on this problem.

TABLE 3.

Enrollments in Higher Education by Specialization, 1958-59 and 1968-69

	1958-59		*1968-69*	
	No. of students	*% of total*	*No. of students*	*% of total*
Faculty of Humanities	4,291	16.8	1,196	3.4
Institute of Economics	6,102	23.8	1,230	3.5
Faculty of Science	1,617	6.3	3,152	8.9
Faculty of Technology	3,323	13.0	6,588	18.6
Faculty of Medicine	3,947	15.4	7,278	20.5
Faculty of Agriculture and Fishing Science	1,202	4.7	2,203	6.2
Institute of Education	5,032	19.7	6,642	18.7
Faculty for Workers and Peasants	85	0.0	7,201	20.3
Total	25,599	100	35,490	100

Source: JUCEPLAN, *Compendio Estadistico de Cuba, 1968*, pp. 34-35.

rate reported at the termination of the campaign was 3.9%[37]) through the efforts of over a quarter of a million literacy teachers, or *alphabetizadors*. The *alphabetizadors* were drawn heavily from the school system itself: over 100,000 students joined the campaign when schools were closed for the year on April 15, and almost all of the professional teachers in the country participated. As most of the illiterate population lived in rural areas, the *alphabetizadors*—disproportionately from urban areas—spent extended periods away from home, often living with the *campesinos* and others whom they taught. While the educational stagnation of the previous four decades could hardly be wiped out in a single year's mobilization, the near-eradication of illiteracy on the island placed Cuba considerably ahead of the other Latin American nations.

A second revolutionary aspect of recent Cuban educational policy is the *escuela al campo* ("the school goes to the country") program. The educational value of productive labor has repeatedly been emphasized by the revolutionary leadership. In part as recognition of this, and in part to augment the agricultural labor supply, entire schools move to the countryside for extended periods to harvest crops and do other agricultural work. Secondary schools may spend as much as twelve weeks in the country, housed in simple camps and doing hard agricultural work side by side with the *campesinos*.

[37] UNESCO, *Methods and Means Utilized in Cuba to Eliminate Illiteracy* (New York, 1965), p. 29.

Not only are the schools moved to the work place—the productive life of the nation has been integrated into the curriculum. The major vehicle for this third aspect of the transformation of Cuban education are the *circulos de interes*. These "interest circles" are analogous in many respects to extra-curricular activities in U.S. high schools, but are oriented exclusively around productive activities—animal science, soil chemistry, and oceanography are typical interest circles.[38] Although not all secondary schools have active programs of interest circles, they are spreading rapidly. Ideally they are a bridge between the school curriculum and the student's later life of productive activity. Where the school is itself a productive unit engaged in agriculture, the chemistry class can devote itself to soil analysis with an interest and motivation reflecting both the wholeness of the educational experience and the real contribution being made to the productive capacity of the nation.

By tying the educational experience more closely to the economy, the *circulos de interes* perform a very important function. A society which has foregone the use of wage incentives needs an alternative means of encouraging young people to enter particular occupations. Thus the *circulos de interes* provide a means of informing young people about the content of various occupations, while at the same time stimulating interest in careers that are likely to make a major contribution to national development.

A fourth aspect of the revolutionary changes under way in Cuban education relates to the roles of the students themselves in the process of education. Shortly after the triumph of the Revolution, students were encouraged to study in groups, that is, to pursue collective rather than individual study. The process of expanding knowledge and competence was seen as a group effort, and elements of competition in the classroom were to be minimized. Although recently the importance of individual study has been re-emphasized,[39] the collective spirit is maintained in the monitors program. Each class selects a student or a group of students in each subject to help the rest of the class. Thus in one class I observed there were three monitors for the history lessons. Their role was primarily in leading group discussions, helping individuals who were having difficulty, tak-

[38] A list of *circulos de interes* at one school which I visited follows: Agriculture, Biochemistry, Cane, Animal Sciences, Citriculture, Electricity, Physiosanitation, Photography, Fruits, Geodesy and Construction, Mechanics, Agricultural Mechanics, Meteorology, Oceanography, Petroleum, Food Chemistry, Radio-electricity, Hydraulic Resources, and Soil.

[39] Jose Llanusa, *Desarrollo de la Educacion a lo Largo de los 10 Años de Proceso Revolucionario* (Havana: 1969).

ing charge of classes being taught by educational television, and similar activities. In one school I sat in on a sequence of geography classes: one, a seminar of ten or so students working (under the guidance of a teacher) on a project concerning the economics of West Africa,[40] another a televised unit supervised by a monitor, and a third in which a monitor was lecturing and answering simple questions on the main economic characteristics of various African nations. This particular school was hardly typical—it specialized in group work and the extensive use of monitors—but most Cuban educators with whom I talked see this type of teaching as spreading throughout the entire school system over the next few years.

Similar in spirit to both the *escuela al campo* and the *circulos de interes,* though at a more advanced level, is a more recent program: the universalization of the university.[41] The underlying assumption is that scholarly work of students in universities should be integrated with the productive activities of the nation. The detailed implementation of this objective has yet to be worked out, but specific projects are underway. Students studying economics already spend a considerable amount of time attached to various ministries with economic responsibilities, doing applied research and attempting to improve programs. Sociology students carry out community studies concerning the process of adjustment to life in the new towns. Those in the school of engineering work on irrigation projects or on terracing. Nearly every faculty in the University of Havana is involved in at least one major development project. Even the students in the faculty of letters carry out rural surveys of the cultural and educational aspirations and needs of the *campesinos.* But the universalization of the university is a two-way street. All students are to be workers, and at the same time all workers are to be students. There are plans to set up faculties of the university throughout the island, some located in industrial plants and other productive units. Ultimately the central physical facilities of the university are to be devoted exclusively to advanced research, with instruction in the traditional sense decentralized in a number of widely separated units.

Education and the Revolutionary Objectives

Having surveyed both the expansion and structural transformation of Cuban

[40] In the class I asked a student to imagine that he was visiting a West African nation and was asked for advice as to how to overcome their economic backwardness. "I would advise them," he replied, "to have a revolution."

[41] Castro, speech of March 13, 1969.

education, it is now possible to assess the extent to which educational policy has served the revolutionary objectives: increased economic productivity, sovereignty, equality, and the creation of the new socialist man. I will discuss each objective in turn.

Economic Productivity

There is every indication that the allocation of a sizeable fraction of the nation's resources to education has made a major contribution to the forces of production. The strategy of economic growth chosen by the revolutionary government required both a substantial number of highly skilled workers and the spread of general education throughout the population. The introduction of scientific agriculture and advanced technologies of production as well as reliance on a centralized decision-making structure requires a substantial amount of technical, organizational, and administrative expertise.[42] Moreover, the motivation of labor to work for collective rather than personal objectives—a central part of the growth strategy—imposed heavy demands on the educational system, for it presupposes the workers' acquaintance with enough of the economy and history of Cuba to understand the social value of his or her effort.

While the needs for skilled and highly educated labor were great, the supplies were meager, reflecting the low level of schooling prior to the Revolution. Moreover, even the low levels of technical skills and general education in the Cuban labor force on the eve of the Revolution were soon further depleted. The immediate post-Revolutionary years saw a drastic reduction in the available supply of highly educated labor. In the first three years following 1959, about 250,000 Cubans left.[43] A very substantial percentage of these were professional workers. About one-third of the doctors emigrated, as did perhaps 15% or more of the technical and professional personnel.[44] In addition, the nationalization of foreign firms was accompanied by the departure of significant numbers of foreign management and technical personnel.

Evidence from other countries—some with economic characteristics similar to Cuba's—suggests that the economic returns from increased schooling are considerable. Studies of the contribution of schooling to economic growth carried out in various countries indicate high rates of return from most levels of school-

[42] For an exposition of the importance of basic education in a program of agricultural modernization, see Theodore W. Schultz, *Transforming Traditional Agriculture* (New Haven: Yale University Press, 1964).

[43] Jolly, "Education—the Prerevolutionary Background," p. 177.

[44] Jolly, p. 177.

ing, particularly at the primary school level.[45] The low level of supply, the high level of demand, and the evidence available from other economies all point to the same conclusion: far from being a costly luxury, the expansion of enrollments and the allocation of a major part of Cuba's productive resources to education have made an important contribution to the forces of production. If the experience of other countries is relevant to the Cuban situation, we can also surmise that the allocation of the lion's share of educational resources to the lowest level—mass literacy and primary education—was also in the interests of increased productive capacity, despite the fact that the very rapid expansion of basic enrollment necessitated a slower growth of higher education. Further, the emphasis at all levels on mathematics, technical skills related to production, and science has also no doubt made an important economic contribution. While the direct economic benefits of technical education at all levels may be somewhat exaggerated and the high costs not fully appreciated,[46] the shift in emphasis is justified in direction if not in degree when one takes into account the low level of technical competence in the pre-revolutionary labor force.

The contribution of the educational system to production might have been even greater had a more systematic approach to educational planning been adopted. Educational policy and economic planning have not until recently been seen as part of an integrated resource allocation problem. Economic policy has had to respond to the educational levels and skills of the labor force. The shift in growth strategy from import-substituting industrialization to export-expanding development of sugar and other branches of agriculture in the early 1960's was dictated in part by a growing awareness of the excessive supplies of technically trained labor required by the process of industrial expansion. While the manpower demands implied by some particular projects have been estimated—for example, the expansion of the nickel complex—no comprehensive long range plan for the matching of labor demands and educational output has even been attempted. Only the crudest guidelines are used in determining the allocation of resources and the enrollment of students at the level of higher education.[47]

[45] Samuel Bowles, "Class Power and Mass Education: A Study of Social Structure and Resource Allocation in Schooling" (mimeo, Harvard University, 1971) and *Planning Educational Systems for Economic Growth* (Cambridge, Mass.: Harvard University Press, 1969), ch. 6.

[46] Cf. Philip J. Foster, "The Vocational School Fallacy in Development Planning," in *Education and Economic Development*, ed. C. Arnold Anderson and Mary Jean Bowman (London: Frank Cass, 1966), pp. 142-166; and Bowles, *Planning Educational Systems for Economic Growth*.

[47] Organizacion y Sistemas, Planeamiento y Estadasticas, *Proyecto de Informe Sobre Organizacion y Planeamiento de la Educacion de la Universidad de la Habana* (Havana, 1969).

The hiatus between economic and educational planning might have been justified had it been necessitated by a systematic pursuit of objectives more important than expanding the forces of production. Yet this has hardly been the case. The level of admissions and graduations at each level of schooling is determined more by the commitment to accept those who qualify and the failure to deal with the dropout and retardation problems, than by any rational economic calculation of specific manpower needs. The annual allocation of the graduates of each type of educational institution to fill work vacancies is a bargaining process among the various ministries, each attempting to gain a sufficient share of the total supply. The number of graduates available is regarded for all practical purposes as determined by considerations not directly related to manpower needs, and is taken as given.

Thus it would be a mistake to describe the positive contribution of schooling to production as the outcome of careful economic planning. Rather, the fact that the post-revolutionary educational resource allocations have contributed greatly to the forces of production may be attributed to the broader ideological commitments of the revolutionary leadership. The emphasis on education itself, and particularly on primary education, derives not so much from economic calculations as from a commitment to achieving greater social equality and to bringing all of the people into the cultural and political mainstream of the nation. Likewise the attention given to technical and scientific subjects is not the outcome of a manpower plan in which workers with particular skills in these fields were predicted to be in demand, but rather flows from a more general conviction that scientific and technical knowledge will provide solutions to Cuba's economic problems.

National Sovereignty

The rapid expansion and transformation of Cuba's educational system has done more than expand the forces of production; the old dependency on the United States for technical skills, research facilities, management, and other professional services has been broken. The formation of research institutes in virtually every major area of production and the expansion of technical and scientific studies at the highest level have laid the human resource base for Cuba's sovereignty. Although no firm data are available, impressions gained from my extensive observation in production units, research organizations, and educational institutions suggest that by the late 1960's at least, foreign scientists, technicians, and other highly skilled workers played an insignificant role in the Cuban economy—less important, certainly, than prior to the Revolution.

Social Equality

The school system has also played an important part in breaking down the class structure and other forms of social inequality. There can be little doubt that the selective nature of the promotion process in schools has been drastically altered. Many more Blacks, many more children of rural workers, and many more women now achieve high levels of educational attainment. This has occurred in large measure through the shift in school resources from the cities to the countryside. Indicative of the emphasis on rural education is the literacy campaign, and the fact that the proportion of all primary school students in rural schools has risen from 30.1% in 1958-59 to 41% in 1968-69.[48] In part, the large numbers of people from previously oppressed groups now attending schools beyond the primary school level is explained simply by the fact that free schooling is available to them. In addition, the prospect exists now of entering highly skilled and responsible positions in society if the appropriate schooling is obtained. Explicit programs of "compensatory education" are not in evidence. The major contribution to educational equality in the Cuban schools seems to have come from the new egalitarian milieu of a society in which racial and social class barriers to attainment—both in schools and in the larger society—have in large part been swept away.

This radical transformation has been both implemented by and reflected in the new forms of schooling outlined in the previous section. Students generally learn lessons from what they do, and what their teachers do, as well as from what they read and study. In a society in which the manual work is to a great extent shared by all, the conventional class distinctions become blurred. And the school activities themselves—students and teachers working side by side with the *campesinos*, workers attending school—contribute greatly to the obliteration of class lines based on manual versus non-manual work distinctions. Moreover, in the *escuela al campo* program, the leadership of the camp often goes to those who work well, not to the monitors or others who excel at intellectual tasks. The occasional inversion of the hierarchy of the school social system itself teaches an additional lesson for equality. Finally, the government made an important point by closing the school system to release students and teachers for the literacy campaign in 1961: the further pursuit of education for those fortunate to be in school was not as important as the effort to bring the illiterates of the population into broader communication with the rest of society.

[48] JUCEPLAN, *Compendio Estadistico de Cuba, 1968* (Havana, 1968), p. 33.

It need hardly be stressed that voluntary work in the countryside by white-collar urban workers teaches some of the same lessons. They learn to respect the work of the *campesinos* and begin to develop more capacity to bridge the old class divisions. The contribution to equality is furthered by the fact that when a Havana office goes to the country to participate in the harvest, the workers live in a highly egalitarian camp situation, with the minister or chief of the office sharing the same accommodations and work load with the file clerk. The hierarchy of the camps, once again, is based on who cuts the most cane, a capacity bearing no necessary relation to one's position in the office bureaucracy.

Of course, vestiges of class and racial distinctions remain. These may be seen, for example, in the apparently lower level of the school attendance among rural children, the significantly higher drop-out rates among these children (see Table 4), and the qualification of rural as compared to urban teachers as shown in Table 5. Women are still far from achieving an equal place in Cuba's educational institutions and in the society at large. The fact that these problems remain should not obscure the gigantic strides which have been taken towards equality since the Revolution. But their existence points to the need for continued movement towards a more equal education.

TABLE 4.

Drop-Out Rates, Urban and Rural, 1968-69

Grade	*Percentage in each grade who neither repeat the grade nor graduate to the next*[a] *Urban*	*Rural*
1	6.6	14.3
2	7.6	11.7
3	3.4	17.7
4	15.2	15.4
5	3.7	35.3
6	5.5	17.8
Estimated % of incoming class which will not drop out before graduating:	64.4	19.4

[a] Drop-out rates are calculated by summing the number of students "passed" from the previous grade level, the number of students failing to pass the actual grade level the year before, and subtracting from that figure the actual enrollment figure for the grade level.

Source: Calculated from data in Jose Llanusa, *Desarrollo de la Educacion a lo Largo de los 10 Anos de Proceso Revolucionario*, Havana, 1969.

TABLE 5.

Educational Background of Primary School Teachers, 1968-69

		Sector					
		Urban	%	*Rural*	%	*Total*	%
Professional teachers		21,679	74	4,120	22	25,799	54
Student teachers		32	0	54	0	86	0
"Maestros populares" ("Teachers of the people")							
Having received the emergency training course for "maestros populares"	Introduction	501	2	2,780	15	2,381	5
	1st	2,092	7	7,508	41	9,600	20
	2nd	1,115	4	2,431	13	3,546	7
	3rd	523	2	556	3	1,079	2
	Total	4,231	14	13,275	72	17,506	37
Without having taken the course		3,335	11	964	5	4,299	9
Total *"maestros populares"*		7,566	26	14,239	77	21,805	46
TOTAL NUMBER OF TEACHERS		29,277	100	18,413	100	47,690	100

Source: Llanusa, *Desarrollo de la Educacion a lo Largo de los 10 Anos de Proceso Revolucionario*, p. 50.

The New Socialist Man

Education is central to the process of creating the new socialist man. If the schools of the pre-revolutionary period socialized workers for a competitive, alienating work environment, new forms of education must necessarily accompany the development of the new man. Schooling is both a complement and a spur to changes taking place directly in the production sphere. The aim is to alter the social relations of production so as to render the work process itself intrinsically rewarding, through either the creative joy in participating in it, or the sense of social fulfillment involved in doing a needed job. Of course a transformation of this magnitude is a long process, involving not only changes in attitudes and in the social relations of production, but concomitant changes in the techniques of production and the products produced. Strenuous efforts are being made to eliminate—through mechanization—the most onerous and unrewarding work activi-

ties, such as cane cutting. Wage incentives are being de-emphasized, although very gradually.[49]

Can schooling help to advance these fundamental changes in both the social relations of production and the consciousness of the Cuban people? Many of the new forms of education discussed above are directed precisely at such a transformation. The obligation to serve society was taught by example in the literacy campaign, the social value of productive work is taught in the *escuelas al campo*, an interest in the process of production rather than in the monetary reward is stimulated in the *circulos de interes*, and a spirit of cooperation rather than competition is embodied in the practices of collective study and the monitor system.

But while much has changed, much also remains the same. The structure of the classroom itself seems to have resisted the winds of revolution. In the vast majority of classes which I visited, the method of instruction could best be described as a catechistic, authoritarian, teacher-centered approach characterized by a single teacher talking at a class of passive students. Little genuine motivation or interest was evinced by the students—and this is hardly unexpected given the limited role allowed them in shaping and instigating their own educational activities. Worse still, exams and grades still seem to be a central element in the motivation of students, thus maintaining a structure of rewards external to the process of learning and analogous to wages in a capitalist labor market.[50]

Dilemmas in Cuban Education

Pursuit of a rapid expansion of the forces of production simultaneously with radical changes in the social relations of production is bound to inevitably lead to conflict among objectives, requiring some sacrifice of one objective in favor of another. While the objectives of the Cuban Revolution—both in the society at large and in the school system specifically—have by and large been complementary, conflicts have arisen in some important areas. The way in which these conflicts have been resolved over the decade since 1959 provides an insight into

[49] Piece rates were still in use in 1969 in some agricultural occupations.

[50] Of course the grades themselves may be of little importance in achieving material comfort after graduation, as the relationship between personal earnings and scholastic achievement (however measured) may be virtually nonexistent by the time most of today's students reach adulthood. And to the extent that grades are an adequate measure of competence, one might reasonably desire good grades as an indication of one's ability to contribute to the development of the larger community.

the revolutionary process and the real commitments of the revolutionary government. The ways in which new conflicts are resolved will greatly shape the future course of the Revolution.

The decision to emphasize primary schooling and other basic education rather than higher education illustrates the first of these dilemmas. Although the development of Cuba's *own* technical, scientific, and administrative capacities would have been better served by a more rapid expansion of higher education, the primacy of the egalitarian objectives dictated the decision to invest a large portion of the nation's educational resources at the lowest level of schooling.

While the overall emphasis in educational resource allocation bespeaks a strong commitment to equality and a desire to thwart the development of a technocratic elite, other policies seem to run against this commitment. In a society committed to rapid scientific and technological advance from a position of educational backwardness, the need to fill high level scientific positions has posed the temptation to give special educational opportunities to especially talented students. A secondary school for an intellectual elite has been established in Havana, and, as of 1969, plans were under way to establish others in the remaining provinces. The students at this school were chosen primarily on the basis of their scholastic performance. Teaching and other resources were superior to any which I observed elsewhere at the secondary level, and student performance was impressive. The students at the school seemed well aware of their social obligation to share the skills and knowledge being imparted to them at society's expense. Yet even in a socialist society, a school system which stratifies children at an early age on the basis of their measured abilities and likely future roles in the production process will tend to reproduce a class structure and a sense of hierarchy in the consciousness of its students. The elitist elements built into this type of education, intensified by an almost romantic faith in the scientific expert, are clear.

The problem of "ability grouping" of students, as well as pressures for early vocationalization of education, appear to raise the same conflict between the expansion of the forces of production and the pursuit of a classless society and the new socialist man.[51] The elitist implications of a vocationally segregated or "ability-grouped" educational system need not be decisive if they are strongly

[51] I say "appear to raise" because most Cuban educators with whom I talked saw the objectives as conflicting in this case. However, evidence concerning the efficacy of ability grouping in the United States is contradictory. Even from the standpoint of teaching measurable cognitive skills, it is difficult to make a compelling case for a system of finely graded ability groups.

countered in other areas of social policy. Nonetheless, extension of this kind of schooling beyond its presently limited sphere could seriously threaten the egalitarianism of the Revolution.

A third dilemma centers around the problem of reducing the importance of external rewards based on grades and exams, a problem which has occupied the attention of a number of Cuban educators. The solution, however, seems a long way off, and there is no obvious way out. Total reliance on moral incentives in the economy must be based on the development of a new set of values and commitments among the workers—on the development of "socialist consciousness." And a major source of this socialist consciousness must be the schools. Yet in many respects the social relations of the schools themselves still recall the alienating relations of the pre-revolutionary capitalist labor market. But to eliminate the system of external rewards in the schools prior to the development of a new set of values among the students would surely lead to a slackening of effort. Such a fall in "output" is analogous to that which would be associated with a premature policy of non-material incentives in the economy. Breaking this vicious circle is one of the main challenges facing Cuban planners.

I believe that the revolutionary government is correct in seeking a solution to these educational dilemmas primarily outside the classroom: in the camps of the *escuelas al campo,* in the voluntary work brigades, in the communist communities on the Isle of Youth, and in the experience of living in the revolutionary society itself. But here we are faced with yet another problem. To produce the workers with the skills and competence necessary to make effective use of the new agricultural and other technologies requires serious study as well as changes in values. One cannot totally dispense with teaching and learning the basic cognitive skills. And yet by nearly everyone's admission, not much serious study goes on in the work camps or other non-classroom activities. Recognition of this problem is implicit in the recent speech of the minister of education stressing the importance of individual (as opposed to collective) study and emphasizing the academic aspects of student evaluation.

The above dilemmas of Cuban education are but a reflection of the dilemmas of the Cuban economy. Can forms of work organization and technology be devised which represent *both* an advance in the forces of production and a step toward social relations of production which enhance rather than inhibit personal liberation and self-development? Can educational forms and techniques be developed which will allow the effective transmission of the needed productive

skills as well as the development of values and commitments consistent with the revolutionary ideology?[52]

The answer to both of these questions, I believe, is yes. In education the grounds for optimism are particularly strong. The structure of the school as we know it in modern capitalist societies was not developed primarily to teach children productive skills but rather to fit them into the social relations of production in capitalist enterprise.[53] The development of the technical and cultural level of the population has undoubtedly been retarded—not advanced—by the teacher-centered, authoritarian educational processes which have successfully initiated future workers to the social relations of the capitalist factory or office. There is no reason to believe that overthrowing the structure of the school inherited from capitalist Cuba will necessarily curtail the contribution of schooling to the forces of production. Thus the continuing search for new social relations of schooling—at once both productive and liberating—seems likely to bear fruit if it does not succumb to immediate pressures to gear the school system solely to meeting the manpower requirements of economic growth. The search for these new social relations of education is the central challenge now facing Cuban educators in their attempt simultaneously to create what Che termed "the two pillars of socialist construction: the formation of the new human being and the development of technology."[54]

[52] A major failing of the Russian Revolution in its early period was the almost exclusive stress on the development of the technical and other cognitive capacities of children. In the hope of stimulating rapid economic growth, proposals for an extended period of general education were rejected in favor of a relatively early segregation of students for vocational training in their likely future production roles. The aim of transforming behavior patterns so as to be more consistent with the idealistic and humanistic strands of socialist thought seems to have been largely ignored, apparently beause of Lenin's ascendancy on these matters over more humanistically inclined educators such as Bogdanov. The failure of social (non-material) incentives and the ultimate resort to an inegalitarian system of wage incentives must be ascribed at least in part to this shortcoming of education in the decade following the October Revolution. See Frederic Lilge, "Lenin and the Politics of Education," *Slavic Review*, 27 (June 1968), pp. 230-257.

[53] For an exposition of this view see Michael B. Katz, *The Irony of Early School Reform* (Cambridge, Mass.: Harvard University Press, 1968); and David Isaac Bruck, "The Schools of Lowell, 1824-1861: A Case Study in the Origins of Modern Public Education in America," unpublished senior thesis, Department of Social Studies, Harvard College, April, 1971.

[54] Guevara, "Man and Socialism in Cuba," p. 394.

Serrano v. Priest: Implications for Educational Equality

THE SUPREME COURT OF THE STATE OF CALIFORNIA
with Commentary by William N. Greenbaum

The concept of equality has played a profound role in the course of world history. Both practical and ideal notions of equality have been crucial in shaping interpersonal relationships, small groups, organizations, and even whole societies. In this last category, the American democratic experiment provides a prime illustration as well as strong evidence of the continuing disparity between actual and conceptual equality.

Compared with social stratification in most industrialized societies, America's plan to provide equality of opportunity, and to reconcile it with individual liberty by fostering education, individual initiative, and a growing economy, has clearly been a massive success. But just as clearly, when the denial of equality of opportunity to major segments of the population and the shallowness of many prevailing notions of equality are weighed against America's declared ideals, the conclusion can only be that the experiment has been a tragic failure. Furthermore, this failure is apparent not only in relation to new and elaborated notions of equality, but even when the reality is compared with the nation's initial commitment to itself and to history as stated in the Declaration of Independence.

While the authors of the United States Constitution later qualified the commitment to equality by emphasizing other concepts with which it must be balanced, there can be little doubt that equality of opportunity has remained a fundamental theme in American history. Definitions of equality vary widely, of course, but most Americans would agree with Lincoln both in his interpretation of the concept and his observations regarding its implementation:

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