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Cuba: Economic Change and Education Reform 1955–1974

World Bank Staff Working Paper No. 317

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Staff Working Paper No. 317

January 1979

CUBA: ECONOMIC CHANGE AND EDUCATIONAL REFORM

1955-1974

This paper reviews the nature of the extensive educational reforms that have taken place in Cuba since the revolution, and explores their causes and consequences. Lessons are drawn for developing countries, both socialist and capitalist. The study is part of a larger project, Economic Development and Educational Reform (RPO 671-19), which is coordinated by John Simmons.

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I. INTRODUCTION

In 1959, Cuba began a process of revolutionary change which transformed virtually all its institutions. Until that year, it had been an economy and society dominated by U.S. trade, investment, and cultural influences. The U.S. virtually controlled not only the heath of the Cuban economy, but the political institutions organized to run the society within the U.S. sphere of influence. The Revolution changed this relationship rapidly and with considerable trauma: it broke economic and political ties to the United States, and ultimately made Cuba into a socialist state with the goals and ideals fundamentally opposed to a capitalist structure and organization of production. Cuba's new leaders attempted through the revolutionary process to develop a whole new set of values to guide the individual in his or her social relations. At the same time, they sought to incorporate the mass of Cubans into dynamic sectors of the economy and to raise their productivity through increased skills.

This was a costly process for the Cuban people. Since the revolution diverted resources from the merchant and professional classes, those groups (many individuals in them had supported the July 26th guerrillas as a <u>reformist</u> movement) felt particularly hard hit after 1960. Many left for nearby Miami, taking skills desperately needed in an economy trying to develop rapidly. Once it became clear that the new regime was not going to maintain the old relationship with U.S. businessmen (including the Mafia), the U.S. retaliated, first with the invasion (April, 1961), and then with blockade and intense sabotage. Cuba felt it necessary to devote massive resources to national defense. And, because of the very nature of the

Revolution, which had been a relatively small group of guerrillas well connected to some other anti-Batista groups, but not founded in any well-organized mass movement, there was little if any political structure available to develop and carry out a systematic revolutionary program. All this led to a continuation of Cuban economic stagnation throughout the decade of the 1960s.

On the other hand, the very lack of structure and the physical threats to Cuban sovereignty by the U.S. made the character of the Revolution very different from Eastern European socialism. It was more mass-base oriented, more experimental, less dogmatic, and never developed an elite bureaucracy--a new class. Even though lacking a consistent Marxist-Leninist ideology (ideology still seems to come largely from Fidel Castro and his intimate advisors), the Revolution moved away from capitalist relations in production much more completely than European socialist economies and had the spontaneous aspects of a revolutionary society. Constant threats from the outside seemed to make the regime's mistakes more reasonable and Castro himself an even more powerful figure than when he had marched into Havana. For most of the decade, the Revolution _was_ Fidel Castro, not a Communist party nor a Politburo nor a program.

It is in this context that educational reform took place after the Revolution. Whereas before 1959 the educational system was stagnant, serving to maintain a well-defined class structure and providing a relatively small percentage of Cubans access to the dynamic, foreign-dominated sector, the Revolution's educational reform was geared to develop all Cubans into a skilled labor force and to create a generalized socialist consciousness. Indeed, education and educational change in revolutionary Cuba became a

symbol of the Revolution itself; mass education became a means to mass economic participation and mobilization. Both of these were the very essence of the Revolution and were intimately connected to the educational reform. Furthermore, while before 1959 the schools had remained unaltered for a generation, the Revolution made the educational system into an institution of constant change and experimentation.

Among the most important aspects of these changes was a massive program of adult education, including a nine-month, all-encompassing literacy campaign; and a rapid move to meet the basic educational needs in school, which meant a shift in emphasis in education from urban children to rural children and adults, from universities to primary and secondary schooling, and from academic to vocational training. Important shifts in curriculum also occurred, with increased focus on the school as a place where students learned to work collectively and get early preparation in vocational skills. For the higher educated this meant part-time employment while attending university. Above all, the school became the cutting edge of developing consciousness among children and adults of their roles in the new Cuban society.

To achieve such change required changes in the form of schooling as well as its substance. Vocational training required workshops, so factories were built as part of schools or schools were built next to factories. Boarding schools increase the time a student spent in the learning and socialization environment, so young people were moved from urban areas into rural boarding schools. But providing schooling for one-third of the population and providing much of it in the form of a total environment (boarding) or in terms of special vocational training is expensive. New forms

of financing were needed: schools themselves became production units whose output is integrated into the overall economic plan. Schooling, collective work, and the financing of education became part of the same process.

As we shall show, these fundamental reforms of Cuban education did not change everything in the educational system, nor were all the desired objectives met by those changes which did occur. But the fact that such profound alterations in the nature and distribution of formal schooling did take place and that formal and non-formal education came to play such an important role in the overall training and mobilization system has to be analyzed. After all, to a lesser or greater degree, Cuba faced educational problems in 1959 common to many low income countries: illiteracy, high drop-out rates, poor rural education, educational distribution favoring children of the urban middle and upper classes. Was Cuba able to solve these problems because of a clever use of resources? Because of a new educational philosophy emerging from the educational system itself? Because of a simple determination to change the educational system? If any of these were the reasons for the profound changes in Cuban education, the changes could be easily transferred to other low-income societies.

In this essay, we argue that none of these reasons accurately explains why Cuban education developed the way it did. Rather, we think that the changes which occurred were largely a means to rationalize and legitimize a fundamental change already taking place in the economic and social structure. Cuban educational reforms correspond to new relations in production under Cuba's brand of revolutionary socialism. We try to explain the main currents of the constant experimentation and change happening in Cuban education by relating those changes to the transformation of Cuba's

economy and society. At the same time, we contend that Cuban schools are responsible (along with other, political institutions) for developing a particular social consciousness which corresponds to a socialist ideal, an ideal derived from discussions and struggles in the Cuban political hierarchy and reflecting in part previous discussion and failures in the revolutionary process. We conclude that Cuban education can best be understood by analyzing it in the <u>context</u> of economic and ideological change.

While this may seem to be an obvious approach to educational reform, its implications are deceptively powerful. For one thing, it implies that the kind of changes in Cuban education which we have described would not have occurred without the particular Cuban economic and social structure changes after the Revolution. Simple as it may seem, the allocation of massive amounts of economic and social resources to the education of rural poor, even to the extent of reducing university education, apparently requires the dismantling of an urban-oriented dependent capitalist class society. There are no political forces in that kind of society to support the types of educational reforms undertaken in Cuba during the 1960s. Our analysis also implies that although it might be possible to transfer to other (capitalist) countries some of the ideas developed in Cuban education (for example, making rural schools production centers to offset costs of education), the <u>nature</u> of the ideas would have to be altered to fit into a non-socialist society, altered so much that it would not be the same idea at all, but a different one. In the case of productive rural schools, for example, we would find that if applied in a capitalist country, those schools would lower rural school costs and might even lead to a rapid expansion of rural schooling, but would probably not result in a shift of

resources from urban to rural areas, because of the political power of urban capitalists and professionals. Rural schools would be made to finance themselves through student agricultural production and urban schools would be subsidized by public expenditures as before. Indeed, the savings of resources in rural areas might well be used to expand urban education. And that is not the only problem. What about the agricultural production of the schools? Increasing agricultural output in a market economy would lower prices in the short run. Lower prices means that part of the cost of running the schools would be borne by farmers, part of whose income would now be shifted to the school system. Lower agricultural prices--particularly for staple goods--would benefit urban workers, but might be translated into smaller increases in mininum wages and therefore would increase industrial profits.

This is just one example. There are surely lessons to learn from the Cuban experience, but these lessons have different meanings in different organizations of production. We therefore must analyze educational change in the total ideological and structural context in which it occurs, and it is impossible to separate it from that context. The experimental nature of Cuban education; its emphasis on collective work and rural development; its expansion into rural areas and large expenditures on adult education; the literacy campaign--all these can only be explained by the nature of the Cuban Revolution and its needs, including the fact that the Revolution was extremely personalized for more than a decade.

Our analysis of educational change must therefore begin with changes in the production process in Cuba together with the structural forms and social relations under which it is carried out. Beginning in 1959, Cuba

underwent a radical alteration in these forms and relations; a transition from a capitalist, low/middle-income dependent economy to a socialist, low/middle-income economy. We show that important economic and social change took place in this transition, particularly in the transformation of the Cuban economy in the first several years of the transformation of the Cuban economy in the first several years of the Revolution. But even after the radical changes in those early years, economic policy designed to meet socialist objectives continued to alter the goals of economic and social institutions.

The essay is divided into seven main sections: after the introduction, we review the condition of the Cuban economy before the Revolution and the educational system which developed to contribute to the reproduction of that system. In the third section, we describe the phases of economic and social change that took place with the Revolution. We emphasize the principal features of Cuban economic strategy and the ideological development which accompanied and shaped these changes. In the fourth and fifth parts of the essay, we focus on the changes in education carried out by the revolutionary regime.

The major educational reforms we discuss fall into three categories: first, we show that the immediate ideological needs of the Revolution required mass mobilization of the total population and the incorporation of that population into the labor force and a new political culture--this was in large part achieved through an extensive <u>adult education</u> program. Second, we describe the <u>expansion</u> of the formal school system, with its early emphasis on primary and secondary education. Third, we deal with reforms in the <u>nature</u> of formal schools, particularly in terms of the

socialist view of work and the changing needs of the Cuban labor force as the strategies of Cuban development were changed by the new leadership. The problems of developing a skilled _rural_ labor force and creating a new _social_ consciousness, we argue, became the key factors affecting school reform in the last ten years.

According to our analysis, the radical reforms in the Cuban educational system _corresponded_ to the transformation of the country's economic and social structure, a logical and necessary means of carrying out the Revolution's objectives of mobilization and incorporation. Once this transformation was through its initial phase, further educational reforms under Cuban socialism corresponded to changes in manpower needs and changes in the Cuban leadership's view of how to increase productivity within a socialist economic and social framework. We contend that after the mid-1960s, the productivity problem was seen (in the long term) as a problem of skills _and_ consciousness. Although the incentive system was altered in the early 1970s to promote short-run productivity increases, in the longer run, the schools and other educational institutions are being called upon to develop values and attitudes among workers which will produce high motivation and productivity with collective incentives.

In the sixth section, we speculate on the possible future contradictions in Cuban society, and how the output of the educational system relates to them; and in the seventh and final section, we discuss the implications of the educational reforms for reforming education systems in capitalist dependent economies and in other socialist countries. We ask what planners can learn from the Cuban experience and whether that experience is applicable in non-revolutionary conditions.

This is a relatively short essay. It makes no attempt to describe in detail the workings and history of the Cuban economy before or after the Revolution. So much has been written about both these subjects that is isn't necessary to go over it again. The same is true of the educational system before and after 1959. People have written entire books about one or two aspects of the Cuban educational system; no need to go into that detail here.

We have written an analysis, not a detailed description. We link the workings of a Revolutionary economy and society to a formal educational system. In doing that, we try to clarify the relationship between society and education in all societies, capitalist and socialist. If we have only touched some issues that should be explored in more detail (and there are many), we can do no more than refer the reader to our extensive bibliography, which covers books and articles in three languages, as well as most of the sources in which original quotes from Fidel Castro and others can be found.

II. EDUCATION AND SOCIETY IN PRE-REVOLUTIONARY CUBA.

Education in Cuba before the Revolution was organized to reproduce a dependent capitalist organization of production, both through meeting the needs of that system for a limited quantity of skilled labor and domestically trained managers and professionals, and through socializing the mass of workers into an economy dominated by foreign capital, foreign products, high unemployment, and a highly unequal distribution of income. While in some ways, the structure of the Cuban economy and characteristics of its social classes were rather typical of Latin American dependent capitalist development, in other ways, they were very atypical. The development of the educational system reflected these similarities and differences.

Like many other small Latin American countries, Cuba's economy was based on a single export crop — in this case, sugar — which, although it amounted to only 20 to 25 percent of the total national output, employed more than half the cultivable land and 25 percent of the labor force. More important, sugar dictated Cuba's ability to marshall foreign exchange and to purchase from abroad the commodities needed for domestic growth (Manitzas 1973, pp. 2-3). As a result economic expansion was heavily dependent on sugar prices and the quantity of sugar alloted by U.S. sugar quotas, and economic cycles were closely tied to not only economic cycles in the United States, but to U.S. legislative policies which affected the sugar quota. Sugar was so predominant and the U.S. such an important buyer (at higher than world market prices), that Cuban per capita income rose and fell in accordance with sugar prices and U.S. quotas.

As might be expected, the small pre-revolutionary Cuban industrial sector employing less than 20 percent of the labor force, was also dominated by sugar and the export primary sector: of the 900,000 workers employed in manufacturing in 1957, almost 500,000 were in sugar mills and another 130,000 were employed in the manufacture of products from tobacco. In terms of invested capital more than one-third of capital in manufacturing was in the sugar industry, with another 17 percent in mining or metallurgical industries. Although only about 40 percent of Cuban sugar mills were owned by U.S. firms, these mills, as well as other plants owned by foreigners, represented the bulk of the technologically modern production facilities. On the average, completely owned Cuban firms formed a sector of industry which was less competitive in world trade, using older machinery, relatively labor intensive techniques, and concerned primarily with producing consumer goods for the domestic market (Ritter 1974, p. 25). In addition, U.S. capital controlled 90 percent of telephone and electric light and power services, and 50 percent of the public railways, as well as playing a preponderant role in the refining and distribution of petroleum and in the exploitation of nickel and other mineral resources.

Besides the enormous dependence that this implied for the Cuban economy, it also had important implications for the development of technical skills that could be useful for an overall development effort: First, Cuban machines were almost totally of U.S. origin; second, most of the technology necessary to maintain and run the large, modern Cuban factories, the electrical utilities, and the extractive industries, resided in foreign hands or in the hands of Cubans who were closely tied to U.S. companies; third, the distribution system, both for internal and for external markets, was

dominated by foreign expertise, and, in the case of exports, was oriented almost entirely to sales in the United States and purchases in the United States.

In all these ways Cuba was like many other Latin American countries, pursuing a narrow concept of development sometimes successfully--during sugar booms--and mostly unsuccessfully for the mass of Cubans. It is true that Cuba was an extreme case of this kind of development: extremely closely tied to the United States, extremely dependent on a single crop but, correspondingly, relatively rich because it could produce that crop at relatively low cost, because of its preferred position in U.S. markets, its large sugar crops, nickel supplies, and in the 1950s tourism and gambling. Yet this wealth, like other countries following Cuban-type development, was heavily concentrated in a class of intermediaries between Cuban resources/markets and U.S. markets/imports. Cuba did not go through a stage import-substitution industrialization pursued by some larger economies like Brazil, Mexico, and Argentina.

Politically--and again in some ways like other Latin American societies--Cuba reflected her economic ties to the U.S. America had, of course, been intimately involved with Cuba since the 1898 war, to a large extent controlling directly the various governments which ruled Cuba until 1959. Batista himself was supported by the U.S. to destroy the revolutionary movement of 1933. He ruled Cuba directly and indirectly, tightly following the U.S. line of New Deal, then Cold War anti-Communism, until his own overthrow in 1959.

The development strategy of the 1950s was, therefore, exactly what the U.S. prescribed in those days: infrastructure investment in electric power, roads, water, etc. Education had not yet assumed the important role

in U.S. development strategy that it took on later with the "discovery" of human capital.

But Cuba in the 1950s also differed from most other Latin American countries. Because of the dominance of sugar in agriculture and the plantation cultivation of that crop, a typical rural laborer in pre-revolutionary Cuba was a wage-earner rather than a peon or subsistance farmer; in 1952, paid workers comprised 63.6 percent of the total agricultural labor force. As Manitzas points out, the thirst for land characteristic of the peasant was subordinate in the rural proletariat to demands for better living and working conditions, higher wages, job security, and better educational opportunities for children.

Furthermore, the nature of Cuban history was such that a Spanish landed aristrocracy was displaced rather late (by the 1898 war of independence) and, because of rapid capitalist penetration into sugar cultivation, was never replaced by ~~any~~ politically important criollo aristocracy.[1] Cuba's upper class came to be defined "by money rather than by inherited social status . . . Its ranks were filled not by seignorial gentry but by businessmen, bankers, merchants, and anyone else with sufficient wherewithal to live affluently" (Manitzas 1973, p. 8). This upper class was inexorably tied to U.S. business. The middle class -- large by Latin American standards -- was also closely linked with U.S. economic interests.

The distribution of earnings in this type of economy was highly unequal. Although there are no direct data on income distribution in the 1950's, it is evident that there were large differences in wages between urban and rural areas. High "open" unemployment in

rural areas (the result of capitalist penetration into agriculture and the ensuing proletarianization of rural labor), averaged 9 percent of the total Cuban labor force during the sugar harvest and reached more than 20 percent (or about 80 percent of those in sugar production) in the "dead season" between harvests (Manitzas 1973, p. 6); so income differences between urban and rural areas were even greater than wage-rate differences. The distribution of land ownership was also very unequal, with 0.5 percent of the farm units occupying 36.1 percent of the total cultivated land in 1945 and 69.6 percent of the farm units occupying only 11.2 percent of cultivated land. The 28 largest sugar corporations controlled 86 mills and occupied 18 percent of the cultivable land in 1959 (Ritter 1974, p. 48; Barkin 1972, pp. 84-85).

Yet, a relatively fluid social order in this capitalist economic structure gave rise to an important contradiction: organized labor expanded and flourished — more than one-fifth of the entire Cuban population was in unions (Manitzas 1973, pp. 9-10). Labor unions were not confined to just cities and mining communities, but extended directly into the countryside, "where industrial workers and agricultural labor co-mingled in the large sugar complexes. Unionization, the admixture of industrial and agricultural wage workers, and, finally, a highly active Communist Party in union leadership for many years, gave a coloration to the Cuban lower classes that was largely lacking in most other Latin American countries. In essence, it exposed them to values and norms of behavior that were secular, rationalistic, and fundamentally modern in stamp (Manitzas, 1973, p. 10)."[1a]

[1a] Because of subsequent events, it is worth noting a little of the Cuba Cominist Party's prehistory. The Party, founded in 1925, followed Popular Front strategy beginning in 1935. Under Cuban conditions, this

In summary, then, the principal characteristics of the pre-revolutionary Cuban economy were (1) the capitalist penetration of the economy and the proletarianization and unionization even of rural areas; (2) the importance of sugar production in the economy and its effect on employment patterns; (3) the low rate of economic growth between the immediate post World War II period and 1958;[2] (4) the control of technology by foreign corporations and the cultural influence of the United States on consumption patterns of the upper and middle classes; and (5) the unequal distribution of income and wealth and the concentration of technical, research, and managerial functions in North American hands.

These conditions were directly reflected in the Cuban educational system of that period. Like other dependent Latin American economies -- which shared with the pre-Revolutionary Cuban economy technical dominance by foreigners, unequal distribution of income and wealth, and the influence of the United States on consumption and production patterns — the class structure in the society was reproduced in an unequal educational system where rural education was particularly underdeveloped.

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meant cooperating with Batista. Batista, in turn, allowed the Party to operate openly and achieve legality. To understand why Cuban unions were well established and had considerable Communist influence, we have to go back to the Batista regime of the late 1930s and the 1940s. That regime was reformist and heavily influenced by the New Deal. It regarded itself as a form of social democracy. The constitution of 1940 enlarged the sphere in which the unions could operate and even promised land reform. Communists secured most of the key positions in the Cuban Union Congress, and two Communists had cabinet posts.

Even when these conditions changed sharply with the Cold War and the 1952 coup, and the Communists were suppressed, leaders like Blas Roca, Juan Marinello and Carlos Rafael Rodriguez could live undisturbed in Havana. The dictatorship's plan was apparently to keep the Communists in reserve in case one needed them to blackmail the Americans, at the same time that it tried to purge them from the unions and political life. And the Communists, in turn, for rather good ideological reasons (as well as their survival) maintained an ambiguous attitude toward Castro's armed struggle against the dictatorship. This policy poisoned the relationship between the 26 of July Movement and the Communist Party for more than a decade after the Revolution (see Enzenberger, 1975).

> . . . Absenteeism, apathy, and social antagonism especially among teachers assigned to rural primary schools (secondary schools in rural areas were practically non-existent) further intensified the marked differences between urban and rural education [quoting a Cuban educator] . . . . Most teachers and inspectors live in the capital city or an important provincial city. They commute each day and from the moment they arrive at their respective schools, they have only one thought in mind — to leave in time for the last vehicle that will take them back home. (Paulston, in Mesa-Lago 1971, p. 383).

Sons and daughters of working-class and rural children in Cuba received much less and lower quality education than children of middle and upper classes. Despite the fact that 40 percent of the labor force and about 50 percent of the population was in rural areas, only one-third of the primary enrollments in the decade before the Revolution were in rural areas.

Furthermore, about one-third of university enrollment was in social sciences and law (Paulston 1971, p. 389), in preparation for the service jobs available for Cubans as intermediaries between U.S. businessmen and technicians and the mass of the Cuban people. Of the 17,527 students in the University of Havana in 1953-54,

> . . . only 1,502 were in the School of Science; of these, 409 studied civil engineering, 463 electrical engineering, 404 agricultural and sugar studies, and 226 pure science and mathematics. Attendance was often half-hearted. Standards, in many cases, were low among faculty and so among students. Many students deserted courses before the year had ended. The state of affairs in the universities reflected social attitudes as well as the condition of the economy. The prospect of employment after graduation was often uncertain and discouraging . . . . After a student strike at the end of 1956, the universities were closed, so on the eve of the Revolution there was no university education at all (Jolly 1964, pp. 253-54).

Pre-Revolutionary Cuban educational development also had its own particular characteristics which were different from the typical Latin American dependent situation. Using Jolly's data, Bowles shows that there was an educational stagnation in the 1930's, '40s, and '50s which resulted in a declining enrollment in primary school. In 1925-26, 63 percent of the primary school age children in Cuba were enrolled in school, while in 1955-56 the percentage enrolled had fallen to 52 percent. By 1958-59 the fraction of the five to fourteen-year-old age group enrolled in primary school had declined to less than 50 percent (Bowles 1972, pp. 280-81; see also Table 1).

Thus in a crucial period of economic stagnation (the 1950s), the educational system failed to expand and to mediate the contradictions of Cuban development. As the economic surplus available to Cubans and foreigners did not grow, and foreign investment did not alter the conditions under which it would be willing to create surplus, the Cuban upper and middle classes were forced to put increasing economic pressure on labor and — apparently through corruption — on the funds available for education and other public services, the very means necessary to mediate the increasing difficulties of Cuban capitalism.

For example, the declining enrollment in schools through the forties and fifties occurred in the face of what appear to be rapidly increasing expenditures by the Ministry of Education. According to Jolly, the annual expenditure by the Ministry rose from about $11 million in 1940 to $37 million in 1945, to $55 million in 1950-51 and $74 million in 1955-56. This was an increase from 14.4 percent to 22.7 percent of the government budget and from 2 percent to 3 percent of national income.

TABLE 1: Cuba - Teachers and Students in Primary and Secondary Private and Public Education, Selected Years

PRIMARY SCHOOLS

Year	Public			Private		
	Schools	Teachers	Students	Schools	Teachers	Students
1902	3,474	3,583	163,348	-	-	-
1912	3,916	4,055	234,625	-	-	-
1925	3,627	6,898	388,349	575	1,956	38,064
1931	3,816	7,567	452,016	568	1,668	32,450
1939	4,386	9,386	424,094	360	1,906	31,023
1950	7,614	21,148	593,361	-	-	79,645
1955	7,905	20,119	728,087	-	6,619	107,000
1958	7,567	17,355	717,417	665	7,000	120,000

SECONDARY SCHOOLS (PUBLIC AND PRIVATE)

Year	General Education		Vocational Education		Teacher Training	
	Teaching Staff	Pupils Enrolled	Teaching Staff	Pupils Enrolled	Teaching Staff	Pupils Enrolled
1952	1,952	26,413	1,402	14,818	940	7,977
1955	1,963	46,914	1,860	21,063	842	7,966
1959	3,664	63,352	-	20,800	472	10,111

SECONDARY SCHOOLS (PRIVATE, GENERAL EDUCATION SCHOOLS INCORPORATED THROUGH PUBLIC INSTITUTES)

Year	Number of Schools	Number of Students Enrolled
1944	27	2,214
1956	165	13,459
1958	168	14,800

UNIVERSITIES (PUBLIC AND PRIVATE)

Year	Number of Institutions	Number of Students Enrolled	Teachers
1952	4	20,971	711
1955	7	24,273	975
1958	6	25,514	1,053

Source: Dahlman, 1974, Table 2.

Primary expenditure per child enrolled was $77.3. Yet, there was apparently a great deal of graft and corruption in the allocation of these funds. The 1950 World Bank Report stated that

> The Cuban prople have not been getting their money's worth for the relatively generous amounts they have been willing to spend on education . . . . Administrative faults have been the most important cause of Cuba's educational deficiencies (Jolly 1964, p. 171).

The bank also reported that "the Ministry of Education [was] a principal focus of political patronage and of graft" (Jolly 1964, p. 177).

Moreover, Paulston argues that,

> Because Cuban teachers held life tenure as government officials and received full salary whether they taught or not, teacher appointments became a major focus of patronage. Not infrequently, appointments were purchased outright at prices ranging from $500 to $2,000. The higher fees usually secured appointments as specialists who received the same salaries as full-time teachers, but who taught subjects as music, art, or English -- often without proper knowledge of their specialties -- for only two or three hours a week (Paulston 1971, pp. 382-83).

Between 1943 and 1958 the Cuban government educated 5,591 teachers in specialized subjects -- e.g., music, manual arts, and drawing -- who in that time cost the State over 150 million pesos, while 600,000 children had no schools at all (Cuba 1973).

Despite all this, the fact that the upper and middle classes earned their status and income at least in part through merit considerations -- merit based on a person's capacity to make money within the context of norms heavily influenced by U.S. business operations in Cuba -- and because

of the extensive capitalist penetration of both the urban and rural economy, even in the 1950's after two decades of stagnation and decline in primary schooling, schooling in Cuba was much more widespread than in all but two Latin American countries (Argentina and Uruguay). In 1958, about 75 percent of the Cuban population 10 years or older had completed some primary schooling or higher with only 25 percent not having attended any school. And over 1 percent of the population older than 10 had attended university.

Cuba on the eve of the Revolution thus had a relatively small percentage of illiterates (23.6 percent), a well-organized labor force, and proletarianized rural labor, relatively interested in bettering their material conditions and increasing their children's education. Even though the necessary educational effort in Revolutionary Cuba was great in any terms, Revolutionary leaders were starting out with a relatively well-educated population by Latin American dependent capitalist economy standards, and a population already relatively well-integrated into a capitalist wage-labor production system.

III. ECONOMIC AND SOCIAL CHANGES UNDER THE REVOLUTION

The seizure of the State by Cuban Revolutionary Forces in January, 1959, began a process of radical economic and social change in Cuba. The change in formal education from a stagnating, class-based system to an agent of mass mobilization reflected the overall change in manpower and ideological objectives of the Cuban economy and society. At the same time, particular features of the educational system and the way in which education was used to achieve these general objectives corresponded to modification in economic policy within the socialist Cuban framework.[3] Before going on to the educational reforms which were part and parcel of this process, we summarize the principal economic and social changes which took place after 1959, and trace alterations in the policies used to achieve the new government's general objectives.

Cuban economic policy during the Revolutionary period is characterized by four principal aims: (1) a much more equitable distribution of consumption and the provision of minimal levels of health services, education, and nutrition to everyone in the Cuban population; (2) the elimination of unemployment; (3) rapid economic growth to increase the standard of living of the Cuban population; and (4) the elimination of the market mechanism as an allocator of resources by an administratively run economy in which people responded to moral incentives rather than economic rewards.

The Revolution has carried out its economic goals in the context of an overriding ideological objective of changing human interrelations in the society. Just as capitalism developed in an

ideological context based on the political struggles of an emerging merchant class against a land-based feudal aristocracy, socialism in Cuba emerged as a dominant form of organization in response to the inequities of the dependent capitalist system under which the Cuban masses lived in the first half of the twentieth century. It is impossible to understand the nature of the social transition in Cuba and the pursuit of the first three economic goals of the Cuban Revolution without understanding the relationship between these goals and the ideology in which they have been pursued. It is even questionable whether the new regime could have achieved long-term equalization of income or relatively full employment without resorting to a breaking of dependent ties with the United States, nationalizing the sugar industry, and, at least for a number of years, centrally administering resource allocation. But, beyond that, beginning in about 1962 or 1963, Cuban leaders began to try to transform Cuba into an idealized Communist society.

Under these ideological conditions — a particular view of human interrelationships and a moral judgment as to a just distribution of national product, as well as a particular view of the rights of individuals in a society (such as the right to work, the right to education, the right to health care, etc.) — Cuban leaders attempted to increase the growth rate of the Cuban economy. After the initial phase (1959-61) of the Revolution, in which income and wealth were radically redistributed, and the economy began to move to the elimination of overt unemployment,[4] the Revolutionary leadership concerned itself primarily with trying to solve the problem of economic growth within the ideological context it had set for Cuban development.

At the same time, and in retrospect, the first ten years of the Revolution were preoccupied with the fight for survival against internal counter-revolution (which included considerable sabotage), invasions financed by the United States, and the U.S. economic blockade. In Castro's words:

> . . . the economy was not the center of attention during the first ten years. In this first period of the Revolution survival under conditions of imperialist subversion, military aggression, and the implacable economic blockade occupied the main efforts of the nation. For many years we had to maintain more than 300 thousand men under arms to defend the country. To that we had to add the necessity of harvesting sugar by hand,noting that the array of unemployed used to cut the cane under capitalism had disappeared with the new opportunities for employment created by the Revolution (Castro, 1976, p. 61).

A good summary of the dofferent stages of Cuban economic strategy is contained in Table 2 (1959-1972 reproduced from Ritter 1974, modified by Carnoy for later years). As Table 2 shows, Cuban economic policy went through a series of distinct phases between 1959 and the mid-seventies; these can be characterized by <u>transition</u> (1959-61), in which Cuba had its national product redistributed, its population mobilized, and industries nationalized; <u>agricultural diversification and rapid industrialization</u> (1961-63), in which Cuban leadership tried to move the economy into Soviet-style development and away from sugar production; <u>economic growth through export expansion and the development of Socialist Man</u> (1964-70), in which sugar production was accepted as the lead sector and an emphasis was put on agriculture and the creation of socialist attitudes and values as the basis of work incentives; and <u>material incentives and democratization</u> (1970-present), in which economic decision making is gradually being decentralized and emphasis is on increasing economic growth through increased efficiency, mechanization, and an increase in material incentives.

Table 2 shows that the changes in Cuba's economy and society were not only profound between 1959 and 1961--the period of transition from capitalism to socialism--but also after 1961, when important economic policy modifications took place even as socialism was being established. These changes can be identified with the search for the "correct" road to Cuban socialism in the particularly difficult conditions of the 1960s. But they stem, too, from the lack of a coherent political apparatus (and its accompanying ideology) to carry out a revolutionary program. Cuba was the first socialist country to build a revolutionary party after its revolution.

For our purposes of analyzing educational reforms, the chronology of change shown in the table is important, especially the divisions between the period 1959-60 (the "reform" period) which coincided with a simple expansion of formal schooling (liberal reform); the period 1961-1963/64, in which several changes in economic strategy took place, but which was also a period of mass mobilization coinciding with the literacy campaign and massive expansion of rural and adult education; the period 1964-70--moral incentives and personalized (under Fidel Castro) direction of the economy and society--coinciding with the unification of schooling and work and the expansion of secondary education; and finally the period from 1970 to the present, a period of emphasis on efficiency and economic growth, improved political and organization and economic administration, coinciding with improving the "quality" of youth education at all levels, increasing university-level education, and specialized vocational education at the secondary level, as well as the continued expansion of work/study secondary schools.

While this chronology _is_ important for our analysis of Cuban educational development, it is just as important to understand several fundamental

TABLE 2: Economic Objectives, Strategies, and Performance in Revolutionary Cuba: A Schematic Summary

Year	Goal Priorities	Growth Strategy	Institutional Strategy	Mobilization Strategy	Economic Performance (in terms of growth, income redistribution, full employment and reduced dependence)	
1959 May 1	Income redistribution (e.g., land reform; urban reform; automatic rapid growth)		Business as Usual Redistributive reforms	Material incentive structure	1959-60 Growth: exceptionally rapid Income redistribution: made more equitable Unemployment: reduced considerably	1959
1960	Reduction of dependence upon the United States		(the nationalizations)		Dependence: all relations with the United States severed	1960
1961	Growth and structural diversification	First Growth Strategy	Freewheeling	Some volunteer work	1961-63 Growth: negative	1961
1962		Instant industrialization	Central Planning Soviet-Style	Material incentives; some moral incentives (emulation voluntary work)	Income distribution: more equitable Unemployment: further reduced (labor shortage in agriculture; covert unemployment emerges)	1962
1963		Agricultural diversification			Dependence: greatly increased dependence upon the USSR	1963
1964	Growth without structural diversification	Second Growth Strategy Export-oriented Sugar-centered	(The Great Debate)		1964-mid-1970 Income distribution: more equitable (due to intense rationing); emergence of privileges in later 1960s	1964
1965	Reduction of dependence de-emphasized	Industry serves the needs of agriculture Massive investment effort		Increased emphasis on moral incentives Political religion	Unemployment: overt unemployment eliminated, covert unemployment remains serious	1965
1966	(the New Man becomes overriding objective, but is also the means to achieve growth)				Growth: stagnant in aggregate terms; success in some sectors (nickel, rice, fishing); 1970: success in sugar at expense of nonsugar economy	1966
1967					Dependence: profound dependence upon the USSR continues	1967
1968			Revolutionary Offensive High degree of centralization Administering role for armed forces	De-emphasis upon material incentives Mass mobilization by moral suasion and military methods		1968
1969						1969
1970 Sept. 1						1970
1971	Growth continues as key objective Reduction of dependence further de-emphasized	Modification of Second Growth Strategy Diversified investment allocation Reduced investment effort	Democratization Some administrative decentralization; mini-brigades	Democratization Reduced role for the party De-emphasis upon material incentives	mid-1970-72 Growth: recovery of the nonsugar economy; problems with sugar sector, 1971-72 Dependence: profound dependence upon the USSR continues	1971
1972	Democratization becomes ultimate as well as instrumental value	High priority to investment in housing	Depersonalization of economic administration	Selective coercion (Anti-Loafing Law)	Income distribution: emphasis on material incentives reduces equality but increases equity of income distribution Unemployment: 101,081 loafers go to work (1971); improvi[illegible] productivity reduces covert unemployment	1972

Note: For convenience, the column on Economic Performance has been divided into discrete periods of time. Solid lines indicate pronounced changes in strategy. Dotted lines indicate less pronounced, more gradual changes in goal priorities and strategies.

TABLE 1 (continued)

Year	Goal Priorities	Growth Strategy	Institutional Strategy	Mobilization Strategy	Economic Performance (in terms of growth, income redistribution, full employment and reduced dependence
1973					
1974					
1975				Experiment with local elections (Podor Popular) in province of Matanzas	
Dec. 1976 1977	Growth continues as key objective, with major emphasis on production for export and industries not using imported materials.	First five Year Plan (1976-1980) Somewhat lower planned growth rate (6% annually) continued diversification and investment and continued mechanization - increased industrialization.	Continued depersonalization of economic administration. Centralized planning with decentralized decision making at factory level	increased demoralization of Communist party. Collective material incentives. Elections for local delegates to National Assembly Poder Popular to administer local areas	1976 to 1980 No data yet available.

aspects of the Revolutionary economy and of its economic policy which transcend and shape the chronology of Cuban economic and social change:

1. The operation of the socialist economy in Cuba is not at all market-like. Decision-making--at least until the early 1970s--was made centrally, for all intents and purposes by Fidel Castro and his close associates. This was not the kind of centralization characteristic of Eastern European socialism, where the hierarchy of the Communist Party bureaucracy makes planning decisions. For in Cuba, the CP (the PSP, as it was known in Cuba) did not participate in the military action against Batista, and Castro did not allow the newly constituted Party to take on any sort of directive power until the early 1970s (Enzenberger, 1975).

> This had a lasting effect on the organizational form of the movement. Structurally, it never existed as an organized party. It had no firm leader cadres. There could never be any exclusion from the movement since there was no formal membership. . . . Inasmuch as one can speak of a program it has been thrust on the movement from the top. The possibility of discussion and of the formation of a political will existed only informally through the personal influence of individuals on Castro (Enzenberger, 1975, p. 117).

This had advantages and disadvantages: on the one hand, there was no organizational structure to make decisions shaped by information from the base, nor an organizational ideology to carry out a systematic program for the island's socialist development. On the other hand, no new class developed which had special privileges or special power. It was possible, in the 1970s, to develop a more democratic and open Communist Party and parallel political organizations, such as Poder Popular, which grew out of local groups existing from 1961, like the Committees for the Defense of the Revolution (CDRs).

At the same time, decision-making power centralized in the hands of a few at the top produced decisions about economic policy which resulted in successes or mistakes so great that they affected the whole island. Good examples of "successes" in the 1960s were the fishing industry and pork production; of a "failure," the ten-million-ton sugar goal in 1970. In any case, mistakes could be admitted and policy changed. By market economy standards, personalized decision-making and the power to mass mobilize (Castro's popularity with the Cuban people has been continuously high during the whole period) has allowed Cuba to make rapid and rather sudden changes of policy.

For example, between 1961 and 1963, the central planning authority began to diversify Cuban agriculture away from sugar production and to accelerate industrialization; this strategy was influenced by a "sucrophobic" tradition -- the desire to get away from dependence on sugar production -- and the Soviet model of economic growth, using heavy industry as the lead dynamic sector for autarkic development.[5] But this strategy quickly ran into trouble as export income fell (sugar production fell from 6.7 million metric tons in 1961 to 4.8 million in 1962 and to 3.8 million in 1963) and imported parts and machines greatly increased. When it became clear that this pattern was bankrupting foreign reserves, stringent controls were taken by an exchange control board, as a short-run measure, but, at the same time, Cuban leaders reevaluted their <u>entire development strategy</u>. By 1963, they came to accept industrialization and agricultural diversification as innappropriate to Cuba's resource endowment at that particular stage of its development, and announced that for some years, agricultural development would receive first priority and that

agriculture would be the base for Cuba's economic development (Boorstein 1968). This was a profound change in Cuban economic strategy and required an entire consideration of the Soviet model for socialist countries. The point here is that once it became clear that industrialization and independence from sugar were impossible in Cuban conditions, the leadership quickly moved back to a strategy which compromised on independence but built on Cuba's reality of rich agricultural resources and her comparative advantage within the socialist world. Once the decision was made in favor of agriculture, investment patterns were changed rapidly and the educational system was altered to fit new manpower needs.

Later, with the disaster of the 1970 sugar effort, another important reevaluation took place: the erroneous belief that sugar production could be expanded greatly without hurting other parts of the economy was necessarily discarded; the emphasis on moral incentives to solve the productivity problem was put to one side (at least temporarily) and more traditional, material methods of raising productivity were reintroduced. Moral incentives had not worked as well as had been hoped, so something else would be tried, even though this compromised on a fundamental ideological commitment to developing socialist consciousness.

The willingness to make rapid and profound changes in policy and the acceptance of such changes by the Cuban population became part of the Cuban Revolutionary process. Change is an inherent part of that process and this promotes experimentation in different approaches to problems, at least at the highest planning levels. This makes Cuban Socialism, at least until now, different from the Russian or Eastern European version. As we shall show, the changes that occurred in the education system, changes which usually accompanied economic policy modifications such as those we

discussed above, or reforms which responded to problems within the educational system itself, were also rapid and often fundamental, and had the same experimental quality of much of Cuban economic policy, steeped in Fidel Castro's personal "ideological" forms (if, indeed, this can even be called a systematic ideology [see Enzensberger, 1975]). Many of the educational reforms like the schools in the countryside or the new vocational secondary schools began as experiments in one or two provinces and were only promoted into a general reform when they could be tried out on an experimental basis. "We learn from the revolutionary process; and the revolutionary process itself, with its infinite variety of new things, with its infinite number of possibilities, must always be the great teacher of the people, the great teacher of all revolutionaries. The best book, our true textbook in matters of revolution, will be the revolutionary process itself"(Fidel Castro, quoted in Fagen 1969, p. 103).

2. The essence of the Cuban Revolution lies in mass mobilization. One of the principal objectives of the new government when it assumed power in 1959 was to incorporate the mass of Cubans into the mainstream of economic and social activity. Two organizations play a key role in mobilization: the Committees for the Defense of the Revolution (CDR), which are local political groups, highly decentralized in organization, charged with incorporating and socializing people into revolutionary behavior as well as popular defense; and the formal educational system (defined to include the 1961 literacy campaign). Although we shall not deal in detail with the CDRs, the nature of the Cuban Revolution rests to a large extent in that mass organization which already had one million members by September, 1961 (See Fagen 1969, pp. 69-103).

The CDRs, not the Communist Party (as we have already explained), have been the link between the highest levels of political bureaucracy and the masses. When a policy changes or a mobilization for any reason is required, it is the CDRs which are called upon to implement the action. In addition, in the earlier years of the Revolution, the CDRs did much of the instruction in Marxism and were responsible for incorporating Cubans into Revolutionary social activities -- essentially to socialize them into a socialist social system and transform their attitudes.

Mobilization of this type hinged on the commitment of the government to equalize economic conditions facing different groups in the society and to build a society in which the masses were fully incorporated in terms of access to institutions, to political organization, and to goods. If the leadership did not accomplish this at least to some extent, mass mobilization through local CDR's could not serve as an effective organizing device. Thus, the leadership had to produce genuine changes, identified with the Revolution, which favored the mass of peasants and workers, in order to mobilize those masses to work for the Revolution.[6]

The goal of mass mobilization has had a fundamental effect on the educational system; it was the educational system which served as the base for the literacy campaign in 1961, a campaign in which all teachers and many students participated, going for nine months into the countryside to teach almost one million illiterates how to read. But even in the post-literacy period, schools have been organized to serve adults almost as much as children -- formal education has been viewed as the principal means to bring the population into full participation (high productivity) in the economy.

3. The politically mass-based Revolution necessarily had as its principal economic objectives, the redistribution of income and wealth and the reduction of unemployment. These programs were necessary because they are an inherent part of a commitment to mass participation and mass-based political organization. Thus they were part of

> . . . an explicit attempt to minimize the long-standing disparities between classes which were especially notable in both the rural-urban contrast and within the urban areas in the pre-Revolutionary society. They are designed to insure that everyone has the opportunity to enjoy basic minimum levels of consumption and access to those public services which the government decided were essential to the new pattern of living which was being created. (Barkin 1972, p. 82).

Redistribution took place in several ways: First of all, early in the Revolution, as we described, the government fixed salary structures in such a way that the difference between the highest and lowest salaries was greatly reduced.[7] Secondly, the full employment strategy employed by the government insured that everybody who was able to work received income. Thirdly, the excess of demand over the supply of goods because of the growing investment component of Cuban national income led to rationing and meant that those with higher incomes could not purchase additional goods. Fourth, social services were redistributed in such a way to favor lower income Cubans.

We shall discuss the case of education below, but in addition to education, medical care, transportation and recreational facilities have been made available to the masses in large quantity and in generally good quality. Barkin describes this process of redistribution in greater detail (Barkin 1972), but to summarize briefly in regard to the influence

of this policy on education: Cuban economic development policy is based on the full participation of the fruits of the economy by the mass of the population. With the shortages of labor, growth had to be based on making the masses of the population more productive and investing in the capability of that popultion to be better organized and better producers. Education was restructured and expanded to provide training which was more directly relevant to new productive needs of the country. This kind of development effort based on mass mobilization required a much greater commitment to mass education, health care, and to building an internal transportation and distribution system which reached everyone in the economy than that required by the dependent semi-colonial economy that Cuba had before the Revolution.

4. Cuba encountered the overwhelming hostility of the United States to the development path the Revolution had taken. Within a year-and-a-half of the entrance of the Revolutionary Army into Havana, the United States had begun an economic embargo of Cuba. Given Cuba's pre-revolutionary economic dependence on the United States, the embargo disrupted Cuban economic life to a great extent and forced Cuba to adjust to the severe change which had occurred in her normal trade patterns.

The proximity of the United States and its willingness to accept Cuban immigrants in unlimited numbers also stimulated the flight of the hard-hit middle and upper classes to the U.S. As Tables 3a-3c show, the emigration was highly concentrated in the university-educated. This took its toll of the technically capable (although many of the emigrants were lawyers, and trained to serve the intermediary service and commercial sectors in the pre-Revolutionary economy).

TABLE 3a

Cuba: Loss of Employable Manpower from Departures of Refugees to the United States 1959-September 1962, by Occupation

Occupation	1952 Active Population	Registered Refugees in United States	%
Lawyers and Judges	7,858	1,695	22
Professional and Technical Workers	78,051	12,124	16
Managerial and Office Workers	93,662	6,771	7
Clerical and Sales Workers	264,569	17,123	6
Domestic Service, Military and Police	160,406	4,801	3
Skilled, Semi-Skilled and Unskilled	526,168	11,301	2
Agricultural and Fishing	807,514	1,539	0
Total	1,938,228	55,354	3

Source: Fagen, 1964, pp. 391-382.

TABLE 3b

Cuba: Loss of Cuban Employable Manpower from Departures of Refugees to the United States 1959-March 1963, by Level of Education

Educational Attainment	Registered Refugees in United States	Estimate % of Total Stock of Such Manpower in Cuba
Less Than 4th Grade	2,300	0
4th to 11th Grade	35,600	3
12th Grade to Three Years' University	14,100	17
Four Years of University or More	7,700	38
Total	59,700	2

Source: Jolly, 1971, p. 216.

TABLE 3c

Cuban Refugees in the United States
1970s, by Occupation and Age

By Occupation	Percentage
Children, Students and Housewives	64.0
Professional, Semi-Professional and Managerial	6.5
Skilled Workers	9.3
Clerical and Sales	11.7
Semi-Skilled	3.6
Farming and Fishing	1.8
Service Workers	3.1
Total	100.0

By Age	Percentage
1 - 18	34.0
19 - 49	44.0
50 - 59	10.5
60 - 65	4.1
66 - above	7.4
Total	100.0

Source: Bender, 1975, p. 21.

The embargo and emigration had some immediate effects on the Revolution's educational aspects. The nationalization of enterprises and the subsequent embargo put machines and factories into the hands of Cubans but made access to equipment and technical assistance for the mostly U.S. made machines extremely limited. Educated Cubans were generally not available to fill these jobs. While this had a negative influence on production, its educational effects were generally positive; as Boorstein notes, many workers eventually filled engineering jobs and technical jobs that were held formerly by educated individuals. These workers had had experience in the particular factory, but were not trained to be responsible for production decisions or for providing technical expertise in the enterprise. This took place in public utilities, the petroleum refinery, and in the nickel industry, as well as sugar production (Boorstein, 1968).

Although we do not know specifically how well these workers performed in these positions, we do know that between 1961 and 1963 industrial production rose by 7.7 percent per annum despite all the material and parts shortages. Investment in this period, meanwhile, went primarily for "nonproductive" purposes like schools and transportation. Most subsectors of industry increased production with the exception of sugar, fruit processing, and building materials (Ritter 1974, p. 155).

The ability of Cuban workers to fill technical and managerial positions naturally had its limitations. These were workers with experience in production, some with long-time experience. New workers would probably have to acquire similar experience with similar technically competent supervision to achieve the capability of filling the same roles. As the

capacity of existing plants was reached, the shortage of skilled labor and managerial and technical competence began to make itself felt. Nevertheless, Revolutionary education continued to emphasize work-related experience as a crucial component of the education process. The workplace was used as a base from which to train workers in the formal components of schooling (workers were let out of work to attend schools near the factories) and those attending higher levels of schooling work part-time either in the industrial or agricultural sector. Ultimately, in the late 1960s, the secondary schools themselves became places of work for a part of each student's time.

In the longer run, too, the embargo contributed to the important shift from industry to agriculture as the lead sector of the economy, and this, in turn, put increasing emphasis on training rural labor rather than urban. As we discussed, overall investment moved from industry to agriculture, and within agriculture, in the post-1962 period, from other crops back to sugar. Industrial investment concentrated on agriculture-related industries, and infrastructure investment emphasized the improvement of transportation and communication between rural growing areas, factories using agricultural raw materials, and population centers and ports. To solve the rural labor problem, which began to be acute in the mid-1960s, education and labor policy was eventually oriented to shifting urban labor to rural work on a permanent basis. But even during the immediate post-1962 period, rural education played an important role in the overall Cuban infra-structure investment, and this role became progressively <u>more</u> important in the early 1970s.

5. The Cuban economy, since 1961, has been based on centralized planning. In our discussion we noted that planning, especially under the conditions of the embargo, produced a learning process for many Cubans which in some ways may have been costly, but in others prepared the way for the long-term development of Cuba using the human resources available among the Cuban workers and peasants. The Cuban people essentially had to make their own mistakes in order to understand how the new economy was going to work. The shortage of available personnel made planning difficult and the carrying out of the plan almost impossible. However, given the shortage of personnel, the ideological preferences for socialist development, and the complete transformation of the Cuban economy and society by Cuban leaders, centralized planning may have been the only solution. In the early '60s an important discussion took place on whether the economy should be run on a planned Soviet style centralized system or a more decentralized Yugoslav model. This discussion is summarized in Bernardo (1971) and will not repeat it here, but the Soviet planning model prevailed. This has important implications for educational policy. In the first place, it tended to de-emphasize the development of elite cadres through the educational system, cadres who would be in charge of running a decentralized market-style economy. Primary and secondary schooling produced worker skills which would be useful in carrying out the necessary work in different production units of the economy. But Revolutionary leaders themselves carried out the management and supervision of the entire economy. This precluded the necessity of developing a large number of highly educated planners and professionals.

Castro himself later argued that this was a mistaken policy, although a product of the Cuban brand of socialism.

> The methods of running the economy that were used were not the best possible. Our administrative cadres don't have, generally, the necessary economic conscience, the necessary preoccupation with questions of costs and production efficiency. It isn't possible to measure how much this has cost and is costing us in extra hours of work and in excess use of material resources (Fidel Castro, 1976, p. 106).

In the current stage of Cuban development, where decision-making is undergoing decentralization (see Castro, 1976, pp. 112-116), on the one hand, and, on the other, there is increased emphasis on more technical overall planning centrally, rather than trying to manage all day-to-day operations, on both counts, the role of the university is increasingly important. University graduates will be needed to make decisions in the provinces and more highly trained technocrats will take their place in the central planning agencies. Indeed, the number of university graduates is expected to increase from 1,400 in 1966 to 10,700 in 1980. Five thousand of these 10,700 will be in science and technology.[8]

6. The early efforts to become "independent" of both the United States and sugar also had an important influence on the educational reform. The question of dependency and independence bears some discussion. In pre-revolutionary Cuba, education was already an important vehicle for social mobility because of the depth of capitalist penetration and the importance of foreign technology in the Cuban economy. However, an important fraction of all technology at that time was in the hands of foreign investors and foreign managers. The role of Cuban professionals was largely as merchants and other kinds of intermediaries who took a share of the surplus that was generated by this appendage to the mainland economy. Once the Revolution occurred and with it the subsequent break

with the United States, the embargo of Cuba by the U.S. government, and large numbers of administratively and technically-skilled Cubans leaving to the United States and other countries for ideological reasons (approximately 250,000), Cuban trade shifted dramatically from the U.S. to European socialist countries. While it is true that Cuba is in many ways just as dependent today on the Soviet Union and Eastern Europe as it was for trade and investment funds on the United States in the 1950s, the differences in socialist versus capitalist dependency have important implications at all levels of the Cuban economy. This difference is especially crucial in the control of technology: control has implications for production in Cubans' learning to develop their own technology; it also changes the educational system into one which helps Cubans ultimately develop new kinds of technology which are particularly suited to Cuban development needs.

> Economic independence cannot simply depend on self-sufficiency. If it did, most countries would be doomed never to enjoy it -- and the term loses meaning. Economic independence means that the people of a country control its economy and its destiny themselves, free of interference from abroad; they control its resources, its markets, its trade, its policies. They decide . . . . Imperialism by its nature precludes such independence for the underdeveloped countries with which it deals. When the large corporations go into an underdeveloped country, they get control of resources, take over markets, and dominate foreign trade. They cannot avoid doing this and still function. And together with the governments that back them politically and militarily they cannot help but exercise political domination. The socialist economy does not by its nature drive toward domination. Socialist countries do not invest in other countries and acquire ownership of land, mines, factories, railroads, docks, warehouses, stores, hotels, nightclubs, and gambling casinos. A socialist country may make a loan

> to another but it does not thereby acquire property. When one socialist country exports to another it does not get control of the internal market with a whole system of retail outposts. There are no private monopolies to bully foreign governments, and no external properties but the social state to defend (Boorstein 1968, p. 221).

The implications of the difference between socialist and capitalist dependency on educational institutions should be clear: if a country controls its own resources and its people are directly involved in decision making processes, it will develop an educational system with the full breadth of educational skills; it also has an interest to produce these skills in all parts of the population to a much greater extent than a country in which important sectors of the economy is controlled by foreign monopoly corporations. Since the decision making process influenced by such corporations extended to the highest levels, eliminating them and replacing their managers by nationals implied a much greater possibility of development choices (technology, manpower development, investment) which reflect national needs rather than the needs of international capital.

7. Nevertheless, the choices for development in Cuba are also a function of ideology. Cuban leaders felt it was necessary to build a consciousness among the Cuban people to serve the collective society rather than their own personal interests. At first, this took the form of "socialist emulation," which was a type of fraternal competition between individual workers or between groups of workers in order to obtain individual corrective moral or material rewards. Besides the rise in individual productivity, emulation between groups of workers would also provide a strong incentive for these groups to cooperate as cohesive teams, which in turn would place group pressures on members to participate fully in

the group effort. Furthermore, socialist emulation was to result in increased social consciousness and in workers becoming more accustomed to work for the common good (Bernardo 1971, pp. 56-75).

> Finally, in the second half of 1968, further refinement in the workings of socialist emulation was introduced. Prizes were tailored to suit the average worker so that the wider masses might regard them as being within the reach of their capabilities. Norms were further reduced to overfulfillment of the plan, full attendance and punctuality, volunteer labor, renunciation of overtime pay, and interest in the social life of the work center (Bernardo 1971, P. 63).

All this was part of the movement that began in 1966 to create the New Socialist Man. In late 1963, a "great debate" began between the protagonists of moral incentives (and the budgetary system of finance) and the advocates of material incentives (and a decentralized economic administration). In September 1966, Castro announced for moral incentives, and that the New Man morality could be used not only to increase production but to overcome virtually any social, economic or political difficulties. The Cuban emphasis upon <u>conciencia</u> and the New Man was a significant innovation in Marxist, Leninist doctrine and a departure from orthodox Eastern European approach to building Communism. In Eastern Europe and the Soviet Union, the achievement of economic abundance is a precondition for the high level of social consciousness characteristic of the last stage of Communist society. Both Che Guevara and Fidel Castro criticized this approach to the construction of Communism on the grounds that "the use of material incentives and self-interest as the motive force in the economy would continue to engender the vices of character that afflict man under Capitalism" (Ritter 1975, pp. 273-74).

Guevara argued,

> Pursuing the chimera of trying to achieve socialism with the aid of the worn-out weapons left by capitalism (the marketplace as the basic economic cell, profit making, individual material incentives, and so forth) it is possible to arrive at a dead-end. Meanwhile the adapted economic base has undermined the development of consciousness (Ernesto Guevara, "Man and Socialism in Cuba," quoted in Ritter 1974, p. 274).

Guevara and Castro believed that the construction of Communism required <u>that the new man must be created before or simultaneous with economic</u> growth. Development of the New Man could become part and parcel of the mobilization of the masses inherent in Cuban economic development. Therefore, the creation of the New Man morality and the achievement of abundance were though to be complementary and mutually supporting. "The root . . . is not to create <u>conciencia</u> with money or material incentives (and self-interest) but to create abundance with <u>conciencia</u> and continuously greater collective wealth with greater collective conciencia" (Fidel Castro, "Discurso de 26 de Julio, 1968").

The ideology of the Revolutionary development strategy obviously had a profound effect on the structure of school and ideological instruction in the schools. Educational institutions became the key means to consciousness-raising among the young.[9] Since consciousness was directed toward collective rather than individual actions, schools had to be oriented in this direction.

This concept was also tied in with the idea of volunteer work, and this meant that school children were expected, as part of their school curriculum, to devote time to voluntarily work, especially in agricultural areas. With the immigration from rural to urban areas during the first

several years of the Revolution, there was a shortage of labor in agriculture and this made output expansion difficult in the agricultural sector. Large inputs of unpaid labor were injected into rural areas by having military recruits, prisoners, urban employed workers, and non-employed women and students work part-time in agriculture.

However, the infusion of unpaid labor into the agricultural sector could not solve the problem since such unpaid workers had very low productivity. According to Mesa-Lago, unpaid workers usually cut less than one-third the average daily cane-cut per day of skilled cutters and untrained workers cause wastage or damage in the sugar harvest and in weeding sugar fields.[10]

In recent years, there has been a movement away from moral back to material incentives, including work norms, overtime pay, and salary scales.[11] Furthermore, there has been less reliance on volunteer labor in the agricultural areas because of the longer-term strategy of mechanizing agricultural production and increasing the permanent rural labor force by shifting underemployed urban labor out of the service sector into agriculture and the development of the "school in the countryside" in 1972. There has also been a feeling that the need for more highly skilled technicians means that time lost by students from their studies when working in agricultural areas could be better spent gaining skills necessary for long-term economic growth.[12] Nevertheless, the concept of socialist emulation and collective effort still pervades the school system and, since this continues to be the ideological basis for Cuban socialist development, will undoubtedly continue as the structural base of the Cuban educational condition. In addition, the priority given agriculture has not diminished; students in urban secondary schools even under the new policy still work in the countryside several weeks a year.

> Have moral incentives made for more human social relationships? Writers such as Huberman, Sweezy, O'Conner, Barkin, and many other visitors have attested to the tremendous willingness of the Cuban people to engage in collective efforts to improve health, education, transportation, and housing as well as their ability to criticize one another as equals . . . . Jose Iglesias, after an extensive visit to a Cuban town, came away with the feeling that personal relationships were much less individualistic and selfishly motivated than before the Revolution. The life of the average citizen is, as he put it, 'an open book'; when personal relationships are not based on inequalities of wealth and status and upon competition, what indeed, is there to hide? It must be admitted that there is still some evidence of racism and sexism in personal relationships, although these are consciously fought against and are certainly not (as) institutionalized as they are in capitalist countries (Williams and Yates 1974, pp. 86-90).[13]

In Castro's speech before the First Communist Party Congress (Dec. 1975), he made clear that the emphasis on economic efficiency begun in the early seventies would be continued. But at the same time, he warned:

> If we think for one second that by the simple application of this system of economic direction that enterprises magnificently well and will resolve all problems, and that, therefore, we can halt all ideological work with the masses or that we can halt moral incentives, it would be a great error, because it is absolutely impossible that economic mechanisms and stimuli in socialism have the same efficiency as in capitalism, because in capitalism the only thing that functions is economic pressure and stimulus: hunger, unemployment, etc. Here we have some restricted economic stimuli that are used as mechanisms to improve the efficiency of the economy, as mechanisms to justly reward workers and collectives of workers who are more supportive of the society with their work and effort, but, above all, the functioning of this system will permit the State, the Party and the workers themselves to have a better knowledge of the effectiveness with which they are using productive resources . . . moral incentives have to be amplified, because in reality we have given few moral incentives. The role of moral incentives has to be increased. There is much still to do in the field of moral incentives and the deepening of mass consciousness (Castro, 1976, p. 115).

McEwan (1975) expresses this another way: he argues that rather than speaking about "moral" versus "material" incentives, it is more useful to

discuss "personal incentives" and "collective incentives" He sees the two incentive systems as intimately tied to the participation and power of workers in the political system:

> The effective operation of collective incentives, requiring as it would, high morals and understanding on the part of the workers, would also require the politicization of the masses. It seems quite reasonable to assume that, in the long run, the only way people are going to care about and fully understand production processes is if they are involved in decision-making (MacEwan, 1975, p. 84).

And, he contends, while the system of incentives in Cuba is a composite of collective and personal elements, "there is reason to argue that the collective incentives are dominant" (MacEwan, 1975, p. 85).

8. Beginning with the 1963 debate within the Cuban leadership on decentralized (Yugoslav) versus the centralized (Soviet) planning models, which resulted in the adoption of centralized planning in 1964, and the subsequent decision to rely on moral incentives to achieve goals within the planned economy, political and economic decision making in Cuba became increasingly centralized and personalistic, with Castro himself making personal planning decisions, and the Cuban Communist Party (after 1966) and the Cuban Army became the chief administrators of local economic institutions in the country (see Mesa-Lago, 1974, chapter 3).

Trade unions also declined in this period because the traditional function of the unions — to struggle with capitalists for higher wages — disappeared as the State and workers' interests became closely identified. New tasks assigned to the unions, such as raising productivity and winning workers for the Revolution, were also government and Party tasks. The trade unions were, therefore, no longer crucial elements in the Cuban workers' institutional structure.

According to Zimbalist (Zimbalist 1975), despite the lack of traditional worker organizations and little rank-and-file pressure to gain a say in decision making at the production level, informal worker participation appeared to exist in the early sixties, although no formal structure for participation existed in practice. In 1965, worker control over labor relations was enhanced by a 1965 law which replaced the grievance committees with Labor Councils, composed of elected worker representatives, and which make decisions over worker grievances, work discipline, and transfers (Zimbalist 1975, p. 8). And, between 1965 and 1970, there was a growth of Worker Production Assemblies, which were to discuss the fulfillment of the plan, but this growth appears to have been uneven. Zimbalist concludes that worker participation before 1970 was low, even though greater than under Batista.

> Theoretically, the administrator represents the interest of the worker and peasant state, the interest of all the people. Theory is one thing and practice another . . . The administrator may be making one mistake after another, and this happens everyday, everywhere . . . The workers cannot do anything about it . . . How can the workers be made to feel more involved with the workplace, with his production goal if he is only a producer who never has any opinion, who cannot make any decision, who is never consulted about factory management? . . . There is no one to defend him . . . the Party has become so involved with the management that in many instances it has ceased to play its proper role, has become somewhat insensitive to the problems of the masses . . . (Jorge Risquet July,1970 quoted in Zimbalist 1975, p. 11).

Under these conditions, Zimbalist argues, Cuba's thrust toward moral incentives in the mid-1960's was bound to run into difficulties.

"That is, if the worker was not involved in the administrative process of his or her enterprise, the worker would be less likely to internalize the goals of the enterprise. In the long run, the 'good of the society' is too abstract a stimulus by itself to sufficiently motivate most workers " (Zimbalist 1975, p. 12). Combined with the economic conditions of the period -- lower production of consumer goods, stable prices, and accumulating incomes in the hands of individuals -- there were growing discipline problems in the workplace and increasing absenteeism. Absenteeism was approximated to be between 5 and 20 percent on a daily basis (Zimbalist 1975, p. 13).

The reaction to this situation was initally greatly increased control over workers' time on the job, and the increased use of merits and demerits. The large numbers of teen-age youth who were neither in schools nor working were incorporated into military agricultural work groups or into technical schools (we discuss this in greater detail below).

But the difficulties with the 1970 sugar harvest plus criticism by non-Cuban Marxists, such as Sweezy, Bettleheim, Dumont, Karol, and Zeitlin (see Mesa-Lago 1974, pp. 62-63), of the increased personalism, paternalism, and authoritarianism in the Cuban Revolution, led Castro to reassess the political organization of Cuban society and the then (1970) recent militaristic strategy chosen to solve the incentive and productivity problems. The ideological aims of the Revolution apparently were to be fulfilled in the 1970's through increased democratization of the workplace and the political structure. Nineteen-seventy-one (1971) became the "Year of Productivity," and without giving up the concept of "socialist man," the movement began to return to material incentives.

Material inventives to solve the persistent problem of labor productivity meant the reinstitution of work quotas in conjunction with the replacement of standardized norms instead of moral incentives. In addition, workers were stimulated to increase their skills and industry was progressively more mechanized. The unions were eventually (1973-74) given the job of fulfilling norms and determining who got paid how much.

And at the same time that material incentives were replacing moral incentives, a new more "pragmatic" economic policy was put into effect. The new policy emphasized central planning; the use of computers to develop the plan to determine allocation of resources, prices, etc., in place of the personalized "mini" planning that Fidel Castro had instituted in the late '60s; more efficient allocation and use of capital to increase productivity, and reduction of the financial disequilibrium between the supply of money wages in the economy and the supply of goods ("socialist inflation").

As measures were being taken to increase material product, primarily through the mechanization of agriculture, Castro was also beginning to move to reform the excessive centralization of the administration as bureaucratization, the absorption of administrative functions by the Cuban Communist Party, the exaggerated role of the State in all national affairs, the one-manager system of the State enterprises, and the non-democratic condition of union organization. These reforms included restricting the Party role in the future to the coordination and supervision of the administrative function, decentralizing decision making into clusters of various ministries with connective function, and announcing that the administration of enterprises would no longer be simply the task of the manager but of a "collective body" presided over by the manager and inte-

grated by the representatives of the workers, the Party, and youth and female organizations (Mesa-Lago 1974, p. 64 and Ritter 1974, p. 325). Furthermore, mass participation was to be extended to the democratization of all mass organizations. Castro acknowledged in 1970 "that the trade union movement was in poor shape and should be revitalized through democratization (free election); it should also be allowed to defend the workers' rights" (Mesa-Lago 1974, p. 65; Fidel Castro, September 1970, quoted in Ritter 1974, p. 330).

These tendencies were given additional support at the First Communist Party Congress, five years later. The policy changes of 1970-71 had produced a 10 percent annual growth rate for 5 years. The election experiment in Matanzas had been a success. Productivity in the factories was up. Mechanization of agriculture was progressively solving the labor shortage in rural areas. Economic intervention by the United States had become negligible. So, in December, 1975, Castro extended the movement of the previous five years toward decentralization and democratization, at the same time pushing for increased efficiency through cost accounting (Castro, 1976).

According to Zimbalist, increased participation at the factory level has increased through (1) union elections, which allow workers to choose representatives to higher bodies confederated along geographic and product lines; (2) the creation and strengthening of management councils, composed of the work center adminstrator, his/her top assistants, the worker-elected union representatives, representatives of the local party nucleus, and representatives of the local branch of the Communist Youth

Organization (the council meets at least once a week); and(3) the strengthening of the power of worker production assemblies to discuss economic plans at the local level and to send representatives to higher level meetings.

These means of participation are still largely restricted to the local level, although Zimbalist points out that the Party leadership is calling for increased participation at higher levels as well. Furthermore, democratization is simultaneously taking place in local and provincial government and within the Party. "In the words of Raul Castro, the effort is to find 'the best possible combination of centralization which is indispensable for the guarantee of what is desirable for the general social interest of the country, and at the same time, the decentralization which guarantees the particular interest of the localities and the mass of people which cannot be adequately handled from the center.'" (Zimbalist 1975, p. 23).

In July, 1974, the government's experiment in popular power began with secret elections in Matanzas province for district representatives to the Peoples' Municipal Assemblies: each CDR nominated a candidate. Voter turnout was 90 percent of all those eligible (all citizens over 16 years old) voted even though there was no penalty for not voting, and 54 percent of the elected delegates were not Party members (Zimbalist 1975, p. 23).

> At each level the popular assembly is encharged with overseeing and assisting with the implementation of the economic plan corresponding to that level. Early reports suggest that many of the local bottlenecks and inefficiencies resulting from overcentralization in the past have been overcome. In fact, Castro

has recently announced that the "Popular Power" experiemnt in Matanzas will be extended to the rest of the country in 1976 (Zimbalist, 1975, p. 23).

Other elements of democratization should also be noted: First, the Communist Party, which governs most decisions at the local level, has rapidly increased in size, from 55,000 members in 1969 to 153,000 members in 1973, to more than 200,000 members at the end of 1975. To enter the Party, a person can be appointed or elected by other members of his or her workplace, as well as accepted by the Party itself. In order to incorporate more women into the Party, it has also become possible to be elected by block-club organizations. At the end of 1975, more than 60 of the members came from places of work, elected by their fellow workers (Castro, 1976). Second, during May and June, 1975, 6 million Cubans discussed and approved, in more than 168,000 assemblies, the socialist Constitution project, passed into law in early 1976 (Harnecker, 1975).

The meaning for the schools of this increased democratization is still not clear. On the one hand, as we shall show, the schools to the countryside and in the countryside both have important elements of self-government, and the former began in 1966 -- in other words, there was a significant degree of student control at least in part of the educational experience already in the late 1960s. To some extent, then, students were being exposed to levels of participation which may have been in advance of what they would find in the workplace. On the other hand, the academic portion of schooling (all but 45 days a year for the schools to the countryside) was probably as authoritarian and hierarchical as schools in capitalist Third World economies. And the First National Congress of Education and Culture, held in 1971, primarily discussed problems of delinquent youth, drop-outs, the low level of

political consciousness among many youth, the shortage of qualified teachers, and other issues common to most educational systems. The issue of hierarchy in the classroom or student participation in decision making about education at the school or higher levels was not on the Congress' agenda (La Educación en Cuba 1973, pp. 353-66). Later speeches both by Castro and other education officials put increasing emphasis on increasing the quality of education (teacher preparation), students' scientific-technical preparation, reducing drop-outs, and increasing the number of technocrats at the university level (see Castro, 1976, and Gallo *et al*., 1975). We will discuss these tendencies in detail in Chapter 6.

IV. EDUCATIONAL REFORMS AFTER THE REVOLUTION: MASS MOBILIZATION AND THE GREAT EXPANSION

> What did the Revolution find in coming to power in Cuba? What marvels did the Revolution find in coming to power in Cuba? Thirty-seven and one-half percent of our population was illiterate, didn't know how to read or write; seventy percent of our rural children didn't have teachers . . . . The Revolutionary Government in only twenty months has created 10,000 new schools; in such a brief period it has duplicated the number of rural schools that had been created in fifty years. And Cuba is today the first country of America that has satisfied all the schooling needs, that has a teacher in every last corner of the mountains . . .
>
> Fidel Castro, speech before the U.N., September, 1960

What was the nature of educational reforms after 1959? Once the Revolutionary leaders took power, they were shortly faced with the task of transforming the structure of the Cuban economy and its political culture. Education was viewed as a key factor in achieving both these goals. As Fagen points out, Cuban leaders did not see Revolutionary programs limited by lack of human resources so much as by the difficulty of mobilizing and utilizing the population-at-large and the resources of other organizations.

> Viewing almost the entire population as the potential manpower pool for a development effort implies two subsidiary beliefs. The first is that given a bit of initial guidance and a Revolutionary orientation toward work, almost anyone can be helpful in one way or another. Thus, all children with a sixth-grade education can teach illiterates (although they cannot teach physics), any housewife who can count and write a simple sentence can be a census-taker, and any peasant who understands why it is a Revolutionary duty to become literate can help in recruiting his <u>companeros</u> for the campaign. The basic problem is not training the child, the housewife, and the peasant, but locating, recruiting, an motivating them. In the Revolutionary view, people grow to fit the responsibilities thrust upon them (Fagen 1969, pp. 66-67).

The principal reforms in post-Revolutionary Cuba, then, revolved around mobilizing the entire Cuban population into productive activities and transforming the ideological base through which these productive activities functioned. At the same time, reforms also responded to the need for more highly skilled labor in both rural and urban areas for economic growth, and the development of particular skills as defined by the overall shift in Cuban economic policy toward technical self-sufficiency and particular shifts in policy as described in the previous section.

These reforms were set in the context of Cuban Revolutionary ideology, an ideology which was distinctly different from the capitalist philosophy of the pre-revolutionary society. The reforms also occurred in a particular order; that is, each reform was the result of events which preceded it, including other reforms. As we discussed above, changes in Cuban society became much more experimental, and the process of change took on new importance. Thus the literacy campaign influenced the future of adult education; secondary boarding schools for urban and rural students in rural areas emanated from the experience of having urban students working rural areas 6 weeks a year (school in the countryside -- school to the countryside even though the latter continued after the schools in the countryside were developed); dropouts at the primary level resulted in new schools to deal with the drop-outs, etc. The reader should not lose sight of the process which created the reforms, a process largely of trial and error, searching for new forms of education most suited to economic and social needs.

The most important reforms after 1959 were the radical change in the purpose and structure of adult education, the expansion of schooling at the primary and secondary level, the shift of schooling to rural areas, the increased relation between schooling and work, and, ultimately to a combination of schools and workplaces -- the schools as production units. In addition, socialization in the school changed from promoting individual motivation to collective work, even though there is some question of how much individual competition still exists in the schools in order to be selected for promotion to elite schools and to attend university. There is also some question to what extent the Cuban classroom itself has become less hierarchical.

Socialist Ideology and Educational Reform

> One educational leader at the Ministry of Education, Abel Prieto Morales, said that when he was in Italy, someone at an education conference asked him: 'Is the school in Cuba an instrument of the State?' His answer was, "Yes, of course, just as it was before the triumph of the Revolution, and as it is in the present day in Italy" (Leiner, in Manitzas and Barkin 1973, p. 6).

In Cuba the State ideology is anti-capitalist, anti-imperialist, and promotes collective action rather than individual initiative. This ideology as it is taught in the school is summarized in an official report by the Cuban government to the Unesco Conference on Education and Economic and Social Development held in Santiago, Chile, in 1962.(For the entire document see Seers 1964, pp. 348-51).

> The bourgeois ideology regarded education as a phenomenon isolated from its economic basis. In fact, however, education is an ideological superstructure and is closely linked with the means of production -- that is to say, with the productive forces and the relationships of production.
>
> Throughout the whole history of human society education has been a product of the social classes which dominated at each stage. The content and orientation of education are therefore determined by the social classes which are in power.
>
> In Cuba, those in power are the workers, the peasants, the progressive intellectuals and the middle strata of the population, who are building a democratic society in which group and class privilege are disappearing and in which private ownership of the basic means of production is being eliminated. If anyone wishes to know the aims of our education, they should study the interests of the workers, peasants, intellectuals and the middle strata of the population and they will find their answer. It is these which determine the purpose, the objectives, and orientation, the content and the methods of education in our country.

The document goes on to describe the development of education in Cuban society and the goals of education under the Revolution. Some of the goals stated are the following:

> . . . Stress must also be laid on the importance of education for socialism and on the value of science in economic social cultural development.
>
> . . . They [the pupils] must be brought to have a high sense of duty to work; that is to say, they must be taught to abandon the false notion of work as a punishment and they must be taught the necessity of work.
>
> . . . They must be taught the value of emulative work and the difference between capitalism and socialism as being based on the difference between competition for private gain and emulation for the sake of increasing the output of the community.

> . . . At the same time, since another of the aims of education for socialism is that of providing the necessary technical and scientific training to produce workers who are capable of directing and increasing production, and since the means of production are in the hands of the State, it is logical that, for many different ideological, practical, and pedagogic reasons, education should be linked with productive labor.
>
> . . . Our plans and programmes aim at the elimination of verbalism and learning by rote and making education a living matter, in which theory is identified with practice and linked with social labor.
>
> . . . Here we see two basic aims of socialist education: the linking of education with productive labor as a means of developing men in every aspect. Educating in productive labor, making the students familiar with the details of production through practical experience, enabling them to learn its laws and organization as processes; that is, educating them in the very root of all cultural, technical, and scientific progress, and giving them ideological and moral training leading to an all-around education.

The relationship between the change in ideology between 1958 and 1961 and the content of school curriculum under the reform could not be more obvious. In practice, the implementation of this new ideology in the schools is found in the more technical and scientific orientation which we have already discussed, in the much closer connection between schooling and work, and the emphasis on collective work in the schools rather than on individual achievement.

Specifically, ideology is reflected in a number of places in the educational system:

1. The relationship between schools and work: The first clear-cut effort to integrate schooling and working actually took place during the literacy campaign when thousands of students went into the countryside to teach people how to read. But beginning in 1966, in part as a

of large fields dedicated to sugar and livestock (Castro, 1976, p. 119). The project consisted of carrying out productive work while maintaining studies at the same time. For this, the schools--professors, teachers, students, employees, as well as all the necessary teaching equipment--were relocated in the countryside on various farms or recently constructed school installations. Students and teachers organized themselves is different productive units of the National Institute for Agrarian Reform. We shall discuss these schools further below, showing that this particular form of education corresponds to important economic changes which took place in Cuba after 1964. However, the point to be made here is that the "school to the countryside" (escuela al campo) fit directly into the ideological context of the emphasis on work stated in the 1962 document.

A second manifestation of the work/school interpretation was that in addition to the university becoming almost entirely oriented to technical subjects, university students after the Revolution could no longer separate themselves from the day-to-day productive activities of the economy.

> The old idea of the classic university will disappear as a concept and as an institution that belongs to a superceded society. And so, production itself, the productive processes, will constitute the material base, the laboratory, where in the future all workers will receive their higher education (Fidel Castro, March 13, 1969).

The university reform of 1962 began to carry out this idea of work/study for university students. Students began to move out of the classrooms: for example, medical students had to work in hospitals from the beginning of their third year of study, humanities students began to develop social work programs in agricultural development plans;

civil engineering students went to the mountains and coordinated and combined their studies with agricultural production in the area. 13a/

Beginning in 1971-72, it was decided that students must work 20 hours a week in direct production as part of their university studies. In the first two years in the university, students work in unskilled jobs. In the third year, they begin specialized work whenever possible in work places that are connected with the student's specialty. At the same time, large-scale programs were started in the early '70s to bring workers into the university for technical training.

2. In addition to moving schools to the workplace, Cuba's production system has been integrated into the curriculum of the primary and high schools This integration was accomplished through the círculos de interes. An "interest circle" is a group of students led by a technical advisor, who programs specialized activities in order to promote interest in science and technology, especially in those branches which are most important in economic development in Cuba. These circles are analogous in many respects to extracurricular activities in U.S. high schools, but are organized exclusively around productive activities in the community — animal science, soil chemistry, and oceanography are typical interest circles. Cooperating agencies such as hospitals, factories, and laboratories, work with the interst circles on intervisitations, advice and leadership. The groups are seen as vital components in guiding students about options available in their changing society, especially since in the absence of wage incentives, an alternative means is needed to guide young people into the choice of occupations.

The circles were started in 1963-64 and have been developed extensively as a program aimed at bringing together students of similar interests. They also seem to break away from the traditional scholastic

system and use the rich experience of the community to benefit student learning. The number of these circles has grown every year since their inception: in 1966, 9,000 circles were organized; in 1967 there were 17,000; in 1973, there were 20,000 with a total membership of 300,000 students. An important aspect of the circles is the development of a close association between the activity of future scientists and technologists and the national organizations and institutions which provide resources for their work. Students studying science lack resources such as pure breeding stock, surgical instruments, mobile weather stations, and land for agricultural experimentation, but through the sponsors they get to use these resources and have a chance to participate in the production sector.

Indeally, the interest circles are a bridge between the school curriculum and the student's later life and productive activity.

> By tying the education experience more closely to the economy the círculos 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 occupations in short supply. Thus the círculos de interes provide a means of informing young people about the content of various occupational pursuits, while at the same time stimulating student interest in careers likely to make a major contribution to national development (Bowles 1972, pp. 290-91).

3. After the Revolution, students were encouraged to study in groups rather than to study as individuals. As a reflection of the system of socialist emulation being practiced in the productive structure, the process of expanding knowledge and competence was seen as a group effort, and elements of competition in the classroom were greatly reduced. Although under the economic strategy of the late '60s and early '70s individual study has been re-emphasized (Bowles 1972, p. 291), the monitors

program continues to emphasize the collective spirit in the classroom. The program is a type of mastery learning concept in which each school class selects a student or a group of students in each subject to help the rest of the class with their studies. The role of these monitors is primarily to lead group discussions among students and to help individual students who are having difficulty, taking charge of classes being taught by educational television, and other similar activities.

> In one school I sat in on a sequence of geography classes: one, a seminar of 10 or so students working (under the guidance of a teacher) on a project concerning the economics of West Africa; 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, as it specialized in group work and the extensive use of monitors, but most Cuban educatórs with whom I talked see this type of teaching as spreading throughout the entire school system over the next few years (Bowles 1972, p. 291).

4. A crucial ingredient in utilizing the schools for propagating the new ideology was the development of a teacher corps with new values and skills. The elements of this development were the shift of teacher training from an urban to a rural orientation and the inculcation of socialist values into these rural cadres.

While dependent, capitalist countries have great difficulties in "convincing"teachers to go into rural areas and, indeed, have a "surplus" of teachers in urban areas while their student'teacher ratios even in urban areas do not decline, socialist countries like Cuba count on non-market incentives to move teachers into rural schools. Teachers trained

to work in rural areas are typified by the government as an elite core serving the Revolution. Becoming a teacher in a rural area is not a second-class job (in which the teacher is penalized by having access neither to further education nor to promotion in the educational system); rather, teaching in a rural primary school is often required service in order to get promotion and access to university education.[14]

The Revolutionary government moved to greatly expand teacher training for both primary and secondary schools and reduced student/teacher ratios significantly in the decade after 1959 (see Table 12, p. 102 below), despite a very rapid increase in the number of students enrolled. Furthermore, the new system of teacher preparation (which in this particular form remained in effect until 1968-69) took students who had completed the sixth grade and put them in a five year course which began with a first year in the mountain school of Minas del Frio and a final two years in a training school in Havana.[14a/]

> The new system is based on the success of the rough training methods used for volunteer teachers in 1959 and 1960 and emphasizes preparation for rural schools. It replaces the old provincial training centers which in 1962 were being closed . . . .
>
> Teacher preparation is at present the most distinctive, almost dramatic feature of formal education in Cuba. Minas del Frio is a mountain school in the Sierra Maestra, where the first battles of the Revolution were won. The students relived something of this Revolutionary heritage by climbing the steep paths to the rough buildings of the school, sleeping in hammocks, studying outdoors under the trees, and graduating by climbing to the Pico Turquino, Cuba's highest point. The tough romanticism is deliberate. Its orginators think of it as a way to win dedication to the Revolution and to prepare teachers hardened to difficult assignments anywhere in Cuba's many rural schools. Many of the students respond with enthusiasm. Those who do not may leave. Of the

> 3,000 students who had begun the course in January, 1962, about a third had left before August. Of those who left, 600 were physically not up to an education in the clouds; 350 were not acceptable to the school authorities; and 80 left for family reasons. Of the students remaining, 1,600 were girls; 350 were boys. The staff at first numbered 75 and during the year grew to 88.
>
> After a year the students moved to the near lavish ex-hospital school at Topes de Collantes for two years of more conventional training. While the syllabus to the eye is little changed, the presence of laboratories and blackboards, desks and dormitories give the observer the confidence that mathematics and Spanish, science and biology, begin to resume their usual meaning. Yet, the authorities are convinced that the rough beginning is the guarantee of competent loyalty [to the Revolution and its goals] among the teachers of tomorrow (Jolly 1964, pp. 237-38).

This type of training program stresses two important features of the Cuban educational reform. The first is the special attention given the particular problems and discouragements of teaching in rural areas. The second is the view of work and cooperation that we have discussed in the previous paragraphs. Teachers are trained to work alongside their pupils in the fields and to serve as examples of Revolutionary fervor.

The importance of teacher training in a society in the process of ideological transformation simultaneously trying to increase the technical skills of its labor force is crucial to both those goals, and the Cuban leadership therefore put great emphasis on teacher formation and teaching as a service to the Revolution.

5. According to Leiner,

> _Boarding schools_ are considered by educational leaders to be a key to creating the new Cuban man. First, boarding school students live together and develop attitudes and values consistent with Cuban Revolutionary goals. Secondly, they provide a full curriculum which includes physical education as well as academic subjects, for the training of the whole body and mind. Thirdly, students from rural isolated areas develop skills in arts, science, and technical areas in urban center. Fourth, the new _semi-internado_ [semi-boarding] schools become part of a central town development which consists of the school, a polyclinic, a social center, and new housing for the _campesinos_ [peasants] (Leiner 1973, p. 6).

Both the boarding and semi-boarding schools offer free clothing and food to the students, thereby exerting much more direct control over their health than the day schools. In 1962, the fellowship plan in the boarding schools reached more than 50,000 students in secondary education, and in 1973, recorded 458,000 students in all levels of schooling.

Although the boarding school on a large scale is a relatively new development in Cuba, it has existed in some form since the Spanish Conquest. Boarding schools are probably much more effective in transforming the attitudes and values of young people than day schools, since a boarding school separates the student from his or her previous environment. There is also evidence, in Cuba and in at least two other countries, that boarding students perform better on tests measuring cognitive achievement. In Cuba, students attending the schools in the countryside have promotion rates (based on exam scores) considerably

higher than the national average (Dahlman 1973, p. 121). Estimates for Kenya and Tunisia show similar effects of boarding on achievement. (See Thias and Carnoy 1972, for Kenyan data; see Carnoy, Sack and Thias, 1978, for Tunisian data).

6. Ideological socialization is also carried out in day care centers (see Table 4): Leiner stresses the ideological importance of these programs both for young children and adults . Apparently, the first priority which went into organizing nurseries and kindergartens was and still is the liberation of Cuban women in order to enable them to participate in the labor force. Thus the day care centers perform an important economic function, in releasing women to work in the labor-short economy. But at the same time, by allowing women to work outside the home, the centers help reduce machismo (the Latin notion of male chauvinism), a specific aim of the Revolution since its initial period.

In fact the day care centers were originally resisted (probably in the main by fathers) because of the traditional family structure in Cuba, where children are to be taken care of by mothers and grandmothers. The day care centers purposely threatened that structure, since it was an impediment to socialist consciousness. Once mothers were able to reap the rewards of working ouside the home for part of the day, resistence apparently ceased. To the contrary, the demand for child care increased beyond the capacity of the centers.

TABLE 4

Cuba: Day Care Centers (Círculos Infantiles) 1961-1970

Year	Centers
1961	37
1962	109
1963	144
1964	157
1965	166
1966	194
1967	262
1968	332
1969	381
1970[a]	430

Enrollment by Province, 1968-1969

Province	Centers	Enrollment
Camaguey	40	4,040
Havana	146	22,370
Isle of Youth	6	476
Las Villas	50	4,734
Matanzas	28	2,938
Orinte	70	7,576
Pinar del Rio	24	2,112
Total	364	44,246

Note: [a]Through November 1970.

Source: Marvin Leiner, 1974.

> Early childhood education in Cuba in particular offers women (as mothers) an alternative to traditional child-rearing. Day care permits mothers to leave their children in the custody of an early childhood staff so that the mother may participate in the wider economic life of the nation. Moreover, Cuban nursery schools are flexible enough to render services for a broad spectrum of working mothers. Most offer care for children who are under one year old. Open seven days a week, 24 hours a day, these centers for babies and small children are structured so that women who work late can either pick up their children after dinner or later in the evening or they can leave their children there all week and take them home weekends only. Despite the considerable hostility toward these new day care facilities in the beginning, the current demand for early childhood schooling far outstrips the available space (Leiner 1973, p. 10).

Further, the nursery schools are not merely day care centers to serve mothers, but provide a structure in which children are trained toward collective consciousness even as little babies:

> When a Cuban baby is placed in a playpen, he is put into no standard United States model with only room enough for himself -- or at most two toddlers. The Cuban playpen -- or more appropriately, 'corral' -- permits at least six infants to play together in a space equal to the size of a small room . . . . Far more rationally designed than the American playpen, it avoids the tedious efforts of adults in attendance to bend to floor level to assist children . . . . Group play as distinct from individual activities takes precedence . . . . Encouraged to design activities to stimulate group play *asistentes* in the *Círculos* lead children into social and play patterns to help them develop collective attitudes. *Asistentes* are to make special efforts to see to it that all children participate in the program designed for the collective (Leiner 1973, p. 10-11).

Fundamental Reforms

The mobilization and ideology goals of the Revolution made adult education a first priority in educational reforms. The adult education programs promoted under the Revolution were not avocational courses for interested houswives and hobbyists, nor continuation courses for the ambitious few; rather, they were part and parcel of a movement to incorporate everyone into the Revolutionary project. The programs were ideological in two aspects: they were part of a complete turnabout in development ideology from pre-Revolutionary limitations on the fruits of development to a small middle and upper class of Cubans to a post-Revolutionary strategy of extending the growth process throughout the population; and they reflected the use of adult education to transform Cuban values (ideology) at all societal levels to fit into the new social relations of production.

Joily sees the rapid expansion of adult education as the elimination by the new regime of the isolation of illiterate peasants and workers from modern economic development. He argues that the dependence of Cuban Revolutionary development plans on skilled, informed labor required adult education (Jolly 1964, p. 191). "The desire to bring the whole population, peasant and worker, of low education as of high, within the full strategy of political/social/economic development added a further urgency for stressing a program of adult literacy" (Jolly 1964, p. 191).

In this essay, we discuss two major adult education programs: the Literacy Campaign of 1961 and post-literacy adult education. Under the latter category, we describe that part of adult education which deals with workers, peasants, and women's education. We do not discuss the Schools of Revolutionary Instruction (EIR), begun secretly in the latter half of 1960 to undertake the "ideological formation of Revolutionaries,

and then, by means of the Revolutionaries, the ideological formation of the rest of the people" (Castro 1961, quoted in Fagen 1969, p. 105). The EIR offered short-term courses in ideological training for cadres, and while an important form of adult education, their goal of cadre formation limited accessibility of the courses to the mass of Cubans (students were generally selected from political party organizations) and put them into a special category.[15]

Besides adult education, which so preoccupied Cuban leadership during the early post-Revolutionary years, formal youth education, particularly at the primary and lower secondary level, was also greatly expanded. The expansion of formal schooling was an integral part of the Revolutionary leadership's development ideology:

> Education is an index of political oppression; that is, the lack of education is the best index of the state of political oppression, social backwardness, and exploitation in which a country finds itself. The indexes of economic exploitation and economic backwardness coincide exactly with the indexes of illiteracy and the lack of schools and universities. The countries that are most exploited economically and most oppressed politically are the countries that have the most illiterates . . . .
>
> Only a revolution is capable of totally changing the educational scene in a country, because it also totally changes the political scene, the economic scene, and the social scene. The levels of ignorance and illiteracy, the numbers of children not attending school, are really frightful in the economically exploited nations. Why? . . . . Because in reality there is not the least interest in remedying these conditions (Castro 1961, quoted in Fagen 1969, p. 35).

But within the general expansion of formal schooling, we shall show that the Cuban leadership constrained the growth of higher levels of schooling until the latter half of the 1960s, while investing heavily

in primary and lower secondary education, and lower level technical training. We argue that this investment policy was consistent with the income distribution and ideological objectives of the early post-Revolutionary period, and with the perceived manpower needs of that time. Later, when manpower needs changed, and more focus was placed on economic growth per se, correspondingly more emphasis was placed on higher education and on the efficiency of primary and secondary education rather than simply getting everyone into schools.

Fundamental Reforms -- Adult Education

The Literacy Campaign: In 1961, designated by Fidel Castro as the "Year of Education," the whole population was mobilized over an eight-month period into a teaching force to erradicate illiteracy on the island. Over a quarter-million men and women, schoolboys and schoolgirls, were transported all over the island and supplied with three million books and more than 100,000 paraffin lamps. At the beginning of the year the official illiteracy rate was 21 percent; by December the government claimed that it was 3.9 percent, the lowest rate in Latin America (Jolly 1964, p. 192).

The campaign had three stages.

> The preparatory census was started in November of 1960 and attempted to locate and register all illiterates. By February, 412,000 were located; by April, 546,000; and by June, 684,000. By August 30, when the census was ended, 985,000 illiterates had been registered (Jolly 1964, pp. 192-93).

The second stage consisted of training the student brigades (organized in units of 25 or 50 under the supervision of a peasant worker or other local leader); and in the third stage, the brigade went to the mountain areas, lived with the illiterates, and taught them to read (see Table 5).

TABLE 5

Cuba: Literacy Workers During Literacy Campaign, 1961

Brigades

Popular Alphabetizers	120,632
Conrado Benitez Brigade	100,000
"Fatherland or Death" Working Brigade	13,016
Schoolteacher Brigade	34,772
Total	268,420

Province of Origin and Province of Assignment of Brigadista Teaching Force

	Province of Origin			Province of Assignment		
Province	Women	Men	Total	Women	Men	Total
Pinar del Río	2.5	2.0	4.5	4.8	3.4	8.5
Havana	20.0	17.0	36.7	1.8	1.1	2.9
Matanzas	2.4	2.7	5.1	2.0	1.5	3.5
Las Villas	8.7	8.1	16.8	7.6	7.1	14.7
Camagüey	4.8	5.0	9.9	5.5	5.3	10.8
Oriente	16.9	15.9	32.8	33.3	32.3	65.6
Total	55.0	50.7	105.7	55.0	50.7	105.7

Source: Richard Jolly, *op. cit.*, Table 4, p. 200.

The two basic principles of the literacy campaign were (1) that if there were illiterates among the people, there were also teachers; and (2) those who know more should teach those who know less. To carry out the campaign, a national literacy commission was created, which replaced the national commission for literacy and fundamental education, created in March 1959. This new commission gathered delegations from all the Revolutionary bodies and organizations and, presided over by the Minister of Education, developed the plan or work and the subsequent program which resulted in the forming of brigades and in going out into the countryside to locate and teach illiterates how to read.

The curriculum which was used to teach reading was based on a booklet called "Venceremos" (we will win). Each lesson in this booklet used political themes of current interest to the Cuban people: for example, one lesson had to do with the Organization of American States (Cuba had just been expelled from the Organization at that time); and another dealt with the National Institute for Agricultural Reform, an institution particulary popular with most peasants at that time because it had carried out the agrarian reform law. There were approximately three "students" to each "teacher."

1960 was the year of agrarian reform. At the same time that they explained and popularized the reform, the literacy teachers gave the peasants the means to manage the cooperatives (three of the first four lessons of the primer used during the campaign dealt with the agrarian reform). (Huteau and Lautrey, 1973, p. 19.)

In a certain sense, Cuba offered optimum conditions to accomplish a task of this great a magnitude in such a short time. The Cuban people were involved in a revolution and at that time greeted revolutionary projects with great enthusiasm; a single language gave homogeneity to the campaign; and a long and narrow territory with only a few inaccessible areas made reaching the people relatively easy.

Despite these favorable conditions, however, there were difficulties in the campaign, and its pedagogical achievements were limited: the illiterates were difficult to locate, largely because they tended to hide their illiteracy (the only information on the extent of illiterates was the 1953 census, which indicated one million illiterates in the country); only first grade levels of skill in reading and writing were officially claimed for the new literates, and it generally agreed that such levels are much too low to be of real or immediate use either at work or at home; and the final statistics of the campaign show that about 28 percent of the located illiterates could not or would not be taught to read and write during the year.

Furthermore, the cost of the literacy campaign was very high. According to Jolly, if the 34,000 teachers who participated in the campaign are included (all the schools were closed from April to December in order to enable them to teach literacy), it appears that the actual budgetary outlays for the literacy campaign were roughly $52 million, and about $73 per illiterate successfully taught to read and write, or approximately $58 for each person's study (Jolly 1964, p. 195).

So," when the costs, both direct and indirect, of organizing, training, and supplying, and at time paying those who participated in the campaign are measured against the tangible results, it is easy to

conclude that the campaign was far less than the smashing success the revolutionaries claimed" (Fagen 1969, p. 54). But Fagen goes on to argue that although the campaign was not an "overwhelming and unquestionable triumph from a scholastic point of view," this is not the principal criterion on which to evaluate it: the campaign was intended to mobilize, and to change Cuban political culture. In these terms, it was "seminally important in the evolution of the institutional and political culture of the revolution . . . . Even those who were most cynical about the pedagogical achievements of the campaign would probably admit that the widespread cultural and psychological barriers inhibiting adult education in Cuba were broken during 1961, even if functional literacy were not achieved for very many of the so-called new literates" (Fagen 1969, p. 55).

Although it could be argued that if the growth rate in 1959 and 1969 had not been so high and if Cuban leaders realized in 1961 the kinds of economic difficulties they would face by 1962 and 1963, they might not have invested so much effort and resources to the literacy campaign and other adult education progrmas, the compete commitment of the Revolutionary government to uplift and mobilize the mass of Cuban people may have produced the literacy campaign under almost any previous economic conditions. The degree of commitment and the strategy of mass mobilization are nowhere better exemplified than in the campaign.

> Basically the literacy campaign was part of the Revolution. In philosophy, spirit, and organization it was an integral part of wider change. Many in Cuba felt this and they were meant to. With good reason, 1961 had been named the Year of Education (Jolly 1964, p. 199).

But despite the fact that the conditions were propitious for the campaign, its magnitude cannot be minimized.

> . . . . the campaign achieved its double purpose precisely because of the total effort involved. Besides teaching most of the illiterates to read and write, it fulfilled the other main goal of the government. People of different social classes and backgrounds were brought together to learn from each other and obtain a better understanding of themselves, of the Revolution and of its goals (Dahlman 1973, p. 45).

And as Fagen points out,

> The literacy campaign was the first of the great Revolutionary mobilization efforts designed to involve all Cubans, regardless of age, sex, occupation, education, social class, or place of residence . . . . Above all, what was supposed to be experienced was the critical Revolutionary lesson of 'national fusion' (Fagen 1969, pp. 56 and 59).

The campaign was also part and parcel of the redistribution of resources in the Cuban economy. It provided the opportunity of education to the poorest segments of the population. In addition to the books supplied to the voluntary teaching force, 104,000 pairs of spectacles were issued free to illiterates needing them. Altogether, 130,000 illiterates were examined for deficient eyesight, using an eye test chart, with commonplace symbols in place of letters (Jolly 1964, p. 199). Thus the campaign not only incorporated 20 percent of the population into the mainstream of Cuban development, it provided the poor with medical services, and brought together parts of the Cuban population who had not related to each other under dependent capitalism.

The campaign also had an important "ripple effect" in both future formal and non-formal education programs: Leiner states that

> Many of the 106,000 _brigadistas_ or student alphabetizers, who participated in the 1961 effort, now play a key role in Cuba's education.
>
> The 15 year-old who went to the rural hut of a _campesino_ in 1961 is now that 24-year old principal in Las Villas; the 14 year-old who was an alphabetizer in Pinar del Rio is now a teacher trainer. In conversations with these 'battle veterans,' they spoke about their life with poor, uneducated families in distant isolated mountain settings, with the pride of bringing the rewards of the revolution to its orgin (Leiner, in Ahmed and Coombs, 1976, p. 72).

Finally, the literacy campaign not only brought the Revolution to the most physically isolated members of Cuban society, but it made the more urban, more educated groups (particularly youth) into contact with the rural poor and illiterate. In other words, the literacy campaign was a means to "connect" elements in Cuban society which had been successfully separated by dependent capitalist development. Integration had to go both ways: from the illiterate peasants to the urban educated and vice versa.

Bringing urban youth to the countryside through the educational system became a dominant theme in education from this point (1961) on, and the breakdown of barriers between urban and rural areas (both in production/distribution and values) has been an integral part of the Cuban development process.

Post-literacy Adult Education

With the successful completion of the campaign, attention was turned to those adults who had just been taught to read and write, as well as those who had not completed primary school. In February, 1962, two months after the end of the compaign, post-literacy work began.

Adult education had existed before the Revolution, in the form of evening classes almost entirely in the towns, mainly non-technical, and largely concerned with teaching English. However, under the Revolutionary government, several kinds of adult education were developed, and all were concerned with raising adults' cognitive skills and their incorporation into the new ideology. In this sense, unlike the pre-1959 adult programs, they had the same objectives as children's education, but were organized to suit the adults' location and time of work.

In line with these objectives, formal continuation classes were begun in early 1962 for adults 14 years old or older who were made literate during the campaign and for those who attended less than three years of primary school. In addition to the normal continuation classes, there were special worker-peasant improvement classes for adults who had completed the first three grades of primary school but not the sixth grade. Classes usually met five nights a week (or before the day shift) at work centers, for two hours or more, concentrating on Spanish and mathematics for those in the first three years of primary, and teaching mathematics, functional language (based on reading and writing exercises), elements of geography and history bearing on the Cuban political economy, and general elements of science presented in a practical and attractive way, emphasizing research for term papers by the worker and peasant students attending these classes (Jolly 1964, p. 215). Often pre-university and university students taught in these classes to earn money for their own studies.[16]

In addition to these classes, "family circles" were started in July, 1962 to reach the newly literate who did not attend classes but who might come to an informal meeting with several others and a volunteer

"teacher" (perhaps someone in the community with primary schooling) in the home of one of the group.

Of the approximately 450,000 adults enrolled in these continuation courses in 1962 (see Table 6), about half were new literates who had graduated during the recent literacy campaign (Jolly 1964, p. 211). After reaching very high enrollments in the mid-sixties, the number of students in worker-peasant education began to drop, as would be expected -- many adults became literate through basic education; about 350,000 graduated from the sixth grade by 1967; and the low-schooled adult population grew progressively older, slowly moving out of the labor force.

On the other hand, two new aspects of adult education began to develop in the late 1960s as part of this same trend: first, secondary school for adults, both lower secondary school and the worker-peasant faculties (preparatory, higher secondary schools), created in 1964 and which ready adults to enter university. Completion of the one year basic secondary course (between 1962 and 1967, about 58,000 adults had passed this course) opens the way to further education in the worker-peasant faculties. The faculties are crash university preparatory courses and are open to members of trade unions, armed forces, those in the Ministry of Education, or mass organizations. The time schedule of the faculties is coordinated with work shifts, and classes are usually held at the place of work. The experience of these courses has led Castro to predict that "In the future, practically every plant, agricultural zone, hospital, and school will become a university" (Castro

TABLE 6: Cuba - Annual Data on Worker/Peasant Education, 1961-1972

	Year Beginning In										
	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1972
Worker/Peasant Education											
Schools	2,915	20,087	17,510	26,241	26,709	22,634	22,399	26,893	25,136	17,996	20,467
Teachers	2,482	22,458	19,714	34,402	30,295	25,693	26,155	30,951	21,960	20,135	23,069
Initial Enrollment[a]	428,590	468,456	455,394	817,998	550,837	430,078	477,811	349,217	268,745	217,079	278,707
Promotions	-	225,920	83,159	32,556	258,154	231,462	190,944	148,329	118,494	-	153,364
Graduates (total)	6,578	92,388	53,318	85,779	76,390	70,733	39,502	25,780	18,458	-	24,983
6th grade	6,578	92,388	42,064	74,867	65,414	56,909	30,589	-	-	-	-
Secondary	-	-	11,254	10,912	10,976	13,824	8,913	-	-	-	8,193
Languages	7,025	-	-	-	-	-	-	-	-	-	1,411
Worker/Peasant Faculties											
Schools	-	-	-	-	-	-	-	-	93	101	151
Teachers	-	-	-	-	-	263	291	-	1,175	1,586	1,815
Initial Enrollment[b]	108	756	1,591	4,100	4,349	5,158	7,696	9,343	20,481	19,456	28,008
Promotions	-	-	-	-	-	-	-	-	6,276	-	19,172
Graduates	-	217	-	143	169	369	388	516	1,037	-	559

Notes: [a] In 1959 there were 72,912 students enrolled and in 1960 there were 66,577. Presumably they were in the old night schools or at special schools in the work centers.

[b] In 1959 there were 85 and in 1960, 68 persons enrolled at this level.

Sources: Dahlman, 1973, using data from Cuba, Junta Central de Planificacion, Direccion Central de Estadistica, Compendio Estadistico de Cuba 1970, Tables III.1 to XII.5, pp. 212-220.

Cuba, Minesterio de Educacion, La Educacion en Cuba, 1973.

quoted in Read in Goodsell 1975, p. 217). By 1969, approximately 1,400 graduates from this preparatory program went into higher education (La Educacion en Cuba 1973, p. 128).

Besides the distinct shift upward in the level of adult education, new programs had to be created at the end of the decade (1969-70) to incorporate the large number (about 300,000) young people who had dropped out of school but were not working. Since a high percentage of these were over 14, they were placed in special "adult" education. These primarily vocational schools are treated under "technical education" below.

It is not clear how successful the adult education programs, particularly at the primary level, were in achieving the objective of socializing adults and in bringing their cognitive competencies up to a Cuban primary school's sixth grade level. Many, and probably most, adults in the programs did not reach the sixth grade. Also, in the late 1960s and early 70s, the government complained about productivity difficulties and low levels of consciousness. Although much of this was directed at the youths who were dropping out and not working (we discussed this above), and though much of the productivity problem may have had to do with the organization of production rather than with the training and school-developed consciousness of the workers, if the objective of adult education was to solve these problems through schooling, there is some doubt as to the efficiency of the programs. On the other hand, the existence of an alternative path of education available to working people has enabled hundreds of thousands of them to upgrade themselves and become part of the general educational uplifting of the population and the redistribution of services by the government. Eventually, a significant portion of

university education may become populated by students who came out of the workplace rather than who studied throughout their youth.

Fundamental Reforms -- Formal School Expansion

Before and after the literacy campaign (during the campaign, the schools were closed for nine months) there was a very rapid expansion of formal schooling, especially at the primary level. Table 7 shows that in 1958 there were about 7,500 public primary schools with an enrollment of 717,000 pupils. In the first year of the Revolution this figure had increased by more than 40 percent to over one million pupils enrolled, with the greatest increase coming in rural primary schools (which doubled their enrollment between 1958 and 1959). Rural primary enrollment continued to grow rapidly from 1959 until 1962 at about 7 percent annually, but then the growth rate tapered off, increasing again after 1967. By 1974 the number of public primary schools had more than doubled (over 1959) to 15,550, with a total enrollment of 1,923,000 students. From the 17,000 teachers in 1958 the number increased to almost 78,000 in 1974, a 4.5 fold increase (National Planning Board, 1975). The percentage of schoolage children six to twelve years old enrolled in primary school was about 50 percent in 1956-57, and was essentially 10 percent in 1975 (Castro, 1976, p. 120).

Table 8 shows that the growth of secondary education was also very rapid and enrollments continued to increase in secondary school at a very high rate of approximately 20 percent annually until the late 1960s. Even so, we can see that because of the decline in enrollment in the pre-university secondary schools in the first four years after the Revolution, the absolute increase in enrollment in the secondary schools was largely confined to the seventh, eighth, and ninth grades until the middle of the decade. In part, the low growth of pre-

TABLE 7: Cuba - Annual Data on Primary Education, 1958-1972

Year Beginning In:	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Total Primary															
Schools	7,567[a]	10,381[a]	12,248[a]	12,843	13,780	13,845	13,999	14,141	14,442	14,568	14,806	15,012	15,190	15,369	15,474
Teachers	17,355[a]	24,443[a]	29,924[a]	33,916	36,613	37,041	38,473	41,922	43,056	46,910	48,642	55,854	60,592	65,189	68,699
Initial Enrollment	717,417	1,092,264	1,136,277	1,166,267	1,207,286	1,280,664	1,323,925	1,321,768	1,353,899	,391,597	1,457,217	1,558,145	1,664,634	1,759,167	1,852,714
Promotions	-	-	-	-	595,897	761,421	886,200	974,179	959,539	,034,407	1,085,635	1,142,133	1,103,640	1,315,929	1,529,657
Graduates	21,616[a]	21,310[a]	34,786[a]	55,658	38,635	44,157	58,277	73,084	66,082	64,880	77,119	89,839	82,332	107,688	135,901
Urban Primary															
Schools	2,678[a]	2,026[a]	2,943[a]	2,709	2,643	2,656	2,604	2,599	2,632	2,440	2,454	2,520	2,607	2,638	2,738
Teachers	12,019[a]	14,135[a]	15,812[a]	19,272	20,752	21,171	22,155	24,988	25,760	28,406	30,069	34,154	36,091	38,025	40,574
Initial Enrollment	500,567	631,881	653,320	646,497	651,841	712,973	756,370	748,423	775,024	805,852	855,301	926,240	894,693	1,053,549	1,119,961
Promotions	-	-	-	-	387,059	477,994	548,355	584,162	586,314	631,852	677,075	731,021	698,889	826,899	949,634
Graduates	-	-	-	-	31,161	34,618	43,903	54,264	49,823	48,454	55,757	64,379	56,271	76,215	97,517
Rural Primary															
Schools	4,889	8,355	9,305	10,134	11,146	11,189	11,395	11,542	11,810	12,128	12,352	12,492	12,583	12,731	12,736
Teachers	5,336	10,308	14,112	14,644	15,861	15,870	16,318	16,934	17,296	18,504	18,573	21,700	24,501	27,164	28,125
Initial Enrollment	216,850	460,383	482,957	519,770	555,445	567,691	567,555	573,346	578,875	585,745	601,916	631,905	669,941	705,618	732,753
Promotions	-	-	-	-	208,838	283,427	337,845	390,017	373,225	402,555	408,560	411,112	404,751	489,030	580,023
Graduates	-	-	-	-	7,474	9,539	14,374	18,820	16,259	16,426	21,362	25,457	26,061	31,473	38,304

Notes: [a]Excludes private schools.

Sources: 1958-1970: Dahlman, 1973, using data from Cuba, Junta Central de Planificacion, Direccion Central de Estadistica, Compendio Estadistico de Cuba 1970, Tables XII.1 to XII.5, pp. 212-220.

1971-1972: Cuba, Ministerio de Educacion, La Educacion en Cuba, 1973; Intra Central de Plarif.; Direccion Central de Estadistica Annuario Estadistica de Cuba, 1973.

TABLE 8 Cuba - Annual Data on Secondary Education, 1958-1973

	Year Beginning In: 1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
Total Secondary[a]																	
Schools	-	224[b]	371	376	440	472	482	497	531	516	542	571	501	564	594	555[f]	646[f]
Teachers	4,549	5,120	6,842	8,620	10,244	12,119	12,171	13,528	14,532	15,409	-	19,742	19,901	20,321	22,382	21,500[f]	26,500[f]
Initial Enrollment	88,123	90,192	120,784	151,091	166,848	201,380	196,748	202,733	234,414	234,396	250,733	255,914	211,401	232,239	264,421		337,500[f]
Promotions	-	-	-	-	95,182	102,800	126,204	130,1[illegible]0	131,285	140,657	-	-	-	-			
Graduates	-	-	13,706	10,950	15,709	23,123	24,220	19,576	26,619	13,569	22,462	24,392	-	-			
Basic Secondary																	
Schools	-	160[b]	291	290	301	310	3[illegible]1	344	378	389	399	380	376	441	459		
Teachers	1,400	2,349	4,055	5,438	6,158	6,778	7,079	8,072	8,694	9,726	9,513	12,566	14,334	14,881	16,358		
Initial Enrollment	26,278	35,100	71,057	91,482	107,598	121,097	117,812	124,869	142,804	160,354	169,868	161,314	171,206	186,115	200,448		
Promotions	-	-	-	-	54,178	66,051	81,070	84,729	82,287	105,064	91,117	92,656[d]	99,591	127,388	161,063		
Graduates	-	-	10,320	8,282	7,851	12,442	15,840	13,555	16,027	-c-	6,574[d]	8,060	7,589	12,243	14,957		
Pre-University																	
Schools	21	24[b]	24	27	34	33	33	34	38	35	35	32	34	37	39		
Teachers	1,180	1,263	1,169	1,062	1,222	1,286	1,388	1,512	1,502	1,560	1,258	917	939	1,085	1,372		
Initial Enrollment	37,248	24,482	18,697	17,842	15,520	16,833	18,617	24,122	27,481	16,778	17,117	15,127	15,310	15,695	22,033		
Promotions	-	-	-	-	14,191	9,833	12,684	16,893	17,100	11,761	10,683	8,615	9,861	13,313	19,063		
Graduates	1,279	2,455	1,486	2,595	2,338	3,293	2,470	2,263	4,337	5,421	4,290	4,104	4,227	1,802	4,523		

Notes: [a]Includes technical and professional secondary education and teacher training to 1969, bu not thereafter. Data for technical and professional education are in Table 9.

[b]Excludes private schools.

[c]Tenth grade is created.

[d]Considered promoted from tenth grade.

[e]Excludes evening pre-university students.

[f]Excludes technical and professional.

Sources: See Table 7.

university training can be explained by the drafting of this age group into the military and into teacher training (and, as we shall discuss later, by a high dropout rate in junior high schools).

The figures in Tables 7 and 8 indicate the almost total emphasis in these early years of the Revolution on primary and secondary basic secondary education and much less resources devoted to higher secondary, and as we shall show below, university education. The relatively large investment in lower levels of schooling reflects the mass-base approach of the government's educational program, particularly in those years, and with this mass-base approach, reflects the use of education as a means to fulfill the Revolutions' goals of equalizing income and services. Despite the tremendous effort made in school expansion and teacher training to fill those new schools, school expansion ran into difficulties in the late 1960s: there was a recognized teacher shortage at the secondary level, and partly as a result of the low qualifications of many rural primary school teachers and that shortage in the secondary schools, drop-outs became a serious problem. We deal further with these issues below.

The Growth of Technical Education: Unlike basic education (primary and lower secondary), enrollment in technical education more closely fluctuates with the strategy of the government for economic growth. As an alternative to the general studies program at the secondary level, students in Cuba may pass from primary school directly into some vocational training. Or they may continue for three years with general secondary studies and enter the professional stream at a more advanced level.[17]

Table 9 indicates that the main thrust of technical education expansion reflects the change in the economic growth policy analyzed in the previous section. There was an initial enrollment increase in indus-

TABLE 9: Cuba - Annual Data on Technical and Professional Education (Middle Level), 1958-1972

	Year Beginning In: 1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Total Technical and Professional															
Schools	40	31	48	48	102	120	116	108	106	84	68	91	91	86	96
Teachers	1,277	1,025	1,180	1,711	2,564	3,373	2,930	2,970	3,328	3,022	3,329	4,409	4,628	4,355	4,652
Initial Enrollment	15,698	20,495	23,519	33,368	35,966	48,872	44,439	30,822	36,664	31,836	29,124	45,379	24,885	30,429	41,940
Promotions	-	-	-	-	21,254	19,799	21,169	18,400	19,365	11,612	-	18,329	15,184	19,965	31,437
Graduates	1,599	2,439	781	589	5,475	9,128	5,708	4,286	5,537	6,484	5,232	4,188	6,093	5,838	7,468
Agricultural															
Schools	-	-	6	-	-	6	5	5	6	10	11	29	28	26	26
Teachers	-	-	121	-	-	103	139	168	224	357	420	1,862	1,553	1,431	1,582
Initial Enrollment	-	-	529	-	-	1,303	1,594	2,416	2,759	3,955	3,668	18,723	7,257	6,552	12,248
Promotions	-	-	-	-	-	898	1,593	1,846	2,281	2,930	313	5,823	4,868	6,189	10,303
Graduates	-	-	57	-	-	91	-	-	1,909	2,084	1,281	2,172	1,645	2,078	2,339
Industrial															
Schools	20	13	19	24	31	40	36	40	37	40	32	40	40	37	37
Teachers	818	526	489	1,141	1,476	2,185	1,676	1,969	2,278	2,374	2,686	2,341	2,817	2,602	2,599
Initial Enrollment	6,259	6,213	8,356	17,755	14,269	20,206	13,531	15,234	20,329	25,019	23,826	24,118	14,924	17,107	19,527
Promotions	-	-	-	-	7,107	9,032	9,798	11.106	13,148	7,294	-	11.020	9,082	16,336	15,293
Graduates	558	1,066	84	61	694	5,461	3,342	1,787	2,186	3,610	3,603	1,751	4,146	3,123	3,365
Administration															
Schools	20	18	23	24	71	74	75	63	63	34	25	22	23	23	30
Teachers	459	499	570	570	1,088	1,085	1,115	833	826	291	223	206	258	322	471
Initial Enrollment	9,439	14,280	14,634	15,613	21,697	27,363	29,314	13,172	13,576	2,862	1,630	2,538	2,704	6,770	10,165
Promotions	-	-	-	-	14,147	9,869	9,778	5,448	3,936	1,388	-	1,486	1,714	3,740	5,841
Graduates	1,041	1,373	373	12	4,781	3,576	2,366	1,494	1,442	791	348	265	307	637	1,764

Sources: See Table 7

trial and administration schools right after the Revolution, but this increase was small compared to what followed, once a skilled labor shortage began to develop in the economy (post-1961). With the commitment to industrialization in 1961-63, the enrollment in industrial schools increased rapidly, more than tripling the 1959 figure by 1963. Similarly, with the advent of planning and centralized administration of production we see an enormous increase in the number of administration students. With the emphasis on personal direction of the economy in the late 1960s, however, the number of economics and administration students (and schools) declines markedly. Castro complained about this decline in his December 1975 speech, considering it one of the errors of the previous decade (Castro, 1976, p. 109).

With the movement away from an industrialization policy in 1963 toward agriculture as the lead sector of the Cuban economy, enrollment in industrial schools declined. Beginning in 1964, probably because of (a) the large increase in the number of academic secondary school graduates entering the labor market, (b) the continuing increase in academic secondary education, and (c) because of the increased centralization of management in the economy, we see a rapid and permanent decrease in the number of administration schools and in the number of administration students. Presently, there are 96 technical and professional schools, of which 39 are in industrial education, 25 in agricultural education, and 32 commercial schools (economics and administration). In 1973-74, seven new technical institutes and 27 polytechnical institutes, with an average capacity of 500 students each, were added to the system.

In addition to formal technical education, the Ministry of Industries had full-time courses in 1962 for about 6,000 workers who studied subjects

from statistics and accounting to lathe-turning and carpentry, with students drawn from every section of industry. Classes lasted from three months to two years. Most courses covered a good deal of basic work in mathematics, physics, and geography as a background for the main subject. Eight thousand (8,000) other students were studying in full-time courses of the Ministry of Industries. These courses, held in 'peoples' schools," lasted 18 months.

The Ministry of Education also ran two types of schools for former domestic servants. The first of these offered an evening course of general education, and the second offered full-time courses as retraining for specific occupation. "Common to both was the zealous philosophy of _superación_ de _los humildes_ (raising the downtrodden), and something of this philosophy pervaded the instruction and the place that the schools occupied in the educational structure" (Jolly 1964, p. 210).

Special schools (Centros Politécnicos) are now attached to sugar and other industrial complexes in rural areas to train skilled workers for both factories and farms in rural Cuba. Part of the curriculum of these schools is student work for 16 hours per week in the vocational specialty he or she is studying. These newer vocational centers reflect the shift in recent years of Cuban training from straight formal vocational schooling, in which a student learns a job in school or in which a worker who has a job takes some months of training to upgrade himself, to formal vocational education which is part school and part on-the-job training. This change parallels changes in formal schooling toward work-study programs and the increasing inseparability of work and study (see below).

Technical education is also being used to solve special problems like primary and secondary school drop-outs who are not incorporated into the labor force even as teen-agers. In 1970, the government acknowledged that there were not absorbing the new ideology. The Young Communist League (UJC) had apparently failed to expand its membership significantly since the early 1960s: "Due to the poor political work of the UJC, the objective of raising the consciousness and self-discipline of the youth could not be achieved . . ." (Mesa-Lago 1974, p. 93).

In April, 1971, out of a total number of school-age youngsters (4-16), there were approximately 300,000 who neither studied nor worked. This figure was equivalent to only 12 percent of the student population, but the percentage increased with age: 23 percent among those 14 years old, 44 percent among those 15, and 60 percent among those 16 (Mesa-Lago 1974, p. 93).

In order to combat this problem, several measures were taken in 1970-71. A law was passed against loafing, which made it a crime for youth to be neither studying nor working. About 100,000 teen age drop-outs were drafted into Compulsary Military Service over the period 1971-72. Until 1973, most of these recruits were integrated into units to aid production in the agricultural sector, mostly in the cane fields (Mesa-Lago 1974, p. 95).

For the rest of these young people, compulsory education was to be extended after the sixth grade to cover the age bracket 12-16 with the highest dropout incidence. Their education is called the Youth Movement, based mainly on Workshop Schools--vocational training combining work and study. By 1971, this type of training included

shop schools, youth centers, and vocational schools, all catering to this particular group in the Cuban age structure and all designed to prepare students for semi-skilled jobs.

> In other words, these boys between the ages of 12 and 16 who have abandoned their studies and who have a low academic level do not go back to the regular educational system. Instead, a number of programs of another type are being created specifically for youths, on the basis of the combination of work and study. These workshop-schools are established always in connection with a productive or service enterprise. The students are sometime boarders, sometimes semi-boarders, and other times 'day' students (non-boarding). They have a regular session during the day devoted to raising their general cultural level, general learning; and they have another session during the day in which they are learning some elementary trades under the guidance of technicians or qualified workers at the enterprises. (Dr. Jose Aguilera Maceiras, Vice Minister of General and Special Education, as quoted by Leiner 1975, p. 70).

The need for the expansion of technical education was particularly acute in the face of the loss of technical personnel when the Revolutionary government nationalized foreign companies and in the subsequent emigration of Cuban technicians to the United States (See above, Tables 3a-3c). As we shall show, the technical schools represented only the tip of the ice-berg in terms of the technification of all education in the educational system. Philip Foster has pointed out that in fact all schools in every society represent vocational education but that academic schools prepare students for different vocations than so-called "vocational" schools (Foster, in Bowman and Anderson 1966). In post-Revolutionary Cuban society, the differentiation between academic secondary schools and technical schools continued but the status differentiation between

the two was/is much smaller than in capitalist society, particularly in the early years of the Revolution when university education was expanding little. Indeed, as we have shown, there was tremendous pressure at that time for university students to train for becoming secondary teachers, and there was additional pressure by the government on secondary graduates to perform "vocational" tasks as a prerequisite to higher education as part of the emphasis on decreasing the cultural gap between workers and professionals. But besides this particular facet of the relationship between education and work, in the post-1962 period Cuba began to be faced by a labor shortage, so that people with technical training were essentially guaranteed skilled jobs in industry or in agriculture.[18]

University Education: After 1959, the university also became a school of higher technical training, preparing people for specific kinds of work in short supply in the economy. It is significant that the egalitarian aims of the Revolution were so predominant in its early years that expenditures on university education, which usually cater to middle-class or elite functionary demands for upward mobility, were curtailed relative to the heavy emphasis on primary and lower secondary schooling.[18a/] Enrollment in higher education declined in 1960-61 (in part because of the mass mobilizations for the Army and the Literacy Campaign), and did not reach the 1958 level again until 1966; indeed the number of graduates from the universities did not begin to increase rapidly until 1966-67 (see Table 10), especially after 1971.[19/] UNESCO figures indicate that university enrollment climbed to 68,000 students in 1974, and Castro's December, 1975, speech states that 83,000 students enrolled in 1975-76. The university graduated about 6,000 students in 1973. This means almost tripling enrollment and doubling graduates in five years, a dramatic shift in policy.

TABLE 10: Cuba - Annual Data on Higher Education, 1958-1972

	Year Beginning In:														
	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Total															
Initial Enrollment	25,514	22,945	19,822	16,853	20,531	23,692	23,901	23,684	27,494	29,170	32,264	34,351	31,065	33,913	43,261
Graduates	1,280	2,491	1,514	1,300	1,555	1,693[b]	914[b]	1,892	2,832	2,682	-	3,063	-	3,284	3,327
Technology															
Initial Enrollment	3,323	1,741	5,046	3,616	4,039	5,132	6,327	4,724	5,994	6,955	7,776	8,085	8,615	8,456	10,914
Percentage of Total	13.0	7.6	25.5	21.5	19.7	21.7	26.5	19.9	21.8	23.8	24.1	23.5	27.7	28.7	25.2
Graduates	75	69	167	133	166	167	232	394	472	527	489	850	597	663	825
Agricultural Sciences															
Initial Enrollment	1,202	1,359	851	886	880	1,194	1,617	1,300	1,857	2,908	3,820	5,324	5,182	5,547	6,253
Percentage of Total	4.7	5.9	4.3	5.3	4.3	5.0	6.8	5.5	6.8	10.0	11.8	15.5	16.7	16.3	14.4
Graduates	36	68	74	36	35	49	39	104	152	192	285[c]	250	392	400	462
Science															
Initial Enrollment	1,617	1,203	734	1,034	1,266	1,382	1,662	1,646	2,096	2,734	3,163	3,420	3,889	3,647	3,968
Percentage of Total	6.3	5.2	3.7	6.1	6.2	5.8	7.0	6.9	7.6	9.4	9.8	10.0	12.5	10.8	9.2
Graduates	22	231	75	35	64	73	15	106	59	150	214	326	400	392	476
Medicine															
Initial Enrollment	3,947	3,758	3,817	3,393	4,738	5,704	4,873	5,676	5,492	6,050	7,528	7,971	8,590	9,104	8,393
Percentage of Total	15.5	16.4	19.3	20.1	23.1	24.1	20.4	24.0	20.0	20.7	23.3	23.2	27.6	26.8	19.4
Graduates	245	676	198	454	382	279	391	511	568	545	1,090	768	605	1,157	-
Humanities															
Initial Enrollment	4,291	3,139	1,845	1,769	1,704	1,536	1,425	1,443	1,542	1,410	1,636	2,178	2,192	2,927	4,747
Percentage of Total	16.8	13.7	9.3	10.5	8.3	6.5	6.0	6.1	5.6	4.8	5.1	6.3	7.0	8.6	11.0
Graduates	65	298	317	200	412	324	22	111	155	180	-	236	227	278	-
Economics															
Initial Enrollment	6,102	6,001	3,867	3,560	4,458	4,957	3,926	2,799	2,132	1,518	1,230	1,214	1,289	2,147	2,739
Percentage of Total	23.9	26.2	19.5	21.1	21.7	20.9	16.4	11.8	7.8	5.2	3.8	3.5	4.1	6.3	6.3
Graduates	95	312	312	189	292	250	94	157	209	364	284	257	138	51	
Education[d]															
Initial Enrollment	5,032	5,744	3,662	2,595	3,182	3,987	4,071	6,096	8,381	7,595	7,114	6,159	1,309	2,085	6,247
Percentage of Total	19.7	25.0	18.5	15.4	15.5	16.8	17.0	25.7	30.5	26.0	22.1	17.9	4.2	6.1	14.4
Graduates	742	837	371	253	204	538	74	509	1,217	724	331	376	232	343	108

Notes: [a]Preliminary figures.
[b]Includes graduates from cursos de nivelacion 13 in 1963 and 47 in 1964.
[c]Includes 34 students at the University of Camaguey
[d]These figures (to 1969) differ greatly from the lower number of students in the Instituto Pedagogico given by the Annuario Estadistica de Cuba, 1973, Table 16.

Sources: See Table 7.

However, the need for technical personnel to carry out the Revolution's growth aims had already caused a drastic shift in the enrollment patterns among different careers in the university in the early sixties. Table 10 shows that while university enrollments in 1967 were only slightly higher than those in 1958, the last year of the Batista regime, the number of engineering graduates had increased by sevenfold. The same is true of agricultural sciences, although the large increase in both these fields did not occur until the early '70s (we shall discuss this further below). Enrollment in the medical faculties had also increased markedly, particularly after 1961. Although Cuba had had a relatively large number of physicians per capita before the Revolution, these were concentrated in the cities, and many emigrated to the United States. The expansion of the medical school was necessary, therefore, on both grounds: to fill the emigration of physicians to the U.S., and to develop a new breed of physician who would work in rural aras. On the other hand, law, one of the largest faculties before the Revolution, declined drastically in the new system, and enrollment in economics and the humanities (also two of the largest faculties in 1958) also decreased in the 1960s.

Fundamental Reforms -- Summary

The principal reforms in the quantity and type of post-Revolutionary education we have described in this section reflect the mass mobilization and redistribution orientation of the Cuban leadership. Within this orientation, adult education and primary and secondary education for young people took a high priority and university training definitely took a lower priority. The emphasis on egalitarianism and, after 1961, centralized planning meant that university expansion would have to be much

slower than the increase in expenditures on both adults and youth at the lower levels of schooling. The centralized administration of the economy reduced, in the short-run, the immediate need for highly-specialized administrators or managers at the local level. Rather, the emphasis was on staffing lower and middle-level technical positions, raising productivity of ordinary workers and peasants, and in transforming the values of the masses to the new socialist society.

Nevertheless, the shift to vocational education and technical education in the university reflected the need to replace the large number (approximately 15,000 to 25,000, according to Jolly -- see Tables 3a and 3b) of technicians and technical professionals who left Cuba after the Revolution, in addition to the need to develop a Cuban technology and technological know-how which would make Cuba independent of foreign technicians and foreign technology. As Fidel Castro said in 1969, "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" (speech of March 13, 1969, quoted in Bowles 1972 , p. 283). This move to technological independence only began in the early 1960s and did not reach its more advanced stages in Cuban strategy until more recently. We shall discuss this more recent development further below.

V. EDUCATIONAL REFORM AFTER THE REVOLUTION: CHANGES IN EDUCATION WITH CHANGES IN CUBAN ECONOMIC STRATEGY

> The objective of revolutionary pedagogy is the formation of the new man.
>
> Fidel Castro, January, 1969

> At present we are working intensively on the plan to perfect the educational system, that has as its objective to bring the educational system into line with the society we are creating. This means imparting to new generations adequate information on the political, intellectual, scientific, technical, physical, moral, aesthetic, polytechnic, work, and military aspects of the society, corresponding to professional preparation in a particular specialty, so that the society can count on, in the necessary quantities and with the necessary quality, middle-level technical workers, teachers, specialized cadres with higher education, prepared to enjoy their full human welfare as much as to respond to the socio-economic demands of the country in future years of the present and the next century.
>
> Fidel Castro, December, 1975

Up to this point, we have been primarily discussing the overall educational reform in the context of the change from a capitalist dependent economy and society to a revolutionary socialist economic and social structure, emphasizing the effect that changing forces of production--particularly the need for more technical skills in the economy because of the nationalization of production and the constant need for skilled agricultural labor because of the strategy which made agriculture the lead sector in the economy--and changes in the social relations of production (effective skills which stress cooperative instead of individual achievement) had on educational reform. Overall, we argue that it is the change from dependent capitalism to socialism which had the greatest impact on educational institutions in Cuba.

However, educational reforms also took (and continue to take) place within the context of the Revolutionary ideology and overall development policy, <u>in response to changes in particular economic strategies</u>

<u>and to difficulties encountered in previous educational programs</u>. One of the most fascinating aspects of Cuban educational reforms is that a number of significant changes in the educational system took place <u>after</u> the initial and overwhelming commitment made in 1959-61 of incorporating the masses into economic development through adult education and the enormous expansion of primary and secondary schooling. The later changes reflected the various attempts to solve the economic growth problem within the constraints established by the egalitarian and mass mobilization goals set by the Revolution. The Cuban government <u>continously experimented with and adapted the educational system to fit its strategies for increasing output per capita and making the socialist economy viable</u>. At the same time, the underlying earlier Revolutionary theme that education was a <u>right</u> to be available for everyone also continued as a foundation of educational policy.

After 1964, and the decision to make agriculture the leading edge of Cuban development, Cuban leaders always viewed the educational problem at least partly in terms of agricultural labor. This struggle to meet educational needs and agricultural output needs at the same time had a profound influence on the development of new forms of schooling in Cuba. Ultimately, a new kind of secondary school was created which unified agricultural production and schooling into one unit. The increased mechanization of agriculture after 1970 has made this kind of school less necessary to agricultural output than economical in terms of maintaining itself and ideological important in terms of student socialization into collective work ethics. The new emphasis on industrialization may very well bring increasing numbers of secondary students into special vocational schools, also begun about 1971, but on a small scale. It is these kinds of changes in the economic context which have played such an important role in shaping Cuban education.

Technical Education. Perhaps the first major change which occurred in the Cuban development plan was the deeemphasis in 1963-64 of industrial development in favor of the expansion of the agricultural sector. By that time, there had been large-scale migration to urban areas, and agricultural development had become hampered by a shortage of rural labor as well as its low productivity.

Education responded to this emphasis on agricultural development: after 1963 there was a rapid growth of middle-level technical education in agricultural schools with a temporary decline in industrial technical school enrollment. University enrollment in agricultural sciences also increased rapidly after 1963. Rural adult education also became more intense: since such education was organized around work centers and work centers in rural areas grew in number throughout the sixties, the orientation of adult education became increasingly rural vocational, especially at the secondary level. Furthermore, the most pressing technological problems in Cuban development became agricultural: the mechanization of various crops in order to overcome rural labor shortages; the production of new kinds of food; improved refining techniques; and logistical problems. The emphasis on agricultural development thus had an important effect on the orientation of technical and scientific training.

Schools to the Countryside. In addition to the effort to fill the shortage of agricultural labor and the concommitant emphasis on agricultural production, beginning in 1966, the incentive system in Cuba turned toward moral rather than material incentives, and to the development of the new socialist man. The concept of socialist emulation had been present in

the ideological basis of the economic structure since the early years of the Revolution, and it was translated into formal education stressing collective work more than individual achievement. With the advent of moral incentives, a greatly <u>increased</u> emphasis was placed on the relationship of schools to work and on teaching young people in schools to behave in a collective, unselfish, and altruistic manner.

The educational reform which reflected the need for agricultural labor and the development of a value system responsive to moral incentives was "schools <u>to</u> the countryside." We have already mentioned that the first experiment of a school to the countryside took place in 1966, when some 20,000 junior high school students worked together with teachers and agricultural workers in Camaguey province. In 1966-67, the school to the countryside plan was systematically incorporated into the school program; at fixed times of the year, junior high and secondary school students throughout Cuba went to the countryside for 45 days. By 1967-68, 162,000 students were involved (Leiner 1975, p. 73).

The objectives of the program were defined around the social ideal of the formation of the "new socialist man," and the concept was aimed at eliminating the differences between city and country, establishing close bonds between the school and daily life, and educating the new generation in and for work. Apparently, the project had positive results in contributing to the growth of a real awareness among students of farming and related industry. Furthermore, by living together for about seven weeks in the countryside, students were introduced to the mechanics of organization and self-government based on group cooperation and work, thereby developing and understanding collective action.

Leiner visited the camps of the schools to the countryside between 1968 and 1971. He reports that in camps he visited, "the students were, in effect, running the camp." Their basic organizational unit was the brigade, and students and leaders (chosen by the students) stated that the spirit of collective living and self- government was developed through the brigade unit.

> Recognition or reward was not given to individuals who excelled or did well; rather, the brigade was honored for production or for whatever criteria were being used. Thus, logically, the individual in the brigade looked at his collective work or life, examined why they did not accomplish goals, and discussed how to correct errors. 'Everyone is responsible for each other.'
>
> Recognition and reward for brigade work was through the system of moral stimulus and emulation of excellence, as opposed to the use of material incentives. This was done by announcing vanguardia status for the best brigades. At the Carlos Marx Campanento, vanguardia honor was decided at a weekly meeting of all brigade heads (Leiner 1975, p. 79).

Besides their work in the fields, students were encouraged to do community work and learn from the community. Community-related activities as reported by Leiner included socioeconomic studies of the area, research on historical events happening there, and visits to interesting geographic places. Students also worked to improve the schools of the surrounding area and set up recreation areas for neighbors (Leiner 1975, p. 82).

During the work/study period, both teachers and principals lived together with the students in dormitories and worked with them in the fields. This must have diminished the hierarchical relations of the school classroom once the students returned to full time study, although we have no direct evidence it did. Students and teachers are "compañeros", work partners, and friends. Community work and work in the fields as agricultural laborers probably also reduced the cultural gap between rural workers and urban young people — at least the two groups came to know each other. Furthermore, as Bowles points out,

> In the _escuela al campo_ program, the leadership of the camp often goes to those who work well, not to the monitors or to others who excel at intellectual tasks. The occasional inversion of the hierarchy of the school's social system itself teaches an additional lesson for equality.(Bowles 1972, p. 296).

But the schools to the countryside also met at least part of the need for additional agricultural labor. In the 1972-73 school year almost 200,000 students were still involved in part-year production through the program. Students did almost 20 million hours of farm work, representing about three million student-days. Working on 160,000 hectares of land, they harvested 2.5 million quintals of vegetables and small fruit, 800 million pounds of cane, and sowed 19,000 hectares of land. As Mesa-Lago has argued, even though the productivity of these students was much lower than the professional cane cutters', their contribution to output net of costs of feeding and housing them was probably positive, since they would have had to be fed and housed anyway, their production paid their maintenance cost plus a surplus. Thus the school to the countryside program was not only consistent with the development of the "new socialist man" but correspond to the need for volunteer rural labor in solving shortages of agricultural workers.

Nevertheless, the slow growth of agriculture (in comparison with the continued growth of industry) and the dynamic role that agriculture had and has to play in Cuban development, brought out one of the fundamental eocnomic difficulties faced by Cuban leadership: the overall achievement of equalization of incomes and the almost complete elimination of open unemployment seemed to have reduced productivity in rural areas. Even before the difficulties of the 1970 sugar harvest, high absenteeism, low productivity, and difficulties with work discipline, as we discussed above,

were causing Cuban leaders to reject the concept of moral incentives as a way out of the productivity dilemma and beginning to look for other solutions

In its effort to increase economic growth, the government was also faced by the diversion of large amounts of public funds into schooling. The percent of investment going to schooling, health services, etc. declined over the decade; nevertheless, the further expansion of the industrial and agricultural sectors not only needed skilled labor, it required enormous investment in machines. A way had to be found to reduce the cost of schooling to the economy at the same time that dropout and repetition rates in school were lowered.

Corresponding to the attempt to solve these difficulties, the schools to the countryside began to be deemphasized after 1970 for three reasons:

1. It became clear that the voluntary system of labor in rural areas would not solve production problems. Rural production was to be solved by raising productivity (through mechanization and training) and increasing the permanent rural labor force of existing labor rather than trying to bring in more unskilled bodies into agricultural work on a temporary basis.

2. Even though the camps were increasing student social consciousness, students were losing an average of 45 days days a year working in the countryside, and although they were supposed to be studying at the same time they were working, "by nearly everyone's admission, not much serious study goes on in the work camps or other non-classroom activities" (Bowles 1972, p. 302). Leiner also reports that in 1968-69, emphasis on educational practice shifted away from formal classes.". . . the 'reality,' according to Miguel Dehasa, Director of one of the campos, is that the school to the countryside cannot carry on a regular school program because of the limited time and work schedule" (Leiner 1975, p. 77).

3. During the rest of the year the schools were largely traditional in their mode of operation and their cost.[19a/]

Schools in the Countryside: To solve all these difficulties, the school to the countryside has been gradually replaced by the school in the countryside: the schools in the countryside are junior high schools (seventh, eighth, ninth and tenth grades) catering primarily to urban students and combining work and study in the countryside on a year-round basis.

> There will no longer be the school to the countryside: there is now the school in the countryside. No longer will there be five weeks, six weeks, 40 days, 50 days, in which students leave studies and do work in the countryside. No. We will combine systematically study and productive work daily. What does this permit us? It permits us to create an economic base from this educational plan. Because we understand that the production of these schools will cover the schools' investment costs and expenditures. If this is so, then we will be able to construct schools of this type without limit. If this is so, we will be able to continue expanding and developing these plans. This type of school combines two factors: First, an ideal educational type of a socialist education, a Communist education with the necessities of our own economic development. At the same time, this kind of school is not a drain on the economy but contributes to the economy and to the development of the country. Thus, we can continue to construct this type of school until we have all our students in secondary schools of this type. Because of this we consider that for the conditions of our country this is the ideal type of school (Fidel Castro, April 25, 1971 [underlining added]).

In the 1972-73 school year, the junior high schools in the countryside were attended by about 11 percent of the students enrolled in the first cycle of the secondary educational system (51 schools); in 1974-75, 75,000, or more than 25 percent of total lower secondary enrollment, went to 150 schools in the countryside. The goal for 1980 is that all junior high education will take place in the countryside schools or in special vocational schools.

> It is to be expected that in the next decade, after 1980, the costs of education, all the costs of education, will be offset by the productive work of the students. There is no other formula for a country like ours, that has to develop its economy in conditions of hard work, given that we don't have easy wealth among our natural resources to be able to sustain a universal education program (Castro, 1976, p. 53).

The schools have their own distinct organizational characteristics. The student body, the majority of which comes from urban areas, boards at the school, but maintains contact with their family, since students usually spend weekends at home.

Each of the schools follows a similar organization and plant pattern: each is equipped to handle 500 students -- 250 boys and 250 girls -- and are under the responsibility of a director; and administrative council which consists of the director, subdirector in charge of academics, the chief of production, the manager responsible for economics and services, the secretary, the dean of the Labor Education Department; a central council, which includes the administrative council political agencies, and parent representatives; a technical council, composed of subject matter directors; and 37 teachers. The student body of each school is divided into halves. In the morning half the students work the school farmlands and the other half attend six periods of classes; in the afternoon, the groups reverse. The students are expected to study three nights a week and use the other two for recreation.

During the summer vacation, the schools serve as vacation centers for the parents and relatives (including younger brothers and sisters) of the students. The relatives pay no fees for the vacation, but they do contribute two hours daily to the school's agricultural plan in return for the free room and board and use of the sport fields, swimming pool, and game room, as well as free trips to parks and beaches in the

area of the school. Thus the crops are taken care of during vacation and the schools serve as recreational centers.

The new program tries to raise <u>collective consciousness</u> in students through the organization of study and work; in this way, the school is similar to its predecessors. But, unlike other schooling concepts, this type of educational institution is built around plans for agricultural production (citrus, coffee, and vegetable): the group responsible in each school for productive activity is involved in the administrative council of the agricultural plan. Also, this new school is different in that it tries directly to relocate future workers from the city to rural areas, preparing urban young people to be agricultural skilled workers. Finally, the idea that schools should actually finance themselves by producing as much value of goods as the schools cost to operate is a total departure from standard educational practice and new even to Cuba.

Based on some of Gillette's calculations (Gillette 1972) and on an interview with Vice Minister of Education Maceiras in 1971, Leiner argues that taking the student's estimated 600 hours per year productive work valued at the minimum wage, student production not only offset the annual recurrent expenditure on the school (96,552 pesos), but the productivity would return the capital investment (about 700,000 pesos) in the school in less than 25 years, or about a 4 percent rate of return on invested capital (Leiner 1975, pp. 93-94).

The schools in the countryside, like secondary schools in the previous organization of education, use student monitors and have science and technology circles to promote student interest in scientific and technical knowledge and to offer them the opportunity to broaden their

theoretical and practical studies in specified fields. Furthermore, although moral incentives have been deemphasized in production, the schools in the countryside as successors in theory and practice to the school _to_ the countryside -- through the work process and heavy emphasis on Revolutionary ideology — are attempting to build a level of consiousness which will make moral incentives in production more possible in the future.

> In putting the students in a situation where they can simultaneously do daily productive work and study, one hopes also to overcome the old division between intellectual and manual work. Not only does productive work merit as much consideration as intellectual, but a solely intellectual preparation only prepares individuals ignorant of what it is to do productive work and therefore much more likely to adopt a consumption mentality rather than a productive conscience . . . Fidel tells that on one of his visits to Ceiba (which is chronologically the first of the schools _in_ the countryside), the pupils were in end-quarter exams and for that reason were exempted from productive work. In his opinion, one had thus given in to a tradition which accorded superiority to intellectual work. This was a part of his remarks to the convened teachers, and it was decided unanimously that in the future, productive work would have the same place during end-quarter exams (Huteau and Lautrey, 1973, pp. 108-109).

Despite the increased use of material incentives in factories, the schools are completely organized around socialist emulation, mass participation, and moral incentives. The schools represent a profound reform in the Cuban educational system, a reform which responds to low productivity in the countryside in the 1960s, to the shortage of rural labor, and to the commitment of Cuban leadership to agricultural development as the lead sector in economic growth. As David Barkin has pointed out,

> The development of education is symptomatic of the ways in which the Cubans are going about resolving some of the contradictions [in Cuban socialist economic development]. The development of the junior high school in the educational system has been changed from one which is based upon giving students an education and asking them to apply it in their work places, to placing the junior and senior high schools in the work situation in the countryside. The change of the slogan is from schools to the countryside to

schools in the countryside (David Barkin, oral presentation at the meetins of the Union of Radical Political Economy, San Francisco, December 1974).

At the same time that the high school system is being developed along the lines of the schools in the countryside, the primary school and the university are also being transformed under this same concept. The primary school work model is based on an experiments of school gardens in Las Villas Province, where primary students began cultivating vegetables in 1971-72. This experiment was so successful that school gardens were extended to Havana in 1972-73, and to all Cuba in 1973-74. The school garden system is a response to Castro's call, in 1971, for pupils in the last three years of primary school to be involved directly in agricultural production:

> In the future, all primary schools in rural areas will have productive gardens similar to those which are now starting in some schools, and the boys in the fourth, fifth, and sixth grades will have two hours of productive work, even the smallest of children, will participate in various activities. (Castro, September 19, 1971).

> By April 1972 there were schools where the fourth, fifth,and sixth grades worked two hours a day and were already gathering the first fruits of their labor. The food which they produced on their school plots was more than enough for their boarding schools, and the surplus was sent to workers' dining halls. In December, 1972, the Ministry of Education ordered the establishment of vegetable gardens in all elementary schools. In primary boarding and semi-boarding schools the first through third grades are to work every other day for a total of six hours a week; the fourth through sixth-graders on alternate days for a total of ten hours a week. In nonboarding schools with only one session the first through third-graders are supposed to work two hours a week, the fourth through sixth-graders four hours a week.

> Because the present curriculum calls for such close interaction between regular and extracurricular activities under the concept of the integral development of the student, there has been a move toward semi-boarding schools . . . . The government plan for the 1970 decade calls for placing all elementary school children in these new kinds of semi-boarding or boarding schools (Dahlman 1973, pp. 72-73). 19b/

Vocational Education: Besides schools associated with agriculture, Cubans have focused increasingly on the problem of technical education for industrial production. There have always existed secondary technical industrial schools (see Table 12). These have been a place for forming skilled workers. But there were two other issues to be faced: 1) should there be vocational preuniversity (post-tenth grade) education? and 2) what role should specialized vocational schools play?

On the first of these issues, there was considerable talk of meshing the technical institutes and general academic preuniveristy education. All students would have followed technical education at the same time as general. This goes back to the idea in the schools in the countryside of eliminating the hierarchy between technique (manual) and intellectual work. Reforms of this type mark a real break with the traditional system of moving into university with only academic training and continuing there in that same vein. On March 31, 1969, Fidel declared:

> In the future, there will exist no difference between the technical schools and the preuniversity establishments, and all school establishments will give technical training. The only difference will be that some will specialize in one technique, and others in another, but all who tomorrow will be in preuniversity establishments will do technical studies (quoted in Huteau and Lautrey, 1973, p. 126).

But it appears that this project was not carried through, largely for reasons of cost. Preuniversity training including technical education would be very expensive. Nevertheless, it now appears that preuniversity schools in the countryside will be constructed (or some of the existing lower secondary schools in the countryside converted to preuniversity schools)

At the same time, Cubans have built and are building elite secondary technical schools which go through the preuniversity level. These schools speak largely to the goal of economic growth and the development of higher level management and technical capability as a primary concern (it has always been an important goal of the Revolutionary leadership).

> While the overall emphasis in educational resource allocation bespeaks a strong commitment to equality. and perhaps even a desire to thwart the development of a technocratic elite, other policies seem to run against the commitment. In a society comitted to rapid scientific and technological advance from a position of educational backwardness, the need to fill high level scientific positions has posed a 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. Students at this school are chosen primarily on the basis of their scholastic performance (Bowles 1972, p. 301).

Bowles is referring to the Vento Vocational School, which was originally created in the school year 1966-67, and what is today the Lenin Vocational School, recently built for the 1972-73 school year. This school (one of seven of its kind now constructed or under construction and expected to have 25,000 students), with a capacity for 4,500 high school and preuniversity students, is 23 kilometers from the center of Havana and occupies 84,000 square meters of land. This is a school for study and industrial work, primarily in electronics. Besides annual agricultural production exceeding 500 quintals, students at the Lenin School have produced 50,000 battery-operated radios, manufactured goods, and sports equipment, valued at $1,000,000 pesos, and 30 electronic computers annually have been assembled for use in instruction at the center and in industrial installations elsewhere in the country. The organization cell of the Lenin Vocational School is made up of 120 science and technology circles, encompassing all fields. These circles guarantee a large

university enrollment which emphasizes technological, scientific and agricultural occupations. (In the past school year, 85 percent of the graduates entered careers related to their circle.)

The work of the Lenin Vocational School is divided into agriculture, in which nearly 3,000 high school students participated, and industrial work, in which 700 preuniversity students take part. The rest--students, professors, instructors, and pedagogic assistants--do community and service work.

The selection process to get into the Lenin School is very restrictive: only those pupils who get very high grades in the last three years of primary school are accepted. In 1972-73, the average primary school grade point average of students in the first year of the school was 85/100, and in 1973-74, 95/100. Dropouts from the school respresent only 2 percent of the cohort (Granma, special issue on the Lenin School, February 1974).

University Education. Even though there is this tendency toward elitism through scholastic achievement selection into special secondary schools and preuniversity training which then lead to university, it should be reemphasized that students in these elite secondary schools must engage in productive work while studying and that the university student must also work concurrent with his or her studies and be in a producing situation throughout the university stay. Furthermore, there is now increased control of the kinds of studies which can be undertaken at the university level, control which is related directly to manpower professional needs according to the development plan. Until 1969-70, choice of university career was up to the individual student, which produced a rapid increase in the number of prestige occupations like doctors,

but not rapid enough growth in other disciplines like agricultural sciences. In 1970, the university began to coordinate admissions into programs with the manpower plan, limiting access to programs with historically relatively high numbers of graduates, and attempting to expand others viewed as crucial for further economic development.

The selection system works in the following way: information on the high priority careers is passed to the students in the last year of pre-university training and in the worker-peasant university. The student selects that career which he or she wants to follow, and is accepted or not, depending on the number of places available and the student's grades in the last three years of secondary school. If a student is not selected for the career which he wanted, he can apply to another career where there is greater opportunity for admission. In the case of medicine, for example, the situation in 1970 was a relative saturation of the career in terms of the country's needs. Entrance to medicine is severely restricted now through an examination; as a result, enrollment fell in that field from 8,773 students in 1970 to 8,393 in 1972, while every other faculty's enrollment rose rapidly in the same period (see Table 10). Even so, those with the best grades may still end up in the most prestigious careers.

But at the same time, workers and peasants are entering the worker-peasant university. From four thousand students in 1965-66, the worker-peasant faculty grew to 28,000 students in 1972-73, although it was only graduating between 500 and 1,000 annually. The faculty had a staff of 1,800 in 1972-73 (Anuario Estadistico de Cuba, 1973, Table 11).

Thus, while the increasing emphasis on university education implies increased elitism and selection, intended for increased economic growth, the existence of the worker-peasant faculty, political criteria as well as

academic for university entrance, and the unification of work and study, is designed to break the traditional division between manual and intellectual work and to decrease the possibility of developing bourgeois attitudes in university graduates.

> More and more, the students work in their specialty at the same time as they study. Since several years medical students are in a hospital from their third year of study, and recently they have begun to work as nurses from their entrance in the university . . . At present, the general formula is half-time: the students, with their professors, spend half a day in a work center . . . .
> One sees, therefore, that for the Cubans the universalization of the university is not only the greater diffusion of knowledge, but is also the radical modification of its mode of tranmission. The traditional university is called upon to decline, then one day to disappear. In a certain sense, the universalization of the university is the destruction of the university (Huteau and Lautrey, 1973, pp. 132-133).

The Consequences and Problems of Cuban Educational Reforms

What have all these reforms achieved? We know that the changes in education did not produce more equal income distribution or lower levels of unemployment: those economic reforms resulted from direct intervention in the economic system; indeed, the nature of educational expansion in Cuba emanated from the same ideology that produced economic intervention for greater income equality and full employment. As far as growth of output in concerned, in the short run it probably suffered from the heavy investment in education and literacy during the early '60s: non-productive investment (investment not directly related to production) in 1961 was almost one-half of total investment (not including earnings foregone) and though a substantial portion of this was in adult education, most adult training in that period was for literacy and basic cognitive skills. In the longer run, the concentration on primary and secondary education, both for adults and children, may have contributed to economic growth, particularly in the industrial sector and in those parts of the agricultural sector, like citrus growing, where other constraints did not

impede increased production (sugar, for example).[20] We argue that educational investment was crucial to mass mobilization, a key element in the Cuban socialist development model.

While we can say little more about the growth contribution of educational investment, we can be much more concrete about the delivery of social services: Cuba was able to replace, in a relatively short period of time, the doctors, teachers, and engineers who left after the Revolution. Education and health care is supplied in much greater quantity and higher quality in the 1970s for the mass of population than it was in the 1950s (see Table 11). Furthermore, almost no one is illiterate in Cuba, and reading material is also available in much greater quantities now than it was before the Revolution (for example, according to Read 1975, more than 15 million textbooks, technical pamphlets, workbooks, magazines, and newspapers have been printed by the Ministry of Education and distributed without charge to participants in adult education programs). In part, it is through mass education that people in rural areas have been brought into the mainstream of Cuban development.

We would expect that an expansion of this magnitude would result in a decline in the "quality" of education provided. From the objectives of Cuban education, "quality" can be defined in two ways: the scholastic achievement of the students and their socialist consciousness.

Academic Achievement. We have no data on whether there was a decline in the performance of students at any time during the expansion; however, we do know, on the one hand, that teacher/student ratios have risen significantly since 1958 at the primary and secondary levels, decreased and then rose in the technical and professional schools, and decreased only in the teacher training colleges between 1958 and 1970 (see Table 12).

TABLE 11

Cuba: Estimated Educational Pyramid
20-29 Year-Old Group
1953 and 1973 (Percent)

Level of Schooling	1953 Educated in 1930s and 1940s	1973 Educated in 1960s
No Schooling	20	0
Primary	72	70
Secondary (Academic and Vocational)	6	20
University	2	

Source: 1953 - Jolly in Seers, 1964, pp. 166-167.

1973 - Estimated from figures in text on dropout rates for 1965-1966 cohort.

TABLE 12: Cuba - Student/Teacher Ratios, 1958-1970, by Level of Schooling (Students/Teacher)

Level of Schooling	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970[a/]
Primary	41.4	44.7	38.0	34.4	33.0	34.5	34.4	31.5	33.5	30.0	30.0	27.9	27.5
Urban	41.6	44.7	41.3	33.5	31.4	33.7	34.1	30.9	30.1	28.4	28.4	27.1	27.6
Rural	40.6	44.7	34.2	35.5	35.0	35.8	34.8	33.9	33.5	31.7	32.4	29.1	27.3
Secondary	19.4	17.6	17.7	17.5	16.3	16.6	16.2	15.0	16.1	15.2	-	13.0	-
Basic	18.8	14.9	17.5	16.9	17.5	17.9	16.6	15.5	16.4	16.5	17.9	12.8	11.9
Pre-Univ.	31.6	19.4	16.0	16.8	12.7	13.1	13.4	16.0	18.3	10.8	13.6	16.5	17.4
Technical and Professional	12.3	20.0	20.0	19.5	14.0	14.5	15.2	10.4	11.0	10.5	8.7	10.3	5.3
Teacher Training	12.9	20.9	17.1	20.5	25.9	12.3	20.5	23.5	27.2	23.1	-	18.4	-

Source: Dahlman, 1974, Table 10, Computed from tables in Cuba, Junta Central de Planificación, Dirección de Estadística, Compendio Estadístico de Cuba 1970, Tables XII.1 to XII.5, pp. 212-220.

Notes: a. From UNESCO data, we know that the ratio in primary school continued to fall to 25 in 1973 and 23 in 1974.

We also know that promotion rates are rising in secondary schools in recent years (85.6 percent in 1972-73, compared with 79 percent in 1971-72 and 66 percent in 1970-71--Gallo *et al.*, 1975, p. 52).

Furthermore, curriculum reforms,[21] the widespread use of new textbooks, and the introduction of new methods such as educational television[22] and teacher training methods, particularly for rural school teachers, have probably had positive effects on student performance. On the other hand, the introduction in the second half of the decade of the "school to the countryside" (discussed above), involving work in the countryside" for about 45 days per year for primary and secondary school students, although completely consistent with the socialization goals of the Revolution, probably had a negative effect on student scholastic achievement.

There was (and probably still is) a serious dropout problem in schools: taking first-grade enrollment cohorts for 1958-59 to 1965-66, Dahlman (see Dahlman 1973, pp. 116-121) reports (based on data provided by Nelson 1971) that the first post-Revolutionary cohort (1958-59) had 38.1 percent reaching the sixth grade, but thereafter the percentage fell to about 20 percent, rising with the last cohort to 32 percent. Besides this dropout, only approximately 70 percent of those who reached the sixth grade graduated. Furthermore, although the national average was that 21.2 percent of the 1965-66 cohort graduated in 1971, the rate for urban elementary schools was 34.2 percent while that for rural schools was just 11.7 percent. At the junior high level, of the 59,000 students who entered seventh grade in 1966/67, only 29 percent (or 17,000) reached

the tenth grade and only 47 percent of those (or 8,000) passed that grade. This low success rate helps explain the small enrollment in senior high schools and technological institutions (in 1972, only 24,000 students were enrolled in industrial and agricultural schools). There is also a serious repeater problem in Cuba, and, as we discussed above, as of 1971 there was a problem of those teenagers who because of high dropout rates, are neither in school nor working (see Huteau and Lautrey, 1973, pp. 80-95).

Castro analyzed these problems of the educational system in a speech at the Second Congress of the Young Communist League on April 4, 1972.

> What factors cause these difficulties? There are quite a few. For example, the material resources: school installations, the materials available for study, the difficulties involved in going to school in the mountains, the distance, the isolated school, the poor school, the school in a hut or the school with a roof of thatched palm. There are other problems: the environment, the cultural level of the population, a persisting lack of awareness about the importance of schooling, and education, of the need for discipline, regular attendance in school and parental cooperation with the school. Another important aspect is the quality and efficiency of educational personnel in the schools. Out of the 79,968 teachers, only 24,265 have graduated from teacher training; in other words, 30.4 percent of the teachers have graduated. In the elementary schools, 61.3 percent of teachers are nongraduates and in the junior high schools, 73.7 percent are nongraduates.

Leiner contends that this lack of quality in the teaching corps is reflected in the quality of the teaching-learning situation within each classroom. "Many teachers viewed their role as one of 'telling' -- of simply presenting content to the students. Also, teachers were found to follow the 'blue-book syndrome'; the students were busy filling blue

covered notebooks with notes from the lectures of the teacher. These notes were later memorized for the testing program" (Leiner 1975, p. 103).

Implicit in much of the dropout problem, however, is that the Cuban economy at this stage of development has greatly reduced the economic pressure to get into higher levels of schooling by the income guarantees it provides, while at the same time, the level of consciousness about work and doing better have not taken hold. When Castro refers to the "persisting lack of awareness about the importance of schooling," he is dealing with the lack of values which make people want to know more and have their children know more in order to help the collectivity do better, since the personal incentive to do better materially has been greatly reduced. The solution to the motivation problem, therefore, lies in the long term reeducation of Cubans into the new value system, and this either requires getting them into schools or reaching them by mass mobilization programs. Of course, the schools must also be prepared to take these people, so a first order of priority is the preparation of qualified teachers.

The shortage of qualified personnel is greater at the junior high level because of the bulge of elementary school graduates coming into the junior highs in the late 1960s and early '70s. It has been estimated that between 1972 and 1976, 22,427 junior high school teachers would be needed, but in this period, only 1,990 new teachers will graduate. Although 2,000 more will be available from those working as practice teachers, this will still leave a deficit of more than 18,000 qualified teachers by 1976 (Leiner 1975, p. 104).

This problem is blamed in part on the type of teacher training in the mountains used in the 1960s. Castro reported that in 1975 there were 21 primary-teacher-training schools with more than 33,000 pupils. The university-level Instituto Pedagogica had 12,000 student-teachers (Castro, 1976, p. 120). But the problem will continue to be a difficult one over the next five years, particularly as Cuba puts more emphasis on industrialization and expanded technical-vocational training.

Collective Consciousness. We have already described the intent of the schools to the countryside to raise collective consciousness. Leiner reports that there is essentially no research done on the effectiveness of these programs (Leiner 1975, p. 95), but discusses some of his own results trying to measure "collective attitudes" among tenth graders in one school to the countryside. In getting them to answer a question on what their life would be like when they were thirty years old, he tried to determine whether students aspirations were centered on personal goals and concerns, or toward societal committments and collective goals. Based on a sample of 92 students, he found that for 72 percent of them, a vision of their life at 30 included working and living for societal or collective considerations, whether those of Cuba or for other people (Leiner 1975, pp. 94-95).

In addition to Leiner's results, Zimbalist reports that in the case of two secondary schools he visited in 1974, when the school administration tried to introduce prizes for the best work teams, the students at these two schools objected.

> These students, who were not reared and socialized in a capitalist society, see their work as promoting social welfare and not individual or group advancement. The prizes are not being used (Zimbalist 1975, p. 19).

Under the conditions of the school and in the countryside, these results are believable (although we don't know if the schools Leiner and Zimbalist visited are representative);however, only a small percentage of Cuban children reached the ninth or tenth grade even in the early seventies. The question is: do primary schools produce the same kinds of consciousness that the schools to the countryside do? It is likely that the answer is negative, even though we have evidence that in some primary schools group work in the classroom is intended to practice socialist emulation rather than individual achievement.(see Bowles 1972, p. 290-91). Primary school curriculum and classroom structure in general appears not to have been organized until recently(see above on the primary school gardening program) in ways that would significantly raise collective consciousness. The existence in many primary schools of the rote learning method for doing well on tests, for example, could well contribute to an individual achievement orientation.

Some possible solutions. We have stressed throughout this essay that an important aspect of the Cuban Revolution is its Revolutionary character of constant change, of response to contradictions in the Cuban socialist development. The problems in the educational system and the relationship of those problems to the dynamic of the Cuban economy are being confronted primarily through the schools *in* the countryside, which begin to deal simultaneously with the level of achivement, the dropout-rate, the formation of socialist consciousness, the high cost of schooling, and the shortage of rural labor; the recruitment of teachers from the high schools; and the incorporation of teenage primary school dropouts into vocational training schools.

We have already discussed the last two of these solutions above. Essentially, the long-term problem of collective consciousness is

being attacked on both fronts -- teenage elementary dropouts and teenage junior high school students -- by creating rural work settings, one in vocational schools attached to work centers and the other in academic junior high schools.

But the schools _in_ the countryside may be raising much more than consciousness. Unlike their predecessors, the schools _to_ the countryside, the new schools appear to raise the academic performance of students. The Cubans place emphasis on the percentage of promotion (on a grade, school, and regional level) as the key criterion for measuring the success of a school. The bases for determining promotion are achievement tests.

> There are several junior high schools in the countryside in Havana province. The promotion rate of the Havana schools was 94 percent after the repeat exam; the traditional nonboarding schools had a promotion rate of 82 percent. Junior high schools in the countryside did 12 percentage points better than the traditional schools in promotion (Castro, October 1972, quoted in Leiner 1975, p. 101).

Leiner adds that other reports support the higher promotion rates in the schools in the countryside. Fidel reported that the schools _in_ the countryside had a promotion rate of 97.4 percent in 1972-73 compared with 85.6 percent in the secondary schools overall. Since these reports are from the first two years of operation, in which a relatively small, and perhaps select, group of students is attending the schools, we should probably wait to see the results in 1974 or 1975 before coming to any conclusions about the achievement effect of the schools. Nevertheless, there are some logical reasons why the academic performance should rise: (1) The boarding school nature of the program--the study aspect is not only emphasized, but time and trained help are available for individual assistance; (2) the relationship between student and teacher benefits from the nonformal work aspects of the work/study program; (3) Leiner feels that peer teaching has also contributed to higher test scores; (4) the school plant and equipment is new and sports

facilities are abundant. New textbooks, produced in Cuba, have also been introduced; (5) the boarding aspect of the schools has reduced teacher and student absenteeism to negligible proportions. Although student attendance went from 60 percent pre-revolution to 90 percent after 1959, this has apparently been reduced even further in the new junior highs (Leiner, 1975, pp. 101-102).

The problem of teachers is just beginning to be dealt with. At present, the quality of teaching is apparently to be raised through the "guerrillas of education" movement which will try to get young people to enroll in training programs and through refresher courses for nongraduate teachers. The "guerrillas of education" movement goes to tenth grade students in the (last year of) junior high school and ask for volunteers to enter the teacher training programs. After the tenth grade they would start their teaching-training in the junior high schools themselves, "a practice which is consistent with Cuban efforts in all professional areas (medicine, engineering, and so on) to conduct training in the field (Leiner, 1975, p. 104). In 1972, 20,000 students were in the tenth grade; some of these students are teaching under supervision of more experienced teachers and are enrolled in the Pedagogical Institutes. They they are able to go to the junior high schools in the countryside, work with the experienced teachers and get their pedagogical training right there in the school. "At present, there simply isn't any other formula except to go to our tenth-graders and recruit at least 2,000 of them this year, at least 5,000 next year, and so on" (Castro, 1972).

This policy of drawing upon recent graduates of the school in the countryside and other junior high schools to solve the teacher shortage is consistent with the whole experimentation philosophy of the Cuban government and with the strategy of not waiting for ideal conditions before proceeding with radical change.

Furthermore, the government is trying to raise quality through in service training. All junior high teachers spend one month a year (July) on inservice training, which includes pedagogy, psychology, and subject content study. In addition to this month of concentration, there are school level, grade level, and subject area meetings of teachers during the academic year (Leiner 1975, p. 105).

These problems and proposed solutions indicate that while the achievements of the Cuban educational efforts have been remarkable, particularly in adult education and the rapid expansion of primary and secondary school and the extension of schooling into rural areas, such education expansion — even in a society as committed to education as Cuba — is fraught with difficulty in countries where the availability of highly-trained teaching personnel is limited by the conditions of underdevelopment which preceded the Revolution. The shortage of educational personnel also reflects the overall shortage of skilled labor in the economy, and the shortage of adequate facilities in the schools reflects the overall material goods shortages in the Cuban economy. Furthermore, as the figures indicate, one of the principal reasons that there are great difficulties in providing schooling in Cuba is the Revolution's commitment to rural areas, areas where the population is thinly spread, transportation not particularly well-developed, and a deeply ingrained culture of traditional values inherited from the pre-Revolutionary social and economic structure.

Castro summarized the situation in the following way:

> We face a really special situation in the coming years. Why? Because we are living through a transitional situation. We still don't have the new man and we no longer have the old one. The new man doesn't exist yet (Castro 1972).

VI. CUBAN DEVELOPMENT AND EDUCATIONAL CHANGE: CORRESPONDENCE AND CONTRADICTION

As we have described it, educational change in Cuba has conformed to several imperatives of Cuban economic and social development. Educational reforms were the result of profound changes in the direction of economic and social policy on the island, not independent, ad hoc policies that emerged from imaginative people in the Ministry of Education or from Fidel himself. These changes were accompanied by a new concept of men's and women's relation to each other and the means of production. In other words, the ideology of development was fundamentally altered.

Cuba in 1959 had many of the same economic and social problems as other Latin American countries of similar size and climate, and problems not very different from other, larger Latin American societies. In the second half of the 1970s, Cuba has certainly not solved these problems. It is not a high income country where everybody lives in style, is highly productive, and participates fully in decision-making at the factory, neighborhood, and nation. But, in Cuba, unlike the Dominican Republic, Jamaica, Central America, and even Venezuela, with its limitless petroleum, one gets the distinct feeling that the problems will be solved; that in ten years everybody will be well fed, all children will have a high school education, that everyone will have decent housing and complete health care.

Although many technocrats in the capitalist industrialized countries would like to believe that this is also possible under a capitalist organization of production,[21a/] particularly since this capitalist model would supposedly retain the characteristics of bourgeois democracy, we doubt it. We think that--unfortunately--those in power in capitalist

societies have so much to lose from making the necessary reforms that they prefer not to make the reforms and resist all political change that seriously contemplates making them.

The investments in education made in the first ten years after the Cuban Revolution were numerous, and they went to primary and lower secondary education--children of the poor, as well as poor adults. Those resources had to come from somewhere. Health care, roads, the literacy campaign: would the upper and middle classes have paid for them willingly? Apparently not. These are the people who left Cuba. Of course, they argued that the Communists were ruining the country, that Fidel had betrayed the liberal reforms he had promised, that there was dictatorship in Cuba. And there was good reason to contend that conditions were bad in Cuba in the 1960s. They were, and in many cases, still are.

But better income distribution and full employment required overthrowing not only Batista but the Cuban professional class and United States imperialism. And the educational changes that occurred, occurred because of the same policies that made drastic changes in income distribution and full employment possible. Understanding Cuban education must start from that point.

We have gone further. We have said that once Cuba set off on the road to socialism, once the Cuban leadership went beyond the early liberal reforms of investing in rural primary education (1959-60), mass mobilization became part and parcel of that road. Mass mobilization meant, among other things, reaching one million rural people with the Revolutionary ideology and incorporating them into the Revolutionary project. It meant more: closing down the educational system was costly to the economy, but

it was an "act," an act which brought 250,000 urban dwellers into the far reaches of the countryside for nine months. It broke down traditional barriers, brought the city to the countryside--an important element in Cuban ideology to this day. Adult education was the continuation of this mass mobilization policy, and so was rapidly expanding primary rural education.

The second imperative of Cuban economic and social change was the attempt to create the "new man." While disappointing in many ways, especially in terms of the "new man's" response to moral incentives, the idea that the socialist Cuban would have a completely different set of values than under the bourgeois regime has remained a fundamental theme of both Cuban production and education. The unification of academic preparation--intellectual work--and productive work, for example, springs from this theme. So does the attempt in collective work to undo hierarchy, to make workers and managers, teachers and students political equals.

The third imperative was derived from the financial necessity to use agriculture (particularly sugar) as a lead sector and the full employment policy: from about 1964, Cuba faced an acute shortage of agricultural labor. Throughout the rest of the decade and into the early 1970s, Cuba was constantly trying to mobilize labor for agricultural production. This led to schools <u>to</u> the countryside and then schools <u>in</u> the countryside. It also led to the search for ways to merchandize sugar harvesting, now well on its way.

The fourth imperative was <u>efficient</u> economic growth and the skilled labor necessary for that growth. Beyond the large amount of labor necessary to sugar harvesting, Cuba needed skilled workers in the sugar mills and other industries, skilled farmers, technicians, managers, administrators,

teachers, even economists (according to Fidel's 1975 speech). How much efficiency comes from better planning and better methods of planning (Fidel argues that this was a major problem in the 1960s), how much from incentives for individual workers and how much from good training, is an interesting question and perhaps one that will never be answered, since Cuba is trying to do all three things at once.

Education conformed and conforms to these imperatives in Cuba, but there are also contradictions in the Cuban development process, and we will argue that education may play an important role in the changes which occur as a result of these contradictions.

One of the principal political issues in post-Revolutionary Cuba was whether the development of socialist consciousness precedes a high level of material production and consumption or must follow it. Cuban theoreticians opted for developing socialist consciousness as part and parcel of the economic growth process, both to create a new political culture and to increase the possibilities for material growth through mass mobilization (Fagen, 1969).

The Cuban strategy attempts to mitigate one of the primary contradictions in socialist development: in the drive for increased production under socialism, increased consumption wants are also created among socialist workers and socialist bureaucrats. New status structures develop, particularly through the kinds of goods consumed by different parts of the socialist hierarchy. Just as schools act to reduce the contradictions in capitalist production through the schools' socialization function (Carter, 1975), the educational system in Cuba—in trying to create the New Man—attempts to alter the kinds of goods and services desired by Cubans during the drive to increase production. First, the CDR's and other mass

organizations and now schools at the junior high level try to inculcate service to others and the maximization of group objectives as an individual goal in place of increasing individual achievement and material consumption. This is what MacEwan (1975) calls collective incentives. Despite this, the need for highly skilled, qualified professional level labor to increase growth by improving technology and efficiency has apparently led to increased selectivity for more desired, higher status work, and the possibility of creating a technocratic hierarchy based on the amount and kind of education a person has. There may be an important contradiction arising from the goal of increased growth.

Since 1971, Cuba--in reaction to the low growth rates of the 1960s, the failure to achieve the ten million ton sugar harvest, and the effect on the rest of the economy from trying to achieve the harvest under conditions of that time--has definitely shifted to a concentration on high growth rates and efficiency in planning and production. Workers are now rewarded much more on the basis of the amount and quality of work they do (material incentives) than in the 1960s. Allegedly, this has raised productivity. Equality is somewhat reduced, but "equity"--each according to his ability--is increased. Fidel also announced in December, 1975, that the five-year plan (1975-80) would feature increased industrialization and increased cost-accounting methods of decentralized planning, all efforts to increase output.

> The new emphasis on "efficiency" is certainly significant. Its central feature is establishing a more thorough connection between an individual's work and his or her remuneration. In his speech to the trade union congress in November, 1973, Fidel explicitly recognized the important changes in the Cuban position which these new policies represented. He spoke of a need to "correct idealistic mistakes we had made" and cited various experiences to show "that we are not yet ready for Communist distribution," Cuba should develop, he proclaimed, according to the Marxist principle: "From each according to his ability: to each according to his work" (MacEwan, 1975, pp. 99-100).

Fidel repeated these general ideas in his speech to the First Congress of the Cuban Communist Party in December, 1975 (Castro, 1976).

At the same time, however, there is the democratization trend. Mass organizations are growing, not declining. Poder Popular--local election for a national assembly--are a serious part of the Cuban scene. Fidel also stressed--in December, 1975--the need for continuing moral incentives. Micro-brigades (based on moral incentives) are a dominant form in the construction industry (MacEwan, 1975). The Communist Party is becoming more and more a mass organization. The new class of bureaucrats has still not been able to develop: despite moves to decentralize decision-making, to have more effective economic planning, and to strengthen the political role of the Communist Party (through the First Party Congress), Cuban ideology still comes largely from Fidel. This ideology, as far as we can tell, is still expressed in the idea of the "new man," the collective work incentive taught in the schools _in_ the countryside and the vocational schools, and the unification of manual and intellectual work inculcating the entire educational system, from primary schools to the university.

Are these two trends in Cuba necessarily contradictory? According to MacEwan, personal and collective incentives are. Personal incentives increase productivity--workers are disciplined by the direct connection between work and wages. But an understanding of the work process and its social significance beyond that necessary to carry out the assigned task, would hardly be relevant. "With a system of collective incentives, however, all would be lost if workers did not understand what they were doing" (MacEwan, 1975, p. 83). So, MacEwan argues, the effective operation of collective incentives--requiring high moral and understanding on the part

of workers, "would also require the politicization of the masses. It seems quite reasonable to assume that, in the long run, the only way people are going to care about and fully understand production processes is if they are involved in decision-making." But, he adds,

> Personal incentives, to function effectively, require that workers define their interests as external to the production process, in terms of the wages or other personal rewards they receive . . . . If workers are excluded from decisions in the workplace (i.e., if they are alienated in production), they will have been deprived of power generally.

So personal incentives--if they replace collective incentives on a wide scale--are, according to MacEwan, a fundamental depolization of the Cuban workers, while collective incentives require mass participation at all levels. In this sense, the move to material incentives is completely contradictory with the democratization of Cuban mass organizations. Bertram Silverman (quoted in the introduction to MacEwan, 1975) disagrees, but not in the way one might expect. He insists that collective incentives (as they were used in Cuba in the late 1960s) are not only compatible with an authoritarian and unequal division of labor, but may be partially responsible for it. Silverman argues that the movement in Cuba toward income inequality occurred originally because of Cuba's

> . . . need to gain rapid expansion in employment alongside a planned reduction in per capita personal consumption. Expansion of employment could only take place on the basis of relying upon a heightened sense of social conscience. And increased capital accumulation could only occur through an expansion of unpaid labor (MacEwan, 1975, p. 76).

Since Cuba rejected (in the late 1960s) getting people to work via material incentives, only social "compulation" remained as a way to extract higher productivity and reduce absenteeism. In Silverman's words,

> In the face of these contradictions, there is a natural tendency for the government to increase the use of ideological instruments to develop greater expression of social commitment. This was the basis of the revolutionary offensive and the "radicalization" of Cuban ideology which had virtually declared a moratorium on public debate over economic and social policies. These developments have resulted in the externalization of revolutionary ethics. But a system of incentives that relies on directives from above becomes just another form of repression (Silverman, 1974, quoted in MacEwan, 1975, p. 76).

He does not see workers' power as a result of the new emphasis on mass organizations, nor does he think that moral incentives produced effective worker participation in production decision-making. So the move toward material incentives is not in contradiction with moral or collective attitudes taught in the schools or the increase in mass organizations; neither produces worker control; both are just different ways of extracting labor. The movement toward the more traditional (Eastern European) approach to socialist development, according to the Silverman view, would not be in contradiction to the previous concepts of collective incentives.

We have some difficulties with the Silverman approach. While collective incentives may not have led to worker control, the types of attitudes toward work and product which are associated with production in schools (collective incentives, unpaid labor) are very different than those inherent in personal, material incentives. Mass political organizations, such as Poder Popular, if they are separated from worker control at the factory and collective farm, would reproduce bourgeois forms of democracy, and with them, contradictions between ideology and the reality of everyday hierarchies and control.

The fact that the schools in Cuba are apparently working on producing the new socialist person, with his/her collective view of work and sense of participating in a rather non-hierarchical way in the work process;

and his/her view that manual and intellectual work are equal in value (thus, a manager and a production worker produce equally valuable work) should contribute contradictions in any production system that separates managers from workers and stresses individual differences in production and consumption. We would argue that, at present, the schools and other institutions of Cuban society may be producing a high level of socialist consciousness, creating higher demands for social idealism than the economic and social structure is able to deliver. The increase in technicians graduating from the university may also reduce the status of that group so that the hierarchy problem becomes relatively unimportant. Increased levels of schooling in the population may thus move Cubans to demand a society beyond the centralized State-run economy. These demands might be reflected in pressure for more control over work (increased quality working life) and more responsibility for determining how and what products are to be produced, as well as more influence in political decisions. Increased education may help to dismantle the very centralized State apparatus which developed the educational system itself.

There are indications that there _is_ increased pressure for _decentralization_ of Cuban economic and political structures, and undiminished idealism. We have indicated some of the changes taking place in Cuban society after 1970. First of all, there is some evidence that the schools to and in the countryside are helping to produce a high level of socialist consciousness. Second, Zimbalist's study indicates that worker production assemblies are now generally meeting monthly or bi-monthly at the enterprise level to discuss production and work organization, and that there is some movement toward increased work participation.

> The foregoing participation scheme is young and is still largely confined to the enterprise level. Thus worker involvement in the setting of national priorities, investment, and foreign trade policy is as yet highly inadequate. However, a central point is that the Party leadership is openly calling for participation at higher levels, thereby fanning the desires and expectations for such participation (Zimbalist, 1975, p. 20 [underlining added]).

Third, democratization is also taking place in unions in local and provincial government and within the Party. We reviewed what took place in Matanzas province.

While this democratization at the economic and political level is still very uneven and in its infancy, and even though the central Party apparatus still sets the priorities of the plan, there seems to be some movement in the direction of <u>more</u> participation, even while personal incentives are in place. Increased schooling in the labor force and in the population--if the socialization process continues as is--could accelerate this movement and could contribute to dismantling the centralized state apparatus which has existed since the Revolution. In that case, Cuba might very well in the future move away again from person incentives to a worker-controlled, collective incentive production. This time it would have a labor force that had not been inherited from a bourgeois society, but one trained in Cuban primary and secondary schools, with technicians and teachers who are products of Cuban "universalized" higher education.

But--and this is an important "but"--instead of Cuba becoming a much more democratic socialist society than Eastern Europe, the movement could go the other way.

> . . . it seems likely that the close relationship with the Soviet Union, not to mention the considerable aid that Cuba receives from that relationship, strengthens the forces in Cuba that would like to see the country move away from its heavy emphasis on collective incentives (MacEwan, 1975, p. 99). [21b/]

The development of material incentives, the increased supply of consumer goods, with high prices for non-essentials (like television sets), and the general shift to a money economy as well as managerial functions may be indicators of an "Eastern Europeanization" of Cuban socialism. The expansion of preuniversity and higher education--especially if the work aspect of university attendance is played down in the hope of more "efficient" production of university graduates--could create the new class that has been avoided until now. The elite education provided by the Lenin School and others like it already does and would continue to cater to the children of the higher educated, further making possible the reinforcement of the division between manual workers and an intellectual and managerial elite. Fidel's stress on technical higher education and the expansion of higher education in general within the context of greater productive efficiency in his Communist Party Congress speech indicates that there is some possibility of this kind of movement.

But, if Cuba is going to move toward an Eastern European type of socialism, stressing almost entirely increased production, particularly industrial output (as well as increased student production), education in Cuba will have to be changed. The contradiction will be too great between the socialization in the schools and the society at large. Mass participation will also have to be played down, and the Communist Party given much more power than it has now.

But, let's return to the schools: it is possible that the schools in the countryside could continue to stress work as well as study, but that would be primarily to reduce cost of education, not to produce new values and collective incentives. The unification of manual and intellectual

work would also have to be played down and probably the sending of urban children to rural areas (eventually). In effect, this would be the kind of educational reform that could easily be transferred to a non-socialist country, since it would be a cost-saving arrangement rather than any totally different type of education. At the same time, of course, Cuban society would have changed from what it is now. This would be the correspondence of changes in educational institutions to changes in Cuban society.

We doubt that this will happen, primarily because Cuba's economic product has been able to grow at 10 percent annually in the early seventies and is likely to continue to grow rapidly throughout the decade. This largely due to the mechanization of the sugar harvests and greater efficiency in sugar production (along with continued support from the Soviet Union). If the economy goes well, why should the transition to the socialist values among the young be slowed down? If anything, these new values should encourage high productivity with reduced emphasis on material incentives. The only variable that could change our prognosis would be Soviet pressure to become more hierarchically structured and Soviet-like. Yet, there are also other pressures on Fidel, pressures from world radical opinion to which he has responded in the past (see Mesa-Lago, 1974).

VII. ON THE APPLICATION OF CUBAN EDUCATIONAL REFORMS TO CAPITALIST DEPENDENT AND SOCIALIST ECONOMIES.

Many of the educational problems faced by developing countries have been dealt with directly by Cuban educational reforms, particularly the extension of primary and secondary schooling into rural areas and the fitting of educational output more closely to the economy's manpower needs. Furthermore, there is no unemployment of higher-trained labor (although there may be "underemployment" in the sense that the university educated may work short hours or in jobs which do not fully utilize their skills) despite a rapid extension in recent years of university education. Can Cuban educational reforms be applied in dependent capitalist economies? Can some of the concepts and changes we have discussed above be transferred to a society in which a radical ideological shift from capitalism to socialism has not taken place?

First, it is important to realize that most of Cuba's accomplishments in education came about because from the first year it came to power, the present Cuban government has spent a high percentage of GNP on education, and a high percentage of the educational budget has gone to primary and lower secondary schooling. Much of this went to rural education. In 1965, Cuba's education budget was 289 million pesos--7 percent of GNP--which was already very high. For example, UNESCO set a target of 4 percent of GNP as a 1970 target for developing countries.

By 1975, Cuba's education budget was 875 million pesos, or 12 percent of GNP. Nineteen percent of the total Cuban population in 1974 was in primary school, and another 4 percent in lower secondary school. Almost 30 percent of the Cuban population was in school full- or part-time in 1974 (including adult

education) (Castro, 1976). Furthermore, Cuba spent 104 pesos (1 peso = $1.10) per pupil in primary school in 1973/4 compared, for example, to U.S. $34.2 per primary pupil in Honduras in 1970, and $16.3 per primary pupil in Colombia in 1973 (UNESCO, Statistical Yearbook, 1976). So, in large part, Cuba achieved educational expansion and lowered drop-outs through sheer force of spending a very high fraction of its economic output on education, much higher than on Latin America countries.

It is important to add that Cuba raised this money by fixing wages lower than they might be in a market economy, especially the wages of the higher educated. Even with relatively low wages--such as the 350 pesos per month mentioned above for an administrator, Cubans for many years had nothing to spend these wages on (except in the black market). This is changing now as a number of "luxury" goods are becoming available at very high prices. In any case, low wages and lack of goods created forced saving of about 30 percent of national product for many years. Much of this was and is invested in education and social services. The forced saving is--when compared with a market economy--especially large among the higher educated.

This is in complete contrast to the Latin American capitalist economies where, if redistributive effects do occur because of public expenditures on education, it is the existence of a sizable sector in private education which--in the short run--may shift income from rich to poor (Jallade, 1975). On the other hand, as Jallade points out, the long-run effects on income distribution of private education for the rich are much more questionable.

It appears that if Cuban-type educational reforms are to be carried out in another low-income country, one of the requirements would be a much larger fraction of GNP devoted to education and that these resources be devoted to lower levels of schooling. This is an important political decision;

raising such resources would have to affect higher income earners, but the resources for education would go largely to lower income groups.

There is little to be done to offset the cost of primary education for children. If a country wants to improve primary education, it will have to raise taxes and use them for extending that education to the mass of unschooled children, especially in rural areas. At the secondary level, however, there are ways to reduce costs. The Cuban schools in the countryside is certainly one of them. In theory, there is no reason why rural boarding schools at the secondary level carrying on agricultural production cannot exist in a capitalist economy. But, as we have said in the introduction to this study, such schools would be different in a non-socialist setting. Work and schooling would go on together, but the socialization of the work process would aim more at teaching youth to be individual farmers or to work in a wage labor, capitalist production situation. Also, it is highly unlikely that the schools would cater to rural _and_ urban youth; they would be seen as a place to teach _rural_ youth to be farmers. Their most important feature would be to raise enough output to cover their costs, a feature certainly shared with Cuban schools in the countryside. As we have pointed out, however, this could raise serious problems in a capitalist economy--if there are many of these schools producing a lot of output--with the process of goods to "regular" farmers. After all, most agriculture production in Cuba is part of a "plan." Prices (on wages) are fixed to everyone. In market economies, increased production over the short term is met by falling prices, unless there is an international market for the goods which can absorb the increase by a single, relatively small country producer.

There are more serious questions. The concept of rural secondary schools paying their own way and simultaneously increasing agricultural production is certainly appealing to low-income countries. It will be

adopted--at least on a small scale--by more and more of them. Yet, even though they may pay their current costs and part of their annual capital costs, they are expensive to build. And to build more than a token number of them requires more than physical capital; it requires students and skilled teachers. To get the students--especially out of rural areas--means investing a lot in primary education so that there are enough primary school graduates to send to secondary school. It also means investing in teacher training for rural, agriculturally trained teachers. It is true that the teacher training schools could also help pay for themselves by work/study programs in the countryside, but the primary schools could not. As the Cuban case makes clear, providing full scale rural education is expensive even with productive schools.

Will an urban bourgeoisie in low-income countries dedicate a significant fraction of the economy's resources to the development of a skilled labor force in rural areas which is trained specifically to work on rural problems? We don't think that this is highly likely, even though schools in the countryside may appear in token form to give the impression that there is real concern about rural education. We think that one of the main objectives of education in capitalist societies run by urban bourgeoisies is to develop a skilled labor force for urban occupations, including manufacturing and services, creating a pool of skilled workers pressing for jobs, and thereby putting downward pressure on skilled worker wages (even if wages do not actaully fall) and reducing the power of worker organizations in urban areas. Of course, under conditions which create so much unemployment that increasing the number of urban workers is politically dysfunctional, then keeping workers on the farm becomes more attractive to the urban bourgeoisie. Yet, such a policy always depends on the needs for cheap urban labor, and not on agricultural or rural needs.

Secondly, from the perspective of those who take the education in rural areas, it is difficult to understand why they would stay in agriculture under the wage conditions in that sector. Having more education in rural areas marked by extremely unequal land distribution, difficult access to credit, and high underemployment, may mean higher productivity but not necessarily higher wages. Faced by a market for labor where wages are higher in urban than in rural areas and all the wage incentives for those with more education in urban occupations, it is not going to be easy for a government to convince people--solely on economic criteria--to stay in the countryside once given an education that certifies them to get jobs in urban labor markets

All this raises the issue of why a society where power over resources lies in the hands of an urban bourgeoisie would choose to invest large amounts of money in rural education <u>for rural development</u>. There may be reasons for increasing agricultural production (lower food prices may contribute to downward pressure on urban workers' wages) and raising the skills of rural youth so that they can be incorporated into the union labor force. But these are not contributions to rural development. And, as we have seen, real efforts in rural areas require large amounts of real resources, and these resources will have to come from urban areas in one way or another.

What about other aspects of Cuban educational reform? For example, what about the relationship between work and schooling? This is, in theory, a reform which is possible to implement in dependent capitalist societies, but, again, its success in practice would depend in large part on the willingness of the urban bourgeoisie and middle class to support programs which would have its children working in manual occupations while attending secondary school and the first years of university.[23] We suspect that it would be difficult to force such a program on the middle-class. It would probably function if limited to work/study programs for working-class and rural children, with higher secondary school, private schools, and

universities being exempt from any combination of work and study. Of course, there are already large numbers of university students even in low-income capitalist societies who do work and study at the same time (Carnoy, 1975b), but in general their work is done to earn enough money so that they can support themselves while they advance their study to take on a different kind of work once they graduate. Thus in capitalist societies, study and work, while occurring simultaneously, are usually separate in concept and applicability.

Another interesting example is the literacy campaign. Many capitalist societies have illiteracy rates similar to Cuba's in 1959 (24 percent), and are discussing the possibility of undertaking literacy campaigns. Will they undertake a Cuban-style campaign? What is there to learn from the Cuban experience? Again, it is unlikely that the urban bourgeoisie and middle class would permit the enormous investment of resources and time to reach poor illiterate peasants in far-off villages and teach them for nine months. How would a low or middle income capitalist society mobilize the large numbers of people to undertake such a vast enterprise? Although many young leftists and Christian Democrats went into the Chilean countryside during the Frei period to work with peasants, this was primarily during the university vacations. Even they were motivated politically, not particularly to teach people how to read and write. The results of the Cuban campaign also indicate that its literacy effects were only part of the desired outcome: political mobilization in the countryside was the main issue--the incorporation of almost a million adults into the Revolutionary project. That meant that there had to be something for peasants to be incorporated into; there had to be better services, more education, and more food delivered by the Revolution. The Cuban case shows that to expend such a large amount of resources for increased literacy alone is probably

probably a very low-yield project, but to attempt seriously to mobilize poor peasants as in Cuba in a dependent capitalist society, dominated by urban businessmen and rural landowners and corporations, will never be implemented because there is nothing to mobilize them into.[24]

Finally, what are the chances of developing an independent base for research and development of technology relevant to product needs in the developing country? Again, in theory there is no reason why in a dependent capitalist economy there should not be the kind of technical education which enables that country to develop a technology which is relevant to its growth needs. In practice, however, as in Cuba before the Revolution, much of the technological capability and control over goods produced is exercised by foreign companies and foreign managers with the cooperation of the local government in the low-income country. To develop a counter-technology means at least in part to break with the kinds of goods which are produced by foreign companies both at home and in the foreign country, and choosing an alternative development pattern. One criterion for the success of such a program is the incorporation of the masses into the development of local technology. It is difficult to imagine, in a class-structured capitalist society, that the knowledge of technology, which is one of the bases of class division, should become more universally available, as it is now in Cuba.

All of this suggests that the correspondence principle not only tells us that educational reform in a country like Cuba corresponds to the economic and social changes which have taken place with the Revolution, but it also suggests the difficulty of transferring these types of educational reforms to societies in which similar kinds of ideological and economic transformations are not taking place. We must clearly separate the *idealistic* images of educational reforms from the realities of economic and

social change. While we may formulate the theoretical transference of such educational reforms to non-socialist societies, we can show that in practice this transference will not take place, not because of the malevolence of the parties involved, but rather because such transference is against the self-interest of dominant groups in a class structured capitalist society.

This is not to say that certain aspects of Cuban reforms cannot be informative to educational planners in capitalist, low-income countries. The literacy campaign indicates, we think, that functional literacy in thinly populated rural areas is extremely difficult to attain, and even more difficult to *maintain*. Such a campaign has dubious worth if its only objective is literacy. The schools in the countryside show that achievement can be raised through boarding schools (a result borne out by other country cases), and that such schools, while expensive, can be made to pay for themselves if the students do agricultural work. In urban areas, cost reductions of schooling can also be achieved by having the students manufacture articles for sale part of the day (as in the Lenin Vocational School). While we are sure that such reforms in capitalist countries would be limited to schools attended by relatively low-income groups (since the middle class would not be enthusiastic about having their children do manual work in school), "self-financing" boarding schools would be a possible way to greatly increase the availability of reasonable quality schooling for those groups, assuming that the production value of each school would return to the schools themselves.

In general, then, given the *context* of Cuban educational reforms, that experience is probably much more useful for planners in *non-industrialized socialist countries*, or countries (like Zambia or Tanzania or other predominantly rural African countries) with a small and not very powerful urban bourgeoisie and middle class. What can socialist planners learn

from the Cubans? First, the educational reform process stemmed largely from the Cuban experience itself. Most of the African and Asian socialist countries will have to be primarily agricultural, like Cuba for many years; others, like North Korea and North Vietnam have already industrialized considerably. For those which are mainly agricultural, Cuba's experience in finally developing a system of education which focuses on rural training and consciousness even for urban children should be studied. The school in the countryside concept from a capitalist country planner's point of view is interesting because it helps in the financing of schooling for marginal urban and for rural children; from a socialists planner's view, the concept is important not only for its self-financing aspects, but because it helps to diminish the rural-urban gap and moves urban children into the countryside where the labor shortages (particularly skilled labor) may be acute.

Socialist planners should also look to Cuba to see if it is possible to produce high productivity using collective incentives. The role of the educational system is an especially important variable in understanding how the Cubans may be achieving the change in attitudes and values necessary to make collective incentives work. Again, the schools to and in the countryside, as well as the primary school garden program, and the day care centers, all serve as interesting models for educational reform. Indeed, given the Cuban move to create socialist man before affluence, their road to socialism, especially since Cuba is a small country population wise, and thus has much in common with many African countries, serves as a distinct alternative to the Eastern European or even Chinese model (with which Cuban educational reform has much more in common than with European socialist reforms).

Furthermore, Cuba may provide other contrasts with European and Asian socialism which will make it interesting for Third World socialist planners: if the democratization process at the plant, school, and local political level continues, Cuba may reach levels of democratic socialism not yet known in other socialist countries. The role of Cuban educational reform in such democratization will again serve as an important lesson for other countries who aspire to go this route.

FOOTNOTES

1. Although Cuba had some rural land-based families after 1900, the Spanish aristocracy was bought out primarily by North American sugar interests. Cuban owners of sugar and tobacco plantations were almost entirely urban-based. The hacienda system was -- relative to the rest of Latin America -- essentially nonexistent in twentieth century Cuba.

1a. Because of subsequent events, it is worth noting a little of the Cuban Communist Party's perhistory. The Party, founded in 1925, followed Popular Front strategy beginning in 1935. Under Cuban conditions, this meant cooperating with Batista. Batista, in turn, allowed the Party to operate openly and achieve legality. To understand why Cuban unions were well established and had considerable Communist influence, we have to go back to the Batista regime of the late 1930s and the 1940s. That regime was reformist and heavily influenced by the New Deal. It regarded itself as a form of social democracy. The constitution of 1940 enlarged the sphere in which the unions could operate and even promised land reform. Communists secured most of the key positions in the Cuban Union Congress, and two Communists had cabinet posts.

Even when these conditions changed sharply with the Cold War and the 1952 coup, and the Communists were suppressed, leaders like Blas Roca, Juan Marinello, and Carlos Rafael Rodriguez could live undisturbed in Havana. The dictatorship's plan was apparently to keep the Communists in reserve in case one needed them to blackmail the Americans, at the same time that it tried to purge them from the Unions, and political life. And the Communists, in turn, for rather good ideological reasons (as well as their survival) maintained an ambiguous attitude toward Castro's armed struggle against the dictatorship. This policy poisoned the relationship between the 26 of July Movement and the Communist Party for more than a decade after the Revolution (see Enzenberger, 1975).

2. There are several ways to calculate Cuban growth rates between the late forties and 1958. Since the Cuban national product was fluctuating so much between 1945 and 1958, due primarily to fluctuations in the U.S. economy and corresponding sugar prices and quotas, the end points chosen for the economic growth calculation are crucial for the result. It is clear that national income per capita rose rapidly between 1945 and 1948, dropped in 1949-50, rose again in 1951-52, dropped sharply in 1953 (end of Korean War rise in sugar prices), stayed low until 1956 when it began to rise, then rose sharply back to 1951-52 levels in 1957-58. Expressed in real terms (1953 prices), the 1950-1958 pattern is as follows (Bernardo 1971, p. 117) in 1953 pesos per capita:

1950	280	1955	288
1951	352	1956	308
1952	358	1957	365
1953	309	1958	361
1954	290		

Thus between 1950 and 1957-58, the rate of growth of real per capita income was more than 3 percent per annum, but between 1951/52 and 1957/58 it was less than 0.5 percent per annum. In other words the per capita income in 1957/58 was essentially the same as in 1951/52, and the 1951/52 income per capita was essentially the same as it was in 1948 (Seers, 1964).

3. The detail of this radical reform process is spelled out in a number of works, which we refer to at the end of the essay. Rather than repeating those details here, our main purpose is to summarize principal trends.

4. According to Mesa-Lago, unemployment dropped from a high of 16.6 percent in January of 1959 to an average for 1960 of 11,8 percent. Approximations for the years 1962 to 1969 show a steady decline in unemployment to less than 3 percent in 1969. But Mesa-Lago also reports that in 1968-69, one-fourth to one-half of the work day was still wasted in some places and that in 1970 labor absenteeism reached 20 percent of the labor force (Mesa-Lago 1972, Tables 12 and 14, and pp. 62-63).

5. However, there were important differences between the Cuban strategy of growth and the traditional Soviet strategy even at that time: "Whereas maximum rates of industrial investment in the Soviet strategy were achieved via primitive socialist accumulation, that is, forced savings in agriculture and austerity in consumption, Cuban investment was to be funded by the fraternal assistance of the Communist countries without impairing living standard gains of either the rural or urban population (excluding the bourgeois and landlord classes), and without forced collectivization of the small peasantry. Cuban strategy, though downgrading sugar production, gave high priority to agricultural diversification in order to achieve increased agricultural self-sufficiency at high levels of food and fiber consumption. This strategy also emphasized continued and expanded consumption of consumer nondurables though in the traditional Soviet strategy expansion of the consumption commodity sector was given low priority" (Ritter 1974, p. 132).

6. There is little doubt that Castro accomplished this early. Besides his victory at the Bay of Pigs, which showed the complete overestimate by exile groups of the Cuban masses disaffection with the Revolutionary regime, Castro and the CDR's easily withstood the CIA's assault on Cuba throughout the rest of 1961, 1962, 1963, and even into 1964 (see Branch and Crile 1975).

7. But "On May Day 1971, Castro explained that salaries could not be equal for all and that wage differences would be significant in the future as a means of motivating those with labor skills or heavy responsibilities, and those who worked at hard jobs or in places devoid of minimum facilities. If wage differentials were abolished, Castro argued, then those who made an extra effort to acquire skills or had physically hard jobs would be discouraged" (Mesa-Lago 1974, p. 43). Mesa-Lago does not indicate whether salary differentials have increased since 1971,

8. Ritter, p. 315. The figures given by Ritter for 1966 may be low. (see Table 10).

9. This process began with the all consuming 1961 Literacy Campaign in which one in four adults participated directly. "The literacy campaign, if not an overwhelming and unquestionable triumph from the scholstic point of view, was nevertheless seriously important in the evolution of the institutional life and political culture of the Revolution" (Fagen 1969, p. 55).

10. Even so, Mesa-Lago concludes that "the total product created by all kinds of unpaid labor is greater than its operational alternative costs, therefore resulting in net product. Improved organization seems to have resulted in a rising net product" (Mesa-Lago 1969, p. 356).

11. " . . . it is likely that without work norms, salary scales, and socialist emulation, production of goods and services would have declined more than they in fact did from 1962 to 1967 (in both per capita and absolute terms)" (Ritter 1974, p. 268).

12. This has led to important shifts in educational policy concerning volunteer work by students and the formation of "schools in the countryside" (see below).

13. Iglesias' observation was made in 1970. Since then, the government has developed a "family code" -- the code by law establishes equal participation of men and women in all aspects of household responsibilities.

13a. According to Huteau and Lautrey (1973), by the 1970s, leaders of the Revolution thought that this university reform of 1962 no longer met the needs of the Cuban economy (p. 70).

14. While this training program provided the means to greatly expanding rural schools, it apparently did not solve the dropout and repeater problem in rural areas. In the late '60s and early '70s, as we discuss below, the solution to that problem was sought partly through the boarding and semi-boarding schools in rural areas.

14a. In the early 1970s, Castro stated that this system of training was an error: "An important error committed in education during the 1960s was the persistence of farming teachers in the mountains of Oriente, with the idea of adapting them to the difficult conditions of rural life. We were late in appreciating that this system was unrealistic, and that it affected during a time the availability of graduate teachers." (Castro, 1976, p. 122.)

15. For a detailed description of the EIR, see Fagen, 1969, Chapter 5.

16. Special peasant women's education was also develped under the adult education program: the "Ana Betancourt" School for Peasant Women in Havana served to increase the enrollment of women in the educational system (Reed 1975). Young peasant women were brought to the Ana Betancourt School for the mountainous regions of Oriente and Las Villas provinces, where primary and secondary schools were practically nonexistent. The objective of the school was to train these women and send them back to their region for teaching the skills they had themselves learned. About 10,000 women were enrolled in the first three grades of primary training in the school in 1963; by 1966, the training was expanded to include secondary education.

17. At the time of the Revolution, there was practically no technical education in Cuba. Those vocational training centers that did exist were poorly equipped. Industrial education consisted of one center for training middle level technicians and 17 centers of vocational training for skilled workers. Agricultural education had six farm schools with 30 students each. Commercial schools were the most developed, with 11 public and 20 private schools.

18. Even so, special efforts have had to be made in the '70s to correct for some gaps in the technical education received and the applicability of that education to real problems. In particular, there is a movement (after 1972) to attach technical schools to factories (Dahlman 1973, pp. 64-65).

18a. In part, this also had a political function: Huteau and Loutrey (1975) note that the university was not very radicalized and was basically a hotbed of bourgeois liberalism. The containment of the university served, therefore, to keep it from becoming a point of opposition to the regime (pp. 70-72).

19. Many university students were also called into service as secondary school teachers during this period. In 1961, simultaneously with the Literacy Campaign, students in the faclutles of education, philosophy and letters, law, and sciences who recieved scholarships from the government were organized into a secondary teacher training corps. By 1964, however, three separate secondary teacher training schools were organized (as part of the universities of Oriente, Las Villas, and Havana) which took their own students.

19a. Inaugurating the 1973-74 school year, Castro presented the following costs of education in Cuba: Total budget: 1957 - 79.4 million pesos; 1962 - 218.1 million; 1965 - 260.4 million; 1970 - 351.1 million; 1972 - 495.1 million; 1973 - 680.9 million, including 216.2 million in investment. In his December, 1975, speech, he stated that the 1975-76 budget was 874.6 million pesos, including investment. Costs per student in 1973 were the following:

	Annual Cost/Pupil (pesos)
Primary	104
Primary boarding	331
Primary semi-boarding	176
Secondary	290
Secondary boarding	488
Secondary semi-boarding	361
Secondary technical-professional	917
Secondary technical-professional boarding	1177
Secondary technical-professional semi-boarding	1003
Special education	577
Special education boarding	785
Special education semi-boarding	648
Secondary basic en el campo	659
Higher education	1103
Higher education boarding	1304
Higher education semi-boarding	1175

(Source: Gallo _et al_., 1975, pp. 52-53.)

19b. For more details, see also Huteau and Loutrey, 1973, pp. 116-120.

20. Although there was little to moderate per capita economic growth in Cuba in the 1960s (Ritter, 1974; Castro, 1976), the situation has changed markedly after 1970. In his staff report to the Committee on Foreign Relations of the U.S. Senate Pat Holt said that the per capita income in Cuba was about $1,600 in 1974 (Holt, 1974). Although this seems high in terms of what Cubans can consume, Holt concluded that "the Cubans are on the verge of constructing a socialist showcase in the Western Hemisphere" (Holt, quoted in Zimbalist, 1975, p. 22).

21. The most important curriculum changes in primary schools were related to the reinforcement of self-learning, more emphasis on tying the specific objectives of the curriculum to the development of individual abilities, especially in the first, second, and third grades, and a break with the traditional pattern of purely academic class periods (Cuba, Report . . . , 1971).

21a. In a recent book just published under World Bank auspices (Adelman and Robinson, 1978), the authors conclude that there is a capitalist model of development, very progressive and very altruistic, which could produce high rates of growth, distribute income more equitably, and reduce poverty more rapidly than a "socialist" model, but, as the authors admit, the socialist model they use is based on actual, operating economies, while this idealized capitalist model has yet to come into existence anywhere.

21b. What effect the Cuban entrance into the Angolan and Ethiopian political situations, with Soviet backing, has had on this relation is difficult to assess at this moment. But it certainly hasn't driven Cuba and the Soviet Union farther apart.

22. Educational television has been used extensively in secondary and pre-university schools since 1968-69. The system uses Havana channels 2 and 6 for broadcasting 25 minute television classes to about 12,000 television sets in the schools. The television classes are supplemented with classroom activities based on guides supplied by the designers of the programs. The Ministry of Education has decided that once the teacher shortage is overcome, the number of television programs will be reduced -- this number has already declined from 60 programs per week in 1969-70 to 20 per week in 1972-73 -- until television becomes just one more teaching aid among a set of technological tools available for children in school.

23. Adult education programs which intend to raise the formal schooling level of adults and are located near the workplace have been operating for years in places like Sweden and England, run primarily by union organizations. Thus there is nothing so innovative about those programs in Cuba, except that the State runs them and devotes a lot of public investment to adult formal schooling. Again, for the State to do that (like the open university in England) requires political pressure from below.

24. Coombs and Ahmed, 1974, summarize some of the "mobilization" programs used in rural Colombia, and their results.

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