EDUCATION IN CUBA

What happens when learning becomes a national priority?

FROM ***SOCIALISM IN CUBA***

by Huberman & Sweezy

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Education

In his famous "History Will Absolve Me" speech at his trial, following the unsuccessful attempt of the revolutionaries to capture Fort Moncada on July 26, 1953, Fidel Castro spoke of six problems that "we would take immediate steps to resolve"—the problems of land, industrialization, housing, unemployment, education, and health. These, you will recall, were the same problems to which President Kennedy and Senator Mansfield addressed themselves.

The revolutionary regime took power on January 1, 1959. Immediately, it took the promised steps to resolve these problems. And nine years later, on February 11, 1968, a dispatch in the *New York Times* from Juan de Onis in Havana, indicated that progress continues to be made:

> Cuba, under a revolutionary dictatorship, is pushing ahead its program harder and faster than most other Latin-American countries.
>
> In mass education, public health, rural modernization, land use, economic diversification, administrative reforms and manage-

ment of foreign exchange, Cuba has made important gains under Fidel Castro.

In education and in health Cuba's achievements have been especially notable. Nowhere else in the world—except possibly in the socialist countries of the Soviet Union and China—has so much been done in so short a time.

Illiteracy in Cuba, as in underdeveloped countries everywhere, was highest in the rural areas. In 1960, Fidel explained the facts to the Cuban people and asked for a thousand men and women who had education beyond the level of second-year high school, to volunteer to go into the most remote areas of the country to teach reading and writing, hygiene, and nutrition. Five thousand people from all walks of life answered the call—including doctors and engineers who had to be dissuaded from going because the Revolution needed them in their own professions.

These volunteer teachers received special training in camps set up in the mountains; there was an average of fifty students per teacher—classes for youngsters were held in the daytime, for adults in the evening.

That was only the beginning. At the United Nations Assembly in September, 1960, Fidel Castro announced that on January 1, 1961, a great literacy campaign would be launched in his country. And so it was. The year 1961 was properly labeled The Year of Education and the entire population was mobilized to eradicate illiteracy. The Bay of Pigs invasion began on Saturday, April 15, and Fidel reported to the people on Sunday, April 23, after the counterrevolutionaries had been defeated, that one achievement of which the nation was justly proud was the fact that the anti-illiteracy program continued practically without letup during the entire invasion.

There had to be that kind of amazing devotion and discipline because the task which the revolutionary government

had set for itself was stupendous: to rid the country of illiteracy *in one year.* Reflect on this for a moment—23.6 percent of the people, almost one in four, could not read and write. You can readily imagine how great a job it was just to cover the country, to search out where and who the illiterates were; then a veritable army had to be trained in how to teach; millions of books had to be printed for both pupils and teachers; then the teachers, ranging in age from ten to sixty, had to set up classes in schools, homes, stores, offices, and factories in the cities; or had to go to live in the most remote and isolated regions in the country to teach farmers and their families (ranging in age up to 106), many of whom had never before held a book in their hands.

The teaching force numbered 268,420. Of that number, 120,632 were "people's teachers"—adult volunteers who, inspired by the slogan "the people should teach the people," did their regular jobs and taught an average of two hours each day. Two of our friends were people's teachers: the wife taught a class of maids who worked in her neighborhood; the husband taught factory workers in the plant he headed.

The thirteen-year-old son of another friend was a *brigadista,* of whom there were some 100,000. When school closed a month early, in May, he was sent to a special school in Varadero for a two-week training course, then to a peasant's house in the mountains where he lived with the family until October, helping with the work and teaching. Girls, too, became *brigadistas* and taught in the rural areas, but they lived in groups, with a junior high school teacher in charge.

In September, when it became apparent that the student *brigadistas*—as well as their pupils—varied in ability, a call was sent out for reinforcements. It was answered by 13,016 workers who made up the Patria o Muerte Brigade, which promptly left for the rural areas to help the student *brigadistas.* The work in factories and offices that the Brigade members had to leave was made up by their comrades.

Then, finally, of a total of 36,000 school teachers, some 34,772 enlisted in the program to give the citizen *alfabetizadores* and the *brigadistas* the technical guidance they needed.

So great was the task that the entire society had to be mobilized. In the press, at public meetings, in factories, offices, and on farms, the people were exhorted: "If you know, teach; if you don't know, learn." On the radio and TV came further prompting: "Every Cuban a teacher; every house a school." Mass organizations propagandized their members, poets wrote poems, artists painted pictures and designed posters, songwriters wrote songs, the press carried banner headlines on the progress made and ran photographs of participants in the campaign with letters from those who taught and those who were taught—the whole nation became involved in the great revolutionary cultural movement of eradicating illiteracy.

Some illiterates were ashamed and tried to hide the fact that they could not read or write; the aid of banks, post offices, and courthouses was enlisted to spot them, and then they were urged to participate. A million and a half copies of *Venceremos* [We Shall Conquer], the fifteen-lesson primer which includes photographs of Cuban life, were distributed. Each lesson was short and simple and those students who could read all fifteen, and who could then write a letter to Fidel, passed the final test and were entitled to receive a textbook with which to continue their study.

On the outskirts of Havana in a lovely small museum where the records, mementos, statistics, photographs, etc., of the literacy campaign are kept, we opened at random the book of letters to Fidel and came upon this one:

El Ingle, 14 June 1961

Dr. Fidel Castro
Prime Minister

I am making these few lines for you so as to tell you that I

didn't know how to read or write and thanks to you, who put the literacy plan into practice, and to the teachers that are teaching me, I can already read and write. I am a *miliciano* and I work in the Rogelio Perea Cooperative and I would like you to come to this cooperative.

Viva la revolución socialista
Patria o Muerte
Venceremos

Yours truly,
Felix D. Pereira Hernández

Two tables, both taken from the 1965 United Nations Economic and Social Council (UNESCO) "Report on the Method and Means Utilized in Cuba to Eliminate Illiteracy,"[1] give the figures on those who learned how to read and write and those who did not:

Table 1
Total Number of Persons Taught
During the Literacy Campaign
(by provinces and by rural
or urban place of residence)

Province	*In towns*	*In the country*	*Total*
Pinar del Río	14,754	50,717	65,471
Havana	71,712	19,749	91,461
Matanzas	14,218	20,670	34,888
Las Villas	46,559	84,921	131,480
Camagüey	21,075	62,611	83,686
Oriente	62,739	237,487	300,226
Totals	231,057	476,155	707,212

[1] See p. 29.

At the end of the literacy campaign the illiterate population was:

Table 2
Total Number of Those Who Remained Illiterate (1961)
(by provinces)

Province	*Population*	*Illiterates*	*Percent*
Pinar del Río	500,581	25,680	5.1
Havana	1,858,112	27,319	1.4
Matanzas	427,088	13,802	3.2
Las Villas	1,121,800	43,766	3.9
Camagüey	757,111	42,081	5.5
Oriente	2,268,561	119,347	5.2
Totals	6,933,253	271,995	(*avg.*) 3.9

"The Campaign," says the UNESCO report,[2] "was not a miracle, but rather a difficult conquest obtained through work, technique and organization."

On December 22, 1961, the alphabetization program was officially ended—and illiteracy had plummeted from 23.6 percent when the campaign opened to only 3.9 percent when it closed. Never in the history of education anywhere in the world has there been so successful an achievement.

How great an achievement it was can be seen by comparing the 3.9 percent figure with those of the other Latin American countries, summarized in the Sixth Annual Report (1966) on *Socio-Economic Progress in Latin America:*[3]

According to the latest data supplied by the Latin American countries, about 33 percent of the inhabitants of the region are

[2] *Ibid.*, p. 72.

[3] Inter-American Development Bank (Washington: 1967), p. 31.

illiterate. . . . There are wide variations in illiteracy rates of the Latin American countries ranging from 8.6 percent in Argentina to 80 percent in Haiti. Between these extremes with a rate of illiteracy that coincides with the regional median, is Ecuador, where 32.5 percent of the population was illiterate in 1960. Argentina, Chile, Costa Rica, Mexico, Panama, Paraguay, Uruguay, and Venezuela are above the median. The other countries are below it.

The campaign against illiteracy in Cuba was just the opening gun in the battle. It was not a propaganda stunt to be dropped when the point had been scored. It was the foundation for further spectacular successes in education. Many of the workers and farmers who had learned to read and write for the first time in their lives when a *brigadista* knocked at their doors—instruction books and the Cuban flag in one hand, and a paraffin lamp (the symbol of the campaign) in the other —enrolled in the *Seguimento*, or follow-up classes, and continued their education. Today some of them are studying at a university, others are managing enterprises in city and country, and some are leaders in the government or the Party.

Even before the curtain had fallen on the end of the literacy campaign, plans were already being made in the Ministry of Education for a continuing educational program for workers and peasants, with the necessary cooperation, as before, of the trade unions, the Cuban Women's Federation (FMC), the National Association of Small Farmers (ANAP), the Committees for the Defense of the Revolution (CDR), and other mass organizations. To learn how to read and write—the attainment of a first-grade level—was not enough; the goal was to bring the population of Cuba up to a sixth-grade level.

The first follow-up courses were started on February 24, 1962.

Prior to the Revolution, classes for adults had existed in Havana and in a few of the larger cities but not in the coun-

tryside and the interior towns. These night schools were poorly attended both because workers in general were not motivated to attend and classrooms were not available for farmers, and because the teachers and materials used were the same as for children. When the Revolution came in 1959, in all of Cuba there were only 304 night schools with 1,369 teachers and some 27,956 students of whom only 50 percent were in regular attendance.[4]

In the six years since the Worker-Farmer Improvement Courses were instituted, one-half million adults, on the average, have been attending classes using materials and books (all free) suited to adults. Because of their maturity and experience, they progress much faster than children and more than one-third of a million have already won their sixth-grade diplomas. An unpublished report from the Ministry of Education, dated January 4, 1968, makes the picture clearer:

> The efforts of one year of labor in Worker-Farmer Education can be illustrated with fundamental statistics: During 1966, for example, three calendars were developed with a total matriculation of 550,837 adults in urban, sugar, and mountainous zones, who studied in 30,756 classrooms with an average daily attendance of 66 percent. Instruction was carried out by 21,696 amateur teachers and 8,899 professionals, with total promotions of 258,154 in the five levels, of which 65,414 graduated from the sixth grade and 10,976 from the Secondary Course. The promotion of 60,622 adults, young in the immense majority, from the first level of the Primary Course, was a strong blow at residual illiteracy.

That record of accomplishment suggests some of the many difficulties encountered in this ambitious, massive program of making education available to the poor, to the workers and farmers whose cultural level in the past was so very low. Education for workers and farmers cannot be set up in the

[4] UNESCO report, *op. cit.*, p. 53.

traditional way with set hours in set places—teaching hours must be adjusted to fit the work schedule of the students, classrooms must be brought to remote rural areas where none existed before, and thousands of people must be hired as "teachers" who have never had a course in pedagogy. The "three calendars" in the "urban, sugar, and mountainous zones" are an illustration of the adaptation necessary to fit education to production: in the urban areas, classes are held from September to July; in the rural areas, classes must be held from June to December, the months when the work in the sugar crop has been completed; the January to October session in the mountainous areas is suited to the needs of the coffee crop.

In the rural areas, the classrooms for adults are those used by the children during the day. (Sometimes, because of work conditions, classes for adults are held at 5 A.M.!) In the cities, the classrooms are in the factories and offices. Flexibility in organization is essential; in both rural areas and cities, there may be places where there are not enough pupils to make up a class; and, because some of the older people who had willingly learned to read and write from a *brigadista* in their own home shy away from the idea of going to school and enrolling in a regular course, home reading circles are fostered in which the school goes to the home. Under the guidance of an amateur teacher, the residents of a specific area meet in a participant's home to improve their reading skills. Without such an effort, without an attempt to stimulate the habit of reading, there would undoubtedly be regression in the literacy rate and first-grade-level reading and writing would be, for many capable people, the end of their education instead of the starting point.

The words of the apostle José Martí, "To know how to read is to know how to walk," are frequently heard over the special radio and TV programs designed for workers and peasants.

In addition, 50,000 copies of the magazine *El Placer de Leer* [The Joy of Reading], especially suited to new readers, with national and international news in easy-to-read language, are distributed free of charge. To make the habit of reading a necessity—and a pleasure—to hundreds of thousands of culturally deprived workers and farmers to whom even newspapers, let alone books, were hitherto unfamiliar is a difficult struggle.

Fortunately, the Ministry of Education is well aware of the immensity of the problem. This became clear in a conversation we had with Raúl Ferrer, Director of Worker-Farmer Education, who told us:

Our teaching staff is, in great measure, not qualified at this time. They are being prepared in special pedagogical institutes, but of 30,000 teachers only about 8,000 now attend teacher-training schools. At the present moment we have 26 seminars teaching 5,000 future teachers.

This department is the university of adult education. We must derive, from our own experience, the system by which illiteracy can be abolished and the cultural level raised. One law we have learned—that there is no education of the masses without the direct participation of the organizations to which the masses belong.

Industrial workers, farmers, ranch workers, women, youngsters, all need special handling and we cannot apply the books and methods of one to the other. We are constantly adapting our programs to meet reality. We face real obstacles: there are no manuals, we have been compelled to revise wrong practices, but we have been able to go forward because we are always critical of our work.

We want every worker to be a student, and every student to be a worker.

The "battle of the sixth grade" was won in 1966 by 65,414 workers and peasants; and 10,976 graduated from the secon-

dary course. This latter group is now eligible for higher education in the industrial and agricultural technology institutes, and in the Worker-Farmer Faculty of the three universities in Havana, Santa Clara, and Santiago. (How many workers and farmers had an opportunity in pre-revolutionary Cuba—or have the opportunity in the Latin American countries today—to attend a university, at no cost, with books and board and room paid for?) José Nazario González, Rector of Santa Clara University, told us that of the 5,000 students there in March, 1968, some 1,300 were workers and farmers.

Education is open to workers not only in schools, institutes, and universities, but in the factories themselves. This we learned from Juan Ramírez Leiva, a molder at the nickel plant in Nicaro. Juan entered the plant as a day laborer in 1963, when he was twenty-four. He had had only a third-grade education. In 1964 he enrolled in a one-year course in the general foundations of technology given in the plant at night; he worked eight hours, then studied two hours every night. Next he enrolled, with twenty-three other workers in the plant, in a six-month course in molding and the problems of casting metals. On the completion of that course, he took a one-year course in theory. This time he worked six hours each day and studied four hours, five days a week. Then, having finished the courses in both practice and theory, he became a molder. As a day laborer his wages had been $5.24 per day; as a molder, he gets $8.40 per day.

He told us: "I had to do a job of military work in the mountains, so I lost a year of study. Of course, I plan to go back to studying now. I was a member of the Young Communists and now I am a member of the Party. I like Party work but I prefer the work in the factory. Of the other eleven members of my last class, four are members of the Party, the others are not."

Juan is not a special case at Nicaro; 70 percent of the

workers there are enrolled in study classes taught by the technicians in the plant. And in the other nickel plant, at nearby Moa Bay, the University of Oriente has part of its School of Mechanical Engineering, with the plant engineers doubling as professors. Many of the workers there, like Juan at Nicaro, are studying under these professors and some will become engineers. Work and study have been merged. And it works the other way around too—students become workers, just as Raúl Ferrer hoped: at the University of Oriente some students spend their fifth year, their last, in rotating in different industries, including the nickel plants at Nicaro and Moa.

The magnificent effort to supply educational opportunities to the adult population of socialist Cuba is matched by the achievements in education for children. Before the Revolution the picture of primary-school education in Cuba was like that in most Latin American countries—deficient in both quantity and quality: not enough schools, particularly in the countryside; not enough teachers and not enough good teaching; not enough books and materials; too much graft which channeled the money supposed to go to education into the pockets of higher-ups in government. In short, it was a picture which made for a very high rate of illiteracy and ignorance.

The Revolution brought an immediate, spectacular change in quantity, if not in quality; in attitude toward education for the masses; and in willingness to allocate the funds necessary to make the desired improvements. One set of figures proves the point in respect to quantity:

In 1958 about 737,000 Cuban children, less than two-thirds the number aged seven through fourteen, were attending public or private primary schools in all grades up to the sixth. Because some of those who did attend were outside the normal age limits, the actual proportion of children between seven and fourteen in school was nearer five out of ten. In 1962, four years later,

primary enrollments were estimated to be 1,350,000, and about eight in every ten Cubans aged seven through fourteen were enrolled.[5]

From an enrollment of only 50 percent of all children between seven and fourteen, to 80 percent in just four years! What so great an increase in the number of children being educated means in terms of the construction of additional school buildings, the printing of new textbooks and other learning materials, and the training of teachers can readily be imagined. In teaching, as in the other professions, there had been an exodus to Miami of thousands of the best-trained people. How is Cuba meeting the problem of training the veritable army of new teachers necessary for so great an expansion in education?

The contrast with the United States is striking. In our affluent, consumption-oriented society, childhood, especially in the middle and rich classes, can be a prolonged, easygoing period with a minimum of responsibility. Not so in Cuba where the lack of trained manpower—the hallmark of underdevelopment—necessitates the enrollment of the whole population, including the children, in the spirited struggle to construct a new society.

The training of primary-school teachers in Cuba begins with the completion of the sixth grade. The students spend the next five years in boarding schools where life is rugged, work is hard and disciplined. It is that way by design—the theory being that most of the teachers in training will, at some time or other, be assigned to classrooms in the countryside and in the mountains and this conditioning in thei

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[5] Dudley Seers (ed.), *Cuba, The Economic and Social Revolution* (Chapel Hill: University of North Carolina Press, 1964), pp. 223-224. The five chapters on education by Richard Jolly are very detailed and informative.

period of training will better equip them for the primitive life to come.

The first link in the chain is the one-year course at the school at Minas del Frío, on a mountaintop in the Sierra Maestra in Oriente. The subjects taught are mathematics, history, geography, biology, Spanish, and physical education.[6]

The next stage is a two-year course on another mountaintop, the Manuel Ascunce Domenech School at Topes de Collantes in the Escambray mountains in the province of Las Villas. The subjects of study in the first year at Topes are the same as at Minas del Frío except that biology is here centered on animals instead of on plants. In the second year, the last at Topes, three new subjects are added: physics, drawing, and pedagogy.

We were taken by jeep to the school at Topes (Minas, too, is accessible only by jeep or on foot) and had the opportunity of seeing some of the classes there, of talking to the students and teachers, and, under the guidance of Manuel Rua Rodríguez, the director, and his assistant Carmen Hernández, we got a view of the whole school area and its functioning. The school has long outgrown the large initial building which was formerly a luxurious private tuberculosis sanitarium. To accommodate the 7,100 students, 402 teachers, 407 administrative and service workers, and 300 construction workers, many new buildings, dormitories, playing fields, and houses have had to be built. This university-like setting on a mountaintop has to have its own water and electricity systems. A large open-air amphitheater seating

[6] In a speech reported in *Granma*, August 18, 1968, Minister of Education José Llanusa Gobel reported that in the future Minas del Frío would admit "only students from the province of Oriente. In the other provinces there will be other provincial schools, also located in the rural areas, preferably in the mountains." The second and third steps in the teacher-training program will remain the same.

the entire school population where movies are shown on Saturday night, always preceded by a science short or documentary, was built recently—one of many projects included in the $1,800,000 allocated last year for new construction.

The school day is long, from 6:30 A.M. to 10:30 P.M. Evening hours are divided between homework, social activities, and taking care of personal needs. The students service themselves—they do their own laundry, make their own beds, clean up their too-crowded dormitories, wait on table in different shifts and, in the daytime hours, also help in all phases of construction work. Sundays are free, usually reserved for sport activities and picnicking on the lovely grounds with relatives and friends.

The teachers are even busier than the students. Most of them are themselves graduates of Topes who are continuing their own education in classes given at the school on Saturday nights by professors from Santa Clara University.

In our spontaneous, completely private talks with the girls and boys in their separate dormitories, we had an extended discussion with Oscar Rivero, a bright-eyed black lad from Havana. He had enrolled at Minas del Frío in 1966 when he was fifteen. Because as a youngster he had had to help his father, he had fallen behind in his studies. When he finally had the chance to make up his studies and pass the sixth-grade qualification test, he was two years older than the normal age for entrance into Minas del Frío. (Because educational opportunity was offered to them for the first time only after the Revolution, many students in the teacher-training program are, like Oscar, considerably older than will be the case in the years to come.) Oscar liked Minas better than Topes because there "conditions were more related to nature —we were outdoors much more of the time."

"Are you homesick?" we asked.

"Not particularly. My mother is happy now that I am studying hard."

"What does she do?"

"She works in a children's nursery."

"What subject do you like best?"

"Math is my favorite—though I really like football best, and productive work out of doors. I do my homework from half-past eight to half-past ten at night."

"Are you a Communist?"

"Not yet, but I hope to become a Young Communist this year."

"Why?"

"Because the Young Communists are the ones who induce others to work and make our country go forward."

"Are all the students here enthusiastic about the Revolution?"

"I hope so. But this cannot be fully determined because who knows what everybody thinks?"

"We have met some people who tell us that Cuba was a better country before the Revolution. What's your answer to that?"

"It's not true. Cuba is better now in everything. For example, today the government enables young people to study, gives more and better work to workers, creates workers' clubs, nurseries, and in general gives people better conditions not existing before."

"Do you believe that, or did you read it somewhere?"

"I see it."

"In what way?"

"Had there been no Revolution many of the opportunities we have today would not be available. I would have studied when I was younger, but I didn't have the chance, I had to help my father. My family lives better in every way than before the Revolution. They used to tell me of the troubles they had—lack of work, hunger, a whole series of problems. Now they are not hungry. All are working or studying."

The Makarenko Pedagogical Institute at Tarará just outside of Havana is the final stage in the training of primary-school teachers. Graduates of Topes, having completed their eighth and ninth grade courses, come to Makarenko for two more years of study and practice teaching. They study mathematics, history, geography, science, a foreign language, political economy, psychology, physical education, and pedagogy. They teach 60,000 children in 250 schools in Havana Province by day (the tenth-grade students teach in grades one to four, and the eleventh-grade students in grades five and six), and they study at night. This is the schedule of these youngsters filling a responsible adult role:

6 A.M.: Get up
6:30 A.M.: Breakfast
7 A.M.: Bus to Havana
8 A.M.: Teach until noon
12–2:30 P.M.: Bus back, lunch, and rest
2:30 P.M.–5 P.M.: Study
5 P.M.–6 P.M.: Physical Education
6 P.M.–8:30 P.M.: Bath and dinner
8:30 P.M.–11 P.M.: Classes

Saturday morning: Prepare classes for the next week
Saturday afternoon: Free
Sunday 6 A.M.–11 P.M.: Free

When we suggested to some of the Makarenko authorities that this seemed too heavy a schedule for a long-term period, we were told that time was of the essence, that these students were "soldiers in the army of education." That, indeed, was the attitude of the Makarenko students themselves.

This, then, is the track for those who are in training to become primary-school teachers. Would-be secondary and pre-university teachers take a different course. After nine years of study (i.e., after completion of what would be junior high school in the United States), they can attend a five-year course at a pedagogical institute. At Santa Clara University they study at the university their first year, spend the

second year practice teaching, the third at the university, the fourth practice teaching, and the fifth at the university.

We attended classes at every educational level, some taught by graduates of Makarenko, and some by teachers who had been trained prior to the Revolution. One memorable experience we had was in a large new housing development in a slum area of Santiago where we visited a school with the unforgettable name, Dawn of the 26th of July Nursing School.

Because we might be carriers of germs, we were not permitted to enter the first classroom, but we could look through the screened windows. We saw eleven children, ranging in age from forty-five days to eighteen months, attended by three teachers all wearing gauze masks over nose and mouth.

The second classroom had twenty-three children ranging in age from eighteen months to four-and-a-half years, attended by five teachers. They were having a snack. Though such small children are generally delightful, we were especially thrilled because we saw there what was to become a commonplace in all other classrooms we visited later—black and white children together everywhere, complete integration. The new generation in Cuba will be completely free of racial prejudice.

The director of the school told us that the school had been open only a few weeks. Though there were only thirty-four children at this time—because the housing development was not yet completely finished—the school has a capacity of one hundred, with one teacher for every five children, apart from kitchen and cleaning help, etc. The building was impressive, very clean, with magnificent equipment, showers, sinks, all spic and span. There will be a nurse in attendance from 6:30 A.M. to 6:30 P.M. each day and a doctor will come to the school three times a week, and more when necessary. As we were saying goodbye, two Public Health inspectors arrived.

They come to the school each week to check on the hygienic conditions, to test the food, and to make sure that all health standards are being met.

The growing number of such nursery schools makes it possible for mothers to take jobs and to study. With the children so well taken care of—meals and school clothing are provided free of charge—the women of Cuba are in a position to free themselves, to participate as equals with men in useful work, and to raise their level of education and culture. The Cuban Women's Federation is very active on this front, working with the Worker-Farmer Education Department to end the inferior status of women.

Some women serve as technician-guides in the remarkable program of Interest Groups, or "circles for the promotion of interest in scientific and technical matters." These groups consist of students from the fourth grade up to the age of fifteen who meet several times a month, in out-of-school hours, to pursue a particular hobby. Some 178,000 children participated last year in 13,956 circles at the primary level, and 2,934 at the middle level. We went to an exhibition of their work in Havana and were amazed at the extent of their knowledge in the various fields they had been studying: the growth of sugar cane, coffee, citrus trees; how to make the special brand of Coppelia ice cream (fifty-four varieties of the best ice cream we have ever eaten!); the fishing industry; clouds and rain (a scientific explanation by a fifteen-year-old was completely over our heads); and a number of other scientific and technical subjects. The ten-year-old boy who lectured on coffee, with maps on a board and pointer in hand, was so knowledgeable that we were convinced he had memorized his speech; we stopped him in the middle and asked questions —he hadn't memorized it, he *knew* the subject. After a tour of the various stands with groups of youngsters clutching at our

coats eager to explain, we left the room very depressed—they knew so much and we were so ignorant!

When we left we took with us a picture of Che with a letter to his nine-year-old daughter, a present from the Che Guevara Interest Group. This is the letter, written during the time of his disappearance, prior to his departure for Bolivia.

February 15

Hildita dearest,

Although this letter will reach you late, I am writing today because I want you to know I am thinking of you and hoping that you are enjoying a very happy birthday.

You are a big girl now and I cannot write you childish nonsense or little white lies. As you know, I am far away and can't come back to you for a long time, because I am doing what I can in the struggle against our enemies. What I am doing isn't much but it's something, and I think you can be proud of your father, as I am of you.

Remember that we face many years of struggle, and even when you become a woman you will have to do your part in the struggle. Meanwhile, you must prepare yourself. To be a good revolutionary at your age means to learn—as much as you possibly can—and to be ready always to defend just causes. Also, you should obey your mother. You mustn't think you know all the answers yet; you are still learning.

Try to excel as a student; excel in every sense, and you know what that means. It means study and a revolutionary attitude. In other words: good conduct, responsibility, love for the revolution, a fraternal attitude toward your school comrades, etc.

That wasn't how I was at your age, but I lived in a different society, where man was the enemy of man. But you have the privilege of living in another epoch and you must be worthy of it.

Don't forget to keep an eye on the other kids at home and tell them to study and behave themselves—especially Aleidita, who

pays attention to what you say because you're her big sister.

Well, darling, once more I wish you a happy birthday. A hug for your mother and your cousin, and for you a big strong hug—to last for all the time we won't see each other—

from your

Papa

Another important aspect of the program of education is the School Goes to the Countryside plan in which some 300,000 students and teachers, from secondary-school level up, move to the countryside for six weeks to do productive work in agriculture and livestock raising. It is camp living and hard work, combined with some hours of study, TV educational programs, sports, and recreation. We saw two groups of secondary school *becados* (scholarship students), one leaving and the other coming to the fairly primitive tent camp site to do their bit in the gigantic coffee-planting project in the Havana Green Belt. We talked as we ate the much-too-starchy lunch of beans, rice, potatoes, rolls, yogurt, and cake. We asked one boy what he would do on completion of his school work and his reply was fairly typical: "I am going to be a doctor, but if the Revolution needs me somewhere else, I'll do that." We call this typical because in answer to a similar question put to Oscar Rivero and other students at Topes and Makarenko we got similar answers. We asked: "After you graduate, will you teach in Havana or in the country?" Always the same answer: "I will teach in the country districts, but I will go where the Revolution needs me."

This is a reflection of an outstanding feature of the education program in Cuba: its concentration on bringing education to the most remote areas, places where there had been few or no schools, places where illiteracy was greatest. Many of the 250,000 *becados* who receive housing, food, clothes, transportation, books—all free—plus a small monthly stipend, are boys and girls from the country.

Becados live in boarding schools (some of the most luxurious houses and apartments of rich refugees are now their living quarters) and get three meals a day plus a snack; but day-school children also get a snack and one or two meals—all free.

Textbooks, too, millions of them—five million in 1967, to be exact—are free to all students. The claim is made that whereas only one million books of all kinds were published in Cuba before the Revolution, eight million books were published in 1967 alone. For the Book Institute, in charge of book publication in Cuba since 1967, a book is no longer a commodity but a social necessity. For that reason and because the technological progress of the advanced countries has been, in part, made possible by the exploitation of the underdeveloped countries—Philosophy Professor Rolando Rodríguez, head of the Book Institute, explained to us—Cuba feels it has the right to disregard copyright conventions and publish whatever books it finds useful from any country in the world. Accordingly, it has reprinted, without payment of royalties, over 1,300,000 copies of the best work of authors everywhere, particularly in the fields of science and technology, and has made them available to its advanced students, scientists, technicians, and teachers.

This is, of course, of special importance to the students on the highest rungs of the Cuban education ladder, the thousands in the many technological institutes, and the 34,500 in the three universities which, of necessity, have changed their emphasis from the humanities to science and technology. The necessity is obvious: an economy determined to move from underdevelopment to development has immediate need for engineers, mechanics, electricians, chemists, agronomists, technicians, administrators—not for lawyers. As a result, two hundred students are in the Law School today; before the Revolution, there were six thousand. What are those students

who might have gone into law studying now? President Dorticós gave one answer when he made the statement that "2,000 engineers will graduate in Cuba in the period 1967-1970. This figure is greater than the total number of engineers graduated between the time of the establishment of the Republic and 1959."[7]

As much a handicap as the shortage of skilled technicians and administrators is the lack of a scientific tradition. Now a beginning is being made. A listing of the various faculties at Santa Clara University, each awarding a Bachelor's Degree (the equivalent of a Master's in the United States) after five years of study, shows where the emphasis lies in Cuban university education today:

Faculty of Agricultural Sciences: two schools
- Agronomical Engineering
- Veterinary Medicine

Faculty of Technology: four schools
- Mechanical Engineering
- Electrical Engineering
- Chemical Engineering
- Industrial Engineering

Faculty of Sciences: three schools
- Psychology
- Mathematics
- Chemistry

Faculty of Humanities: two schools
- Public Accounting (Administration)
- School of Letters

Faculty of Medicine: six-year course, the last year in internship

[7] *Cuba: Man, Revolution* (Havana: n.d.; in English), pp. 12-13.

Both university students and those in schools of industrial and agricultural technology have their military training while at school; and the work and study program, the union of physical and intellectual work, holds for them too, when the university is closed for forty-five days while professors and students cut cane.

Many of the best-trained people with advanced technical skills who fled the country after the Revolution are now being replaced by graduates from universities and technological institutes. There are not nearly enough to fill the need, but progress is being made and this kind of story is becoming increasingly common in the columns of Cuban newspapers:

123 TECHNICIANS FOR FERTILIZER PLANTS
GRADUATE SUNDAY FROM
ERNST THAELMANN TECHNOLOGICAL SCHOOL

At 3:00 P.M. next Sunday at the Ernst Thaelmann Technological-Industrial School, 123 students will graduate. They will work as technicians in mounting [setting up] fertilizer plants. This is the second graduating class of specialists in this branch of technology.

The above-mentioned school offers eleven specialties including that of plant operator, pump mechanic, electrician, turner, milling-machine operator, solderer, and others.

The 123 graduates were distributed by specialty as follows: 14 maintenance electricians, 12 turners, 12 milling-machine operators, and 85 evaporator mechanics.

This graduation is of great importance for carrying out the tasks involved in the development of the national economy, inasmuch as the technical cadres who have just been trained will work in the supervision and operation of fertilizer plants now being set up in our country.[8]

As fast as they pour out of the technological institutes, these

[8] *Granma*, March 1, 1968.

newly trained Cuban youngsters replace the Soviet, Czech, and German technicians and specialists from the other socialist countries who taught them in school, factory, and farm. We made a spot check on the quality of their training by asking the directors of the nickel plants in Nicaro and Moa, the bulk sugar terminal in the port of Cienfuegos, and the Institute of Animal Husbandry near Havana whether any graduates of the special technical schools had been added to the staff. In every case they answered yes—the numbers hired varied from twelve to twenty-one, young people eighteen to twenty-four—and in every case their training and work were commended by their superiors.

Perhaps the most spectacular instance of Cuban technicians learning to fill the skilled manpower needs of their economy is the Moa Bay nickel plant where, the *New York Times* reported on February 5, 1968, "production is going up each year here thanks to considerable ingenuity in the training of technical personnel."

José Alemany, the twenty-nine-year-old engineer in charge of the plant, was in his last year of electrical engineering at Louisiana State University when he returned to Cuba in 1961. All of the engineers on his staff have received their training in Cuba since the Revolution. The plant they are running was designed and constructed by the Freeport Sulphur Company of Louisiana just before the revolutionaries took power. It was the most advanced of its kind in the world. "Freeport Sulphur," Mr. Alemany told us, "should be proud of having built such a plant, and the Cubans should be proud of being able to run it."

After our tour of the plant that has for the last three years won the award as the most efficient state industry in Cuba, we agreed. So, too, did the reporter for the *New York Times*[9] who wrote a long account in which he was impressed by the ability

[9] *New York Times*, February 5, 1968.

of the Cubans to maintain the highly delicate machinery in good condition:

> In the machine shop, Cuban welders delicately soldered a seam on a titanium heat exchanger that is essential to the process. Titanium, which costs $25,000 a ton, calls for very advanced metallurgy, which the Cubans have learned with experience under Soviet instructors.
>
> "These heat exchangers are worth $40,000 each, and they used to be sent to the United States for repairs at $10,000 a crack. We do the work here now," said Mr. Alemany.

What began as a matter of principle for the revolutionary government—that it is unjust and morally wrong for education to be denied to all the people, that the first step in creating the new man in a socialist society is to raise his cultural level—has turned out, in practice, to be the key to the problem of revolutionizing Cuba. Education of all the people is seen as the foundation for the development of the individual, and this in turn increases his usefulness to society and thus makes for the development of the country. The mobilization of the human resources is the touchstone for the mobilization of the economic resources.

So today, eight years after the end of the literacy campaign, Cuba is still a nation at school. The statistics shout the story—they are here in Table 3, as reported to the people by Fidel in his speech of March 13.[10]

The population of Cuba is estimated at eight million. This means that 27.6 percent of the people in Cuba are now getting some form of organized instruction. How very impressive this total is can be gauged by making two comparisons. The first, before and after the Revolution: in 1957, the latest pre-revolutionary year for which reliable figures are available, the population of Cuba was 6.4 million and school enrollment

[10] *Granma*, March 24, 1968.

Table 3
Education

	Students
Primary school	1,391,478
Junior high	160,308
Pre-university (senior high)	16,779
Technical and professional training	45,612
Primary school teachers' training	18,121
Universities	34,532
Adult education	405,612
Others	7,092
Workers' technological institutes	46,595
Agricultural and stockraising schools for young people	28,832
Construction workshop schools	10,663
Military technological institute	1,626
Ministry of Public Health	6,060
School of higher physical education and sports	2,462
Day nurseries	33,662
Total	2,209,434

was about 819,000, or roughly 12.8 percent; in 1968, with the population of Cuba having increased 25 percent, the number getting some form of organized education has gone up almost 170 percent!

The second comparison is with the other countries of Latin America. Not one of them comes near the Cuban enrollment in schools, and for all the countries as a whole, the figure is 16.8 percent compared to Cuba's 27.6 percent. Here are the statistics, from a table in the Report of the Inter-American Development Bank, previously cited:[11]

[11] *Op cit.*, p. 37. The table gives enrollment at "primary, intermediate, and higher levels" only. It may be that adult education figures are not included, but since in none of these countries is that of great importance, the comparison is basically valid.

Table 4
Total School Enrollment as a
Percentage of Total Population

Country	*Total*
Argentina	19.4
Bolivia	15.7
Brazil	15.0
Chile	20.7
Colombia	15.8
Costa Rica	22.6
Dominican Republic	16.0
Ecuador	17.2
El Salvador	15.3
Guatemala	10.5
Haiti	6.5
Honduras	13.4
Mexico	18.6
Nicaragua	14.5
Panama	21.6
Paraguay	20.4
Peru	20.3
Uruguay	18.5
Venezuela	19.7
Latin America	16.8
Cuba	27.6

We are not suggesting for one moment that the quality of Cuban education is as impressive as the quantity. It is not. It was obvious in the classes we attended at all levels that some of the teachers are poorly trained and that much remains to be done in the field of pedagogy. But it is also obvious from talks we had with the Minister of Education and his aides in various departments, that they are well aware of

the shortcomings and are working hard to correct them. In time, if all goes well, quality will match quantity.

If money can buy quality, then it will certainly be attained. For the Cuban government has indicated, by the fantastically large expenditures already invested in education, that it will meet the cost, no matter how great, of educating its people. Though exact education-budget figures are difficult to obtain because, in some instances, ministries other than Education, as well as mass organizations, make outlays for education, two facts are plain from the 1967 budget figure of $312,000,000[12] given us by the Minister of Education:

1. Cuba is spending on education sums far in excess of what was spent before the Revolution—over four times as much.[13]
2. Cuba's per capita expenditure of $39 and per student expenditure of $141.21 is far in excess of that of all the Latin American countries as a whole: $39 compared to $6.13 per capita; and $141.21 compared to $35.62. It is also higher than that of Uruguay, whose per capita of $23.17 and per student expenditure of $126.31 is the highest in Latin America outside of Cuba.[14]

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[12] This figure seems to correspond with those given in the Ministry of Education's 1967 Report to UNESCO, a pamphlet entitled *Cuba, 1967, The Educational Movement*, pp. 10-12, though the explanation in those pages is not too clear.

[13] The budget figure for 1956 was $74,200,000 (cf. Richard Jolly, in Dudley Seers (ed.), *Cuba, The Economic and Social Revolution*, p. 182).

[14] Cf. table in *Socio-Economic Progress in Latin America*, Sixth Annual Report (1966) Inter-American Development Bank, p. 39. The figures in this table may not be strictly comparable because the year is 1965 and private school expenditures may not be included; nevertheless, the picture shown in the comparison is valid enough.

Laurent Schwartz, Professor of Mathematics at the Faculty of Science in Paris, and one of the top mathematicians in the world today, was in Cuba while we were there. He had been in Brazil a little while before, and in an interview reported in *Granma*, March 3, 1968, he made an astonishing comparison between the two countries which made clear both the superiority of education in Cuba and its promise for the future:

"The universal and democratic character of education in this country is invaluable," the French mathematician added, stating that it is truly impressive how the educational level of the people is constantly being raised, thus assuring the groundwork for also raising the scientific level.

Schwartz cited a concrete example, the situation in Brazil. He compared Brazil's population of 80,000,000 with the 8,000,000 inhabitants of Cuba and pointed out that, despite the great differences in the populations of the two countries, the actual number of persons who obtain an education in Brazil is approximately the same as that of Cuba, since in Brazil the great majority of the people are illiterate and there are only primitive schools in the countryside. Therefore only certain sectors of the urban population get an education. He stated that the situation in Cuba was quite different, and, therefore, with a much smaller population Cuba can train more scientific cadres on a higher level than Brazil, a country he visited quite recently.

"The Revolution is giving tremendous stimulus to development. Within a short time—between 5 and 15 years—Cuba can have scientists of international caliber, precisely because this development has the backing of the Revolution."

The wretched of the earth need no longer live in darkness—illiteracy and ignorance *can* be eliminated. Given the opportunity to learn and to develop their talents, the masses can transform themselves and their society. Cuba's outstanding achievements in education are proof of the possibility of moving from underdevelopment to development once the imperialist yoke is removed.

"A revolution cannot be made by a single man. A large force is needed, the entire people must participate. That is why it is necessary to have cadres for propaganda, agitation and education. They must be kind-hearted, open-minded and sincere. They must help one another as comrades, work together with the masses without whom they could not succeed in anything. Each gesture, each attitude must conquer people's hearts. The revolution requires in the first place the participation of politically conscious people. A man joins the revolution only when he understands that oppression is the cause of his sufferings. Therefore, we cannot lie to the people. If we did, the fear of reprisals could, in difficult times, lead to treason, which would be disastrous. Before the people, a revolutionary cadre has no right to assume a haughty and arrogant attitude, as if he were a feudal warlord. He must be modest."

-Ho Chi Minh (1890 - 1969)