

DAVID ROCKEFELLER CENTER FOR LATIN AMERICAN STUDIES

DRCLAS NEWS

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Photoessay on "Families who live in and off the
Dumps of Tijuana" on page 14, by Jack Lueders-Booth
with text by André Leroux



The Environment in Latin America

An Interdisciplinary Approach

BY JORGE MORELLO

This issue of DRCLAS NEWS deals with some of the environmental problems of Latin America, one of the priorities of the David Rockefeller Center for Latin American Studies. The challenges, as evidenced by the diversity of articles in this newsletter, range from promoting environmental education in the Dominican Republic to facilitating dialogue between indigenous groups and oil companies in the Amazons, from pest control in Cuba to traffic control on the Mexican border.

Natural resource degradation is a serious problem all over Latin America. It is an interdisciplinary problem, of great concern to experts in both the natural and social sciences. Here, in the pages of DRCLAS NEWS, you will find the voices of faculty, students, and community members, sociologists, biologists, educators, and theologians.



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They share with me the belief that natural resource degradation is not only an ecological and agroproductive problem, but also an economic and social problem. Environmental degradation is a problem shared by both the public and private sector in Latin America. Our continent's extensive lands with their natural and modified ecosystems hold its immediate future and its long-term destiny. Although the mechanisms of environmental degradation can be analyzed by the hard sciences, the explanation of its low level of perception by the society at large and the reasons why so few steps are taken to solve this problem, must come from the social sciences.

The study of land degradation is therefore a truly interdisciplinary issue and requires the use of social and natural science tools to explain what is happening within different ecosystems and to propose alternative policies.

Most published works on rural sociology deem the ecological environment as a more or less passive and static backdrop to the processes of change in the use of the land. For example, in my native country, Argentina, one of the most worrisome issues is soil degradation in the rich pampa region. Although many are aware of the problem and its gravity, little is being done to resolve it, even though it threatens the country's major source of export earnings. Soil erosion has often been called the "quiet crisis" because its effects often appear removed in time from the acts that have caused them. And these actions are not necessarily restricted to the technology and behavior of the farmer, but can also be found in macro-economic government policies and in international commodity prices.

One problem that muddies an interdisciplinary vision of the degradation of natural resources arises from the fact that in Latin America, an invisible barrier stretches between the efforts of research and monitoring in the agricultural sector and those of urban planners, who—because of their training—scarcely perceive the ecological imprint of the vast transformation of the landscape hastened by the growth of mega-cities such as Mexico, São Paulo, and Buenos Aires.

Many of the authors in this issue of DRCLAS NEWS are concerned with breaking down those barriers, with understanding how the rural is linked to the urban, how the national links to the international, in building bridges, rather than barriers.

In the environmental field, we generally find two dominant academic visions. The "eco-geographical innocents" who assume that Latin America's large reservoirs of potentially arable land means that resource degradation and in particular soil erosion can be dismissed, seem not to realize that soil erosion is taking place in the best lands, and that as agriculture expands into new areas it will encounter increasingly greater constraints, and ever more fragile lands.

The "technological optimists," on the other hand, who rely on an impressive array of technical solutions to counter the loss of biological diversity, soil erosion, nutrient loss,

and water and soil contamination, do not realize that many of the technological solutions imply new and often costlier problems.

These "eco-geographical innocents" and the "technological optimists" each make strong academic arguments, but often do not hear the other's point of view. This newsletter explores many different ways of seeing, studying, changing, and preserving the environment at Harvard and beyond. Here are the voices of a recent Kennedy School graduate involved with a natural reserve in Colombia, a Harvard undergraduate studying binational systems who experiences the reality of Mexican border traffic, a librarian who learns of the intriguing history of Harvard in a Cuban botanical garden, and an Argentine artist who finds the comfort of home in the raw materials from her native Pampas.

I applaud the efforts an DRCLAS to initiate an interdisciplinary dialogue to develop more integrated solutions to the problem of resource degradation involving historians, educators theologians, sociologists, political scientists, economists, as well as natural scientists. Societies that do not conserve their resources are societies that jeopardize their own wealth and blockade their own future.

Here, in these pages of DRCLAS NEWS, are the voices of some who are seeking these solutions and even perhaps the embryonic theme of a future InterAmerican conference on these issues.

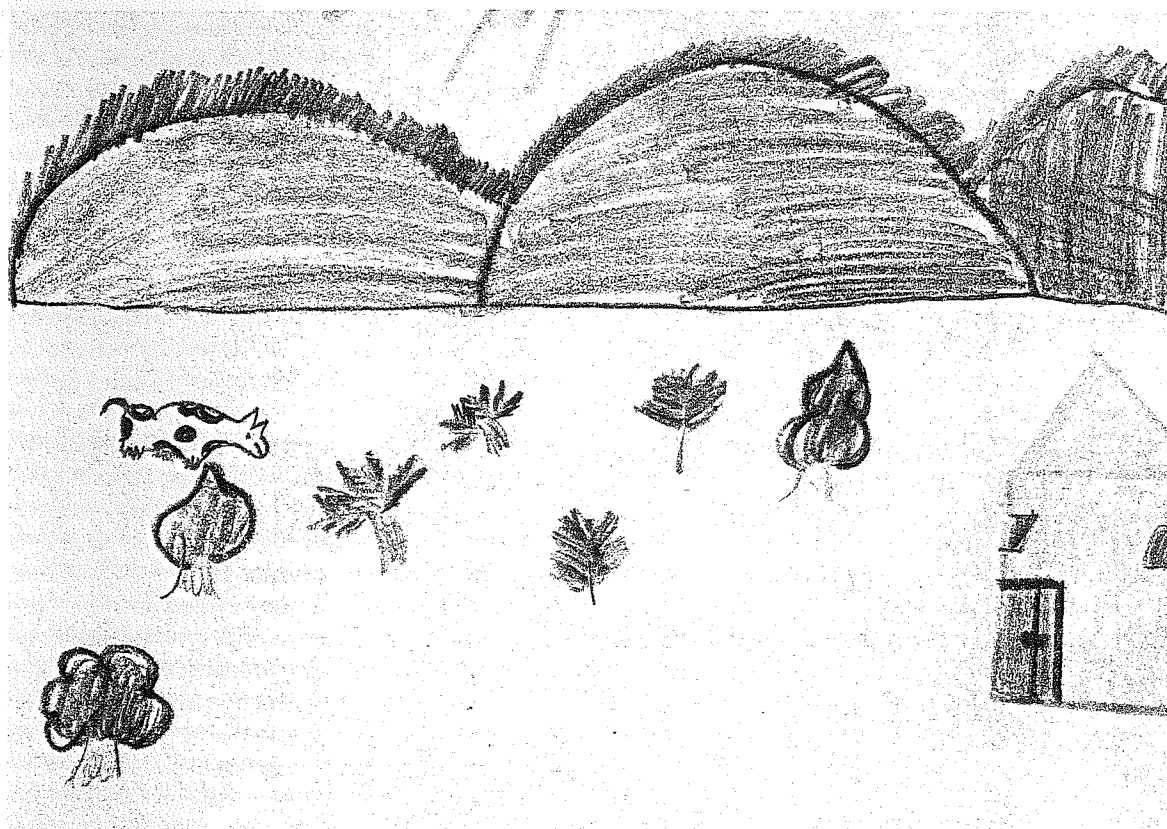
Jorge Morello is professor in the Centro de Estudios Avanzados of the University of Buenos Aires, and Emeritus professor of ecology of the Faculty of Natural Sciences. He was director of National Parks of Argentina from 1983-1989, and has held many other positions in and out of government. He was the Robert F. Kennedy Visiting Professor at Harvard in the Spring of 1995, and a participant in the DRCLAS conference on the future of the Paraná-Paraguay Hidrovía Waterway Project.

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Katia Paola Gómez Campos from San Rafael School, Turrialba, Costa Rica drew this picture. "Costa Rica is a model for Latin America and the world."

The Environmental Agenda in Latin America

The Issue of the 21st Century

BY OTTO T. SOLBRIG

IF THE EIGHTIES WAS THE DECADE of economic reforms, and the nineties that of political and social reforms, the 21st century will be that of environmental concerns. Environmental integrity, Economic Efficiency and Equity are the three E's that should guide policy in this area.

The quality of the environment depends on how we use land and natural resources. Every human activity, be it industry or farming, creates many kinds of polluting byproducts, which for centuries have been dumped on land, into the atmosphere, and into rivers, lakes, and into the ocean.

Latin America possesses a very rich base of natural resources. With abundant minerals, from Mexico's silver to Chile's copper; it is plentiful in oil

deposits (second largest reserves after the Middle East), has the largest forested surface of any continent, and the greatest proportion of arable land per person outside of North America, including some very good quality soils. Both the Pacific Coast and the South Atlantic are very rich in seafood.

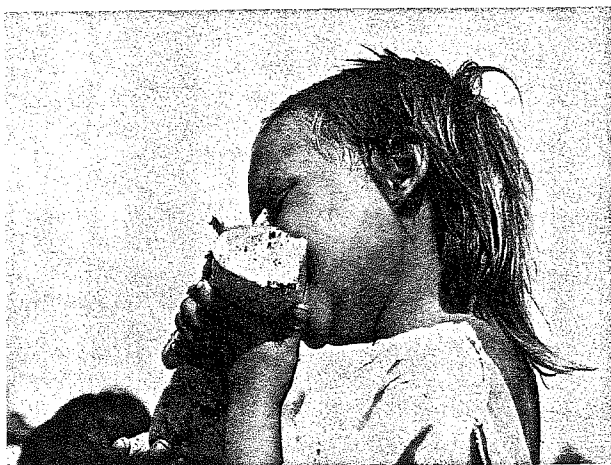
Yet Latin America also has some of the most serious environmental problems in the world: air pollution in several Latin American cities is the worst anywhere; rivers flowing through industrial centers are tremendously contaminated by industrial wastes; the rate of deforestation is alarming; soil erosion is severe, including in some of the best agricultural land of the world.

Throughout Latin America, environmental problems reflect the clash

between the use of nature as a private good with the concept of nature as a public good providing certain functions without which human life is not possible. Nature satisfies our requirement of food and fiber, helps recycle water and nutrients, is a source of beauty and comfort, and of the oxygen we need to breathe. Yet, since the adoption of agriculture ten thousand years ago, a conflict has arisen in the use of nature. Farmers and other owners of real property view it as a private good and claim the right to modify it to suit their individual needs, which includes using it for farming, for livestock grazing, or for housing. All these activities can lead to profound landscape modifications and thus to ecological deterioration,

including loss of water retention capacity, nutrient cycling, and loss of biodiversity.

Nowhere is the clash between these two views more in evidence than in the debate over deforestation in the Amazon basin. While inhabitants of temperate industrialized countries (as well as sizable minorities in many tropical countries) rally to the slogan of "save the forests," colonization of the Amazonian forest is encouraged



ANITA BACA

by several South American countries and financed (at least in the past) by international agencies such as the World Bank.

Two issues dominate the debate: (1) guaranteeing food security and determining the kind of agriculture to adopt and (2) reducing deforestation and landscape transformation. The first is of primary concern in Latin America; deforestation dominates the debate in the industrialized countries.

The use of the land as a "private good" is in conflict with the broader view held by the international community that sees the tropical forest—and to a lesser extent other lands—as a "public good." The dilemma and the challenge is to find ways of meeting, if not completely at least partially, both needs.

FOOD SECURITY

With the proper land use practices, Latin American agriculture could become an important source of wealth in the next century; with inadequate practices, Latin America has the

potential of destroying much of its fragile soils.

In the next fifty to a hundred years the world's population—now 5.5 billion—will increase to about 10 billion. Much of that growth will be concentrated in the tropics and subtropics, including Mexico, Central America and much of South America. Food and fiber production will have to be doubled worldwide just to keep up with population growth. Although reports in the news emphasize mostly surpluses in the United States and Europe, in the last few years these surpluses have shrunk significantly with subsequently volatile grain prices. If food prices reverse their historical downward trend of the last hundred years, and prices were to increase, the world's poor might not be able to obtain sufficient food, thus impairing poor nations' development efforts. Consequently, a high priority for policy makers in food producing countries is to devise medium-to-long-term policies that will increase production to keep up with demand.

This is a formidable challenge, particularly if it is to be done without massive land degradation and soil erosion. Latin America has the largest reserves of potentially arable land, but this is largely marginal land, with soil and humidity limitations, easily degraded if used incorrectly. When properly prepared, it can be very fertile as the soybean fields of northern Mato Grosso attest. However, high interest rates, low commodity prices, and an uncertain land tenure regime discourage farmers from investing in land conservation measures. Even in very good land, such as that of the northern area of the Argentine Pampas, overvaluation of the Argentine currency, low international prices, protection of markets by more inefficient producers (especially the European Union), high interest rates, and inaccessibility of credit, have produced a serious decapitalization of Argentine agriculture with ensuing soil erosion and loss of productivity.

More agricultural and ecological research is needed to develop better

agricultural techniques for marginal tropical lands. But the problem of the proper use of natural resources and agricultural land use include not only physical, biological, and ecological questions, but also involves issues of trade, national credit policies, the cost of capital, and international relations between nations. Consequently the development of solutions demands a truly interdisciplinary effort.

The last decade has seen economic reforms, some of which have had a positive effect on agricultural development, such as Argentina's dropping of export taxes. Other measures, such as the reduction in research expenditures in the sector, have in general had a negative effect. Economic policy makers often feel that transfer of foreign technology is cheaper than maintaining a national research establishment. This view is bolstered by the successful privatization of other government enterprises. Although some technology can be and should be transferred, given that the physical and climatic conditions that affect agricultural yields vary from site to site, some local research capacity is always necessary.

Some observers, particularly ecologists and some agricultural scientists, doubt the feasibility of increasing food production without drastic changes in the methods of production. Although agricultural industrialization has been successful in increasing yields, they say, it has created serious environmental problems, including excessive topsoil erosion, water pollution, depletion of aquifers, loss of wetlands, and of natural habitats. Land concentration, displacement of farm families, and the consolidation of food and fiber production are also of great concern to these critics. The consolidation of large corporations and the disappearance of the family farm affect small rural communities, that are also disappearing, they worry. According to these critics, corporations may be under pressure to maximize short term profits and therefore may not have an interest in preserving the natural resource base of agriculture. This eventually could lead to reduction of

productivity and an increase in prices, and malnutrition for those unable to afford the higher prices.

Modern high input agriculture, as developed in the United States, is very capital intensive but uses very little labor. Such an approach does not make sense in countries with high unemployment and scarce investment capital. The challenge is to develop a high yield agriculture that is labor intensive but uses less capital.

DEFORESTATION

Tropical forests are the greatest reservoir of prokaryote, fungal, plant, and animal species diversity in the world and hold the largest stocks of sequestered carbon, whose release into the atmosphere in the form of CO₂ could significantly affect world climate. As such they probably constitute the world's largest "public good." By that I mean, that preserving the biodiversity of tropical forests and reducing greenhouse gas emissions is of general concern to society at large.

Tropical forests occupy a large portion of the surface in eleven Latin American countries with significant population pressures and low to medium incomes: Mexico, Guatemala, Costa Rica, Panama, Honduras, Colombia, Venezuela, Ecuador, Peru, Bolivia, and Paraguay. The use of these forest lands for timber resources, growing tropical products, or crop agriculture, or cattle grazing can help alleviate poverty and fulfill the local country's need for more foreign exchange and food.

The intricate dilemma of the "public" versus the "private" good is further complicated by the variety of sovereign political jurisdictions—national, provincial, local—that are involved, each of them with wide responsibilities for the welfare of their citizens and differing views of the role that tropical forests are supposed to play.

The conservation of forest resources appears very simple: close the forest to economic activities that endanger its integrity, such as logging and farming. Yet such a simple and naïve solution is clearly politically and economically impossible. Many trop-

ical governments with extensive forest resources such as Brazil actually encourage migration of the landless poor to the forest margins to relieve demographic pressures.

There is no easy solution to this problem. The only viable option is to encourage increased agricultural productivity through modernization of the agrarian sector in areas already deforested. The development of rural industries to increase agrarian production can both satisfy the local and national needs for food and fiber and produce necessary savings for development and non-rural employment, thus reducing pressure on the forest. These were the successful strategies pursued by Europe and the United States in the last century, later by countries such as Argentina and Australia, and more recently Chile and Thailand among others. But this is a slow and laborious process at best. It is made even more difficult when countries are faced with high demographic growth and unemployment and high expectations for economic improvement.

OTHER POLICY ISSUES

Because industrial activities, especially those of large corporations, are often the source of pollutants, the tendency world-wide has been to develop prescriptive rules to force polluters to internalize environmental costs, under the generally accepted rule that the one who pollutes should pay rather than force downstream users to pay. In many instances these rules are necessary and welcomed by industry because they equalize the costs and reward responsible behavior. However, sources of environmental degradation, particularly in agriculture, cannot always be controlled. The activities of millions of individuals in all walks of life are responsible for much environmental degradation: farmers using dangerous pesticides, and employing inadequate land use practices; peasants and cattlemen cutting down forests to grow their crops and raise cattle; people using wood and petroleum derivatives to heat their houses and cook their food; and above all the

use of gasoline in automobiles. The attempt to prescribe behavioral rules to individual citizens, rules that conflict with their own self-interest is ineffective and is likely to produce a backlash, as we are experiencing in the United States. Instead we need to develop environmentally friendly techniques that are also economically attractive so that it will eventually be in our self-interest not to degrade rather than to degrade.

For citizens to adopt environmentally friendly behavior, reliable and fair legal mechanisms must be created to enforce long term property rights and other legal obligations. Unfortunately too often the judicial system in Latin America responds to political pressures even when it is not downright corrupt. Legal reforms are also needed to ensure the adoption of environmentally friendly policies by both governments and individuals. Many countries possess adequate environmental legislation; almost all Latin American countries have a cabinet level environmental official. Yet these ministries are usually without enforcement power. An exception, and a model for Latin America and the world, is Costa Rica.

The capacity of the environment to provide those ecological services on which human life depends must be maintained: nutrient and water cycling, oxygen production, and the many aspects of the geochemical cycle. To accomplish this the efficiency with which we use resources must be increased: less waste, more conservation of resources, both short and long term, and more recycling of materials. And finally social equity to eliminate poverty, increased education, including appreciation for nature and its role, is essential to spread the benefits to all, and to make everybody responsible for the maintenance of the health of this planet, our only home in the Universe.

Bussey Professor of Biology Otto T. Solbrig, member of the DRCLAS Executive Committee, is also a fellow of the Weatherhead Center for International Affairs.

Otto T. Solbrig, the author of this article, recently won the 1998 International Prize for Biology, presented by the Japan Society for the Promotion of Science. See article on page 24.

The Cienfuegos Botanical Garden

Harvard's Legacy, Cuba's Challenge

BY DAN HAZEN

THE CIENFUEGOS BOTANICAL GARDEN, ABOUT THREE-quarters of an hour outside the Cuban city of Cienfuegos at the "Pepito Tey" sugar complex, welcomes visitors to a park-like setting of palms, orchids, bamboos, and myriad other tropical plants. The exotic vegetation; the shade, stream, and entry lane of royal palms; the reciprocally appreciative toasts of cane juice provoked by "official" visits—all stand in inviting contrast to the sugar mill's neighboring clangor and sweat.

The enticements of this neotropical Garden of Eden, however, suggest questions as well as contentments. Why so splendid a facility, so far from the beaten track? How did the Garden come by its more than two thousand tropical species? What purpose does it serve? From whence the now-faded markers of a Harvard connection?

Our story finds its start in Boston and in Cienfuegos itself. Cuba was one of Spain's first New World conquests. Cienfuegos, however, was only founded in 1819, after a lag of some 300 years. Sugar was by then the dominant cash crop and Yankee merchant firms, among them Boston's "E. Atkins & Company," were active in its exchange. Thus Edwin F. Atkins, the founder's son, first visited the island in the 1860s in order to master the fam-

ily trade and the connections upon which it was based. The exposure took, and Edwin gradually assumed complete control over the Cuban operation.

Atkins began his business life in a commercial world based on consignments and commissions. Sugar production, however, was already in flux. Mechanized refineries required heavy investments. Shifting tariffs, population movements and industrialization in the Northern hemisphere, and emerging product competition from both European beet sugar and Pacific sugarcane created an ever-changing structure of sources, prices, and markets.

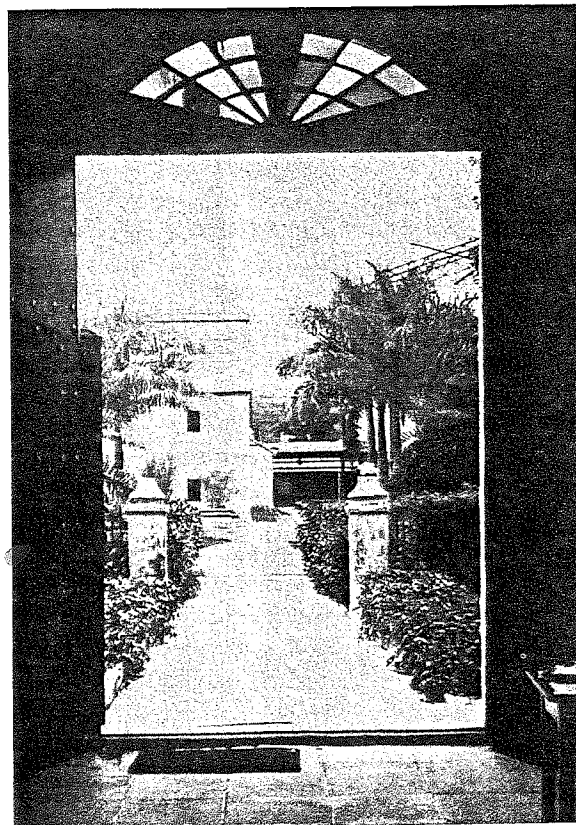
Cuban planters also had to adjust to endemic civil unrest and the abolition of slavery. Many were unsuccessful. Atkins, despite strong misgivings, thus settled an intractable debt by taking over the "Soledad" sugar estate around 1880. The plunge once taken, he invested heavily in additional land and technological improvements. He wintered on the estate, often without his family, and forged one of the island's most productive sugar complexes. The process was not without risk: banditry, brushes with armed bands allied to every possible faction, and repeated seasons of arson-damaged cane became almost commonplace as the island chafed under Spanish rule.

Atkins, who hoped that greater Cuban autonomy within the Spanish Empire would end the unrest, championed this outcome through his high-level connections in both Washington and Havana. He later accepted North American occupation as a portent of peace and stability. His thoughts almost as quickly turned to intensifying Soledad's sugar production, with Harvard as one of the vehicles. In 1899, Atkins donated \$2,500 to the University to compile a comprehensive bibliography on sugarcane and to fund a "traveling fellowship in economic botany," whose recipient was expected to conduct research that would improve the island's cane production.

By the turn of the century, Harvard's annual reports regularly referred to the "Experimental Garden in Cuba" (soon relabeled the "Harvard Experiment Station in Cuba"). The Garden's initial preoccupation was to grow sugar cane from seed rather than cuttings, a first step toward the larger goal of developing more productive and resistant strains. Other work addressed cane diseases and pests, and tropical food crops. Despite the Harvard label, during these early years Atkins provided all of the Garden's land, labor, and funds. The main focus remained practical agriculture, though more and more specimen plants were collected as well.

The tax benefits of charitable donations, in tandem with his continuing satisfaction with the Harvard connection, in 1919 induced Atkins to arrange a long-term lease of

From door of the main house, Cienfuegos Botanical Garden, more than seventy years ago.



FROM E.A. ATKINS, SIXTY YEARS IN CUBA, 1926

land and to pledge an eventual endowment of \$100,000—the “Atkins Fund for Tropical Research in Economic Botany”—for what became known as the “Atkins Institute for Tropical Research.” (As during its unofficial years, both the Garden’s designation and its precise institutional slot within the University remained rather loose.) The “Harvard House” for visiting researchers and students was built soon after, and aggressive programs to obtain more plant species were put into place. Atkins himself died in 1926, though both his widow and his son-in-law (who followed him as president of the Soledad Sugar Company) continued to support the Garden.

The decades following Atkins’s death saw programs at the Botanical Garden meander along a course defined by several overlapping tensions. Civil unrest remained endemic, though several decades of relative calm followed the revolutionary movement of 1933. Increasingly stringent labor laws mandated higher minimum wages, limitations on non-Cuban workers, and a 1933 reduction in the work week to but forty-eight hours. Ever-increasing costs became the norm. The Garden’s vulnerability to flood, drought, and hurricane reinforced the sense of contingency.

By the mid-1930s, the Garden routinely overspent the



Dan Hazen, John Coatsworth and the Harvard delegation found this old Harvard shield cut into a tree in the Cienfuegos Botanical Garden.

income from the Atkins endowment, despite repeated additional gifts from Mrs. Atkins and from the Claflins, her son-in-law’s family. Programmatic fuzziness exacerbated the financial tensions between Garden and gown. Was the Garden’s destiny to become a first-rate tropical arboretum? Or was its purpose to conduct original research? In the latter case, should its focus be practical or theoretical, or should it simply respond to requests as received?

The Botanical Garden in fact engaged in a variety of pursuits. Wartime appeals from Washington led to experiments with rubber trees. Research on tropical food crops reflected Edwin Atkins’s initial wish that the Garden, as one of its goals, address the island’s general welfare. Rare botanical specimens were exchanged with facilities all over the world. Tree saplings were cultivated for reforestation efforts at Soledad and neighboring estates, and landscaping plants were dispatched to the new U.S. base at Guantanamo Bay. By the 1950s, Harvard was using the Garden for summer courses in Tropical Botany. The Garden became a local tourist destination as well, provoking worried accounts of thirsty plant lovers’ needs for potable water and more general supervision.

The Castro Revolution, and the following downward

MacArthur Foundation Grant: More Cuban Exchanges

In September 1998, DRCLAS received a grant from the John D. and Catherine T. MacArthur Foundation to support scholarly and scientific exchanges with Cuban academic and research institutions, including the Jardín Botánico de Cienfuegos. In March, DRCLAS director John Coatsworth and a Harvard delegation, including the author of this article, visited the garden and discussed prospects for future collaboration with the garden’s staff and the science commissioner for the province of Cienfuegos. Both institutions agreed to collaborate in organizing a workshop, now scheduled for November 1999, which will bring together specialists from the two countries to discuss research in tropical economic botany, environmental education, and issues related to biodiversity and endangered species. The Harvard scientific group will be led by Bussey Professor of Biology Otto Solbrig. The workshop will also devote a session to the history of the garden in the context of the sugar zone than surrounds it; this session will be organized in collaboration with the Archivo Provincial de Cienfuegos.

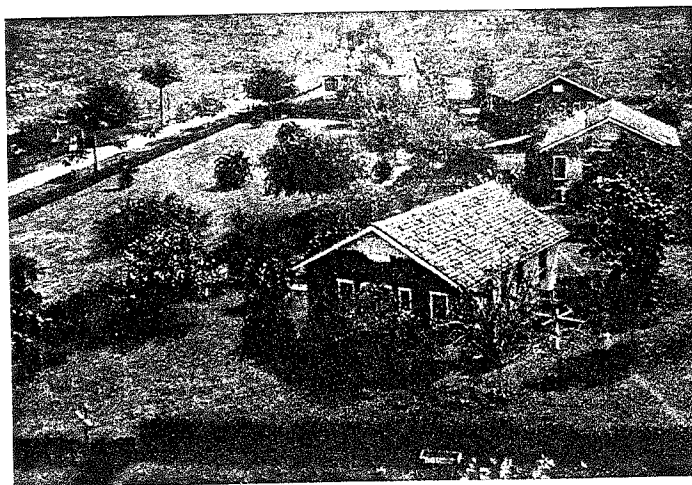
The Botanical Garden will celebrate its centennial in 2000. The director and staff of the garden hope to celebrate the occasion by hosting a major international conference. A portion of the November 1999 workshop will be devoted to a discussion of this proposed conference and of the role of Harvard scientists in it. The meeting will also set the agenda for future exchanges and other forms of collaboration between Harvard, the

Cienfuegos Botanical Garden, and the other Cuban scientific institutions represented at the meeting. As a result, the first visitors to Harvard from the Cienfuegos Botanical Garden and other cooperating scientific research institutions should begin to arrive in Cambridge by the spring term of 2000.

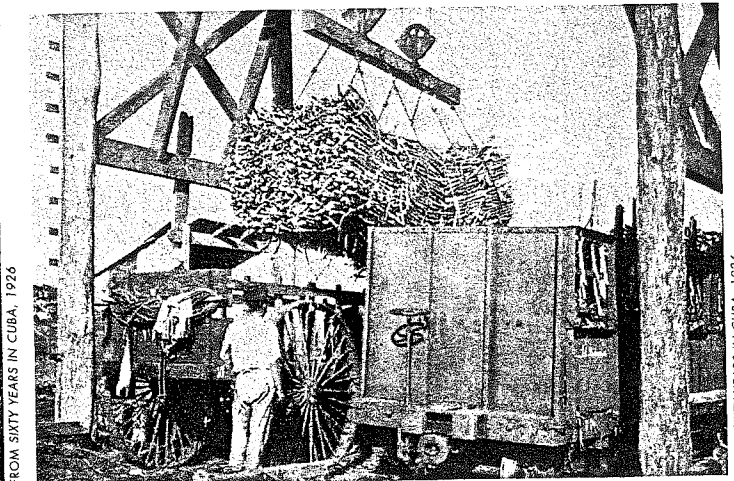
With support from the MacArthur Foundation, Harvard expects to conclude formal exchange agreements with the Cienfuegos Botanical Garden and three other Cuban institutions with which it has already established collaborative relationships. These are:

- The Center for the Study of the Cuban Economy [Centro de Estudio de la Economía Cubana (CEEC)] at the University of Havana;
- The Juan Marinello Center for Research and Development of Cuban Culture [Centro de Investigación y Desarrollo de la Cultura Cubana “Juan Marinello” (CJM)]; and
- The Pedro Kouri Institute of Tropical Medicine [Instituto de Medicina Tropical “Pedro Kouri” (IPK)].

These four institutions are widely recognized for the quality of the work of their affiliated scholars and scientists. The MacArthur program will allow Harvard to invite researchers from each of these institutions to spend periods of time ranging from two to six weeks at Harvard. It will also support jointly organized and co-sponsored workshops, conferences, and publications and cover the cost of short visits for lectures and consultations by Harvard faculty.



Cuba then: Left: Employee's houses—Harvard House in distance; Right: Loading Cane



FROM SIXTY YEARS IN CUBA, 1926

FROM SIXTY YEARS IN CUBA, 1926

spiral in U.S.-Cuban relations, provoked an extended hiatus in the Harvard connection. Operations were gradually reduced as of 1959. Expatriate staff members sought other jobs, and the University relocated three anti-Castro employees off the island. Direct financial support ceased as of September, 1961, and a straw-clutching skeleton office in Cambridge closed soon after. The Cuban government took over the facility, and has managed it ever since. New possibilities for collaborative teaching and research may now, after more than a generation, be on the horizon: the Harvard-Garden relationship may have life in it yet.

As in most good stories, that of the Cienfuegos Garden abounds in ambiguity and paradox. The principal actors—Edwin Atkins, Harvard University and the Cambridge-based scholars who administered the Garden, on-site superintendents and staff, Cuban officials and employees, the Soledad estate and its managers—operated with agendas that were sometimes complementary and sometimes at odds. The shifting backdrop of war and revolution, depression and prosperity, hurricane and drought, likewise wove a tapestry that this sketch can only begin to describe.

The Botanical Garden's story also resonates with matters very much on our minds today. Issues of contributions and control, of motivations and authority, surfaced throughout its history. Is the Garden's past merely the tale of a Boston plutocrat who successfully co-opted the University on behalf of his bottom line? Through what formal mechanisms and interstitial arrangements were the Garden's programs and activities established? What of the byplay between the University's distant administrators and the founder-cum-benefactor's intimate proximity? The scientific and ecological issues were no less complex. Could the Garden be coherent as its projects by turn pursued better sugar cane, improved food crops, reforestation, and the largest possible collection of tropical plants? Were these activities even compatible with one another? Finally, what of the Garden's political and social impact? Harvard's enclave within Cuba

can be perceived in any number of ways. The Garden was highly responsive to requests from Soledad Sugar and from the American government. It also conformed to Cuban law and attempted an at least limited engagement with Cuban needs. At a homelier level, the Garden's administrators, researchers, and professional staff were overwhelmingly white, male, and expatriate. Cubans were most visibly present as laborers, many descended from slaves. The interplay of race, class, and nationality, while unremarked, was inescapable.

These are the sorts of unanswered and perhaps unanswerable questions most satisfyingly pondered in Cienfuegos, at the joint venture tourist hotel which bills in dollars for lodging in its fenced compound overlooking the bay, and whose daily busloads of European visitors are hailed with free drinks and minimally-clad dancing girls. In the evening, adventuresome tourists can stop by one of the neighboring bars for drinks and to strike up friendships with the many young women questing for cash. In the meantime,

construction is about to resume at the once-abandoned, half-built, Chernobyl-style nuclear power plant that looms in the distance: finally, locals rejoice, the area's daily blackouts will come to an end.

Contemporary Cuba is a vortex of paradox. Ecology vies with economics, revolution with reality, ideology with iconoclasm, dependence with development. The puzzles are much the same as those posed by the Botanical Garden. Rather than simply a historic curiosity, the Garden thus partakes of issues that are both continuing and crucial. Like so much in today's Cuba, it is emblematic as well as idiosyncratic.

Dan Hazen, Widener Library's Librarian for Latin America, Spain, and Portugal, visited Cienfuegos for an international conference of historians and archivists in March, 1998. He has been at Harvard for nine years, after holding similar posts in the Latin American collections at Cornell, Stanford, and Berkeley.

New possibilities
for collaborative
teaching and
research may now,
after more than
a generation,
be on the horizon.

Environmental Education

A Working Perspective

BY LESLIE DOMÍNGUEZ

MAJESTIC MOUNTAINS TOWER over a small community of pink, lime green and pale blue houses. Children play baseball with a rolled-up sock for a ball; women are sweeping their patios and cleaning the rice, and the men are laboring in the fields, plowing, hoeing, planting food to sustain their families. This is Los Martínez, a rural, agricultural village nestled in the mountains of San José de Ocoa in the Dominican Republic. It could be considered a small slice of tropical paradise, but it is also one of many such small communities in grave danger of losing their livelihood to the effects of environmental devastation.

The people of Los Martínez depend on agriculture to support themselves. Large harvests of carrots, eggplants, tomatoes and other vegetables slowly make their laborious journey down the mountain to the city markets. But the farming techniques, once successfully used by their ancestors, are now resulting in lower yields with higher production costs. In Los Martínez, the farmers continually lament how the soil doesn't produce as much as in the past, unaware of the impact of their own farming methods such as the use of antiquated slash-and-burn agriculture. Agriculture cannot continue in the same manner, or their children will inherit infertile soil.

Change is a slow process, but the steps have begun. The greater hope for change lies with the very children of the community through environmental education. As a Peace Corps volunteer, I have been working together with community teachers to begin fostering a love and respect for our environment. The most obvious environmental problem facing the children is that of trash. Plastics and styrofoam containers have made their way up the mountain and onto the community road. Trash containers are



ANITA BACA

few and far between; the natural inclination is to throw trash anywhere. We have now celebrated several trash clean-up days, and have dug enormous holes for containment. In celebration of Earth Day, we cleaned and then planned a day for every household to find and decorate its own trash can. The children have also become involved in the reforestation process. We have taught a unit on trees that culminated on Arbor Day when each child received a fruit tree to plant and protect. We have also developed a unit for the coming school year on insects and the proper use of insecticides and their alternatives. The active response from children has been inspiring.

Their parents, Dominican farmers, face many grave issues. Development agencies and Peace Corps volunteers like myself have a plethora of environmental projects to tackle. These are battles that no one individual can take on alone; community organization is the key to addressing them. In the last year and a half as an agriculture Peace Corps volunteer, I have been fortunate to work with a strong

agricultural association and women's group in addition to a strong non-governmental organization (NGO) in the region. I have also been honored to work with 35 wonderful students in our community school. We have together begun taking steps towards changing our environment.

Our most measurable project is reforestation. The local NGO, Asociación para el Desarrollo de San José de Ocoa, has provided the trees, mostly a native pine species. We have formed work brigades including representatives from every household, and headed for the mountains. In my time in the community, we have planted a good 20,000 trees. Another part of that job is fire prevention, so we have cleared the land on both sides of the reforestation so that no fire may reach the trees. The community is proud of this job, and it has a lasting positive impact.

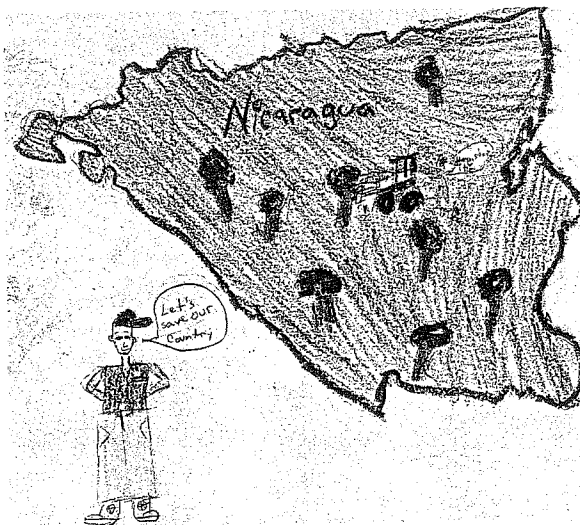
These kinds of projects link the community and the children to the process of environmental education, and hopefully to a slowing or even a reversal of the devastation of nature. The land used by the farmers of Los

It is often children, barefoot and eating, who spray these chemicals on the fields

Carlos Antonio Amela, 10, of Masaya, Nicaragua, exclaims in his drawing, "Stop it! Let's Save Our Country"

Martínez would not even be considered fit for farming within the United States because the slope of the land is too high. One hard rain washes all of the topsoil nutrients away. Slash-and-burn agriculture has led to the deforestation of the mountain land; shrubs and spiny trees have taken over the once cloud forest. The burned land yields just one or two seasons worth of carrots. The nation-wide deforestation has also contributed to a grave shortage of water.

Modern technology has added its own damages in the form of chemicals. The green revolution brought insecticides, herbicides, and fertilizers to often illiterate farmers. These chemicals are usually applied without heeding safety measures or proper measurements indicated on the labels. The overuse of chemicals has rendered much of the



soil sterile and, as insects build resistance to these toxins, various plagues become more and more difficult to battle. In addition, it is often children, barefoot and eating, who spray these chemicals on the fields. Also, it is not uncommon to see farmers using chemicals that have been banned in the United States such as DDT and Paraquat. Doctors partially attribute

the rise of cancer, birth defects, and allergies to the abuse of these chemicals.

In terms of agricultural change, I have been working with the agricultural association in the use of protective barriers for terracing, the use of cover crops for soil replenishment, and the development of a chemical-free integrated pest management program. I show all of the various techniques of a demonstration plot and, after a series of short courses, have begun work-

ing with several farmers on small plots of their own. Although the farmers are reluctant to change the only way they know of supporting their families, the dramatic change in soil that leguminous cover crops produce has farmers excited enough for a small experiment of their own. The use of tobacco, garlic, Nim, and other plants as natural pesticides has captured the interest of farmers, but they are much less willing to experiment with controlling a crop that represents their livelihood.

The issues facing Los Martínez are not rare. Not only do other Dominican communities face them, so do rural communities throughout Latin America. The loss and sterility of topsoil is a world-wide crisis, as is the overuse of agro-chemicals. Water shortages resulting from deforestation are not uncommon either. The mountains of trash with nowhere to go may be the first wake-up call to communities in terms of environmental crisis. We can only hope that the community members will join together as those in Los Martínez have, and that development agencies continue to provide technical and sustainable support. Immediate community action and education are necessary, or the generations to come will be unable to farm.

Leslie Domínguez is an agriculture Peace Corps Volunteer in the Dominican Republic. She is also developing a gender program for a local NGO. She is a graduate of Oberlin College.

Community and Dialogue

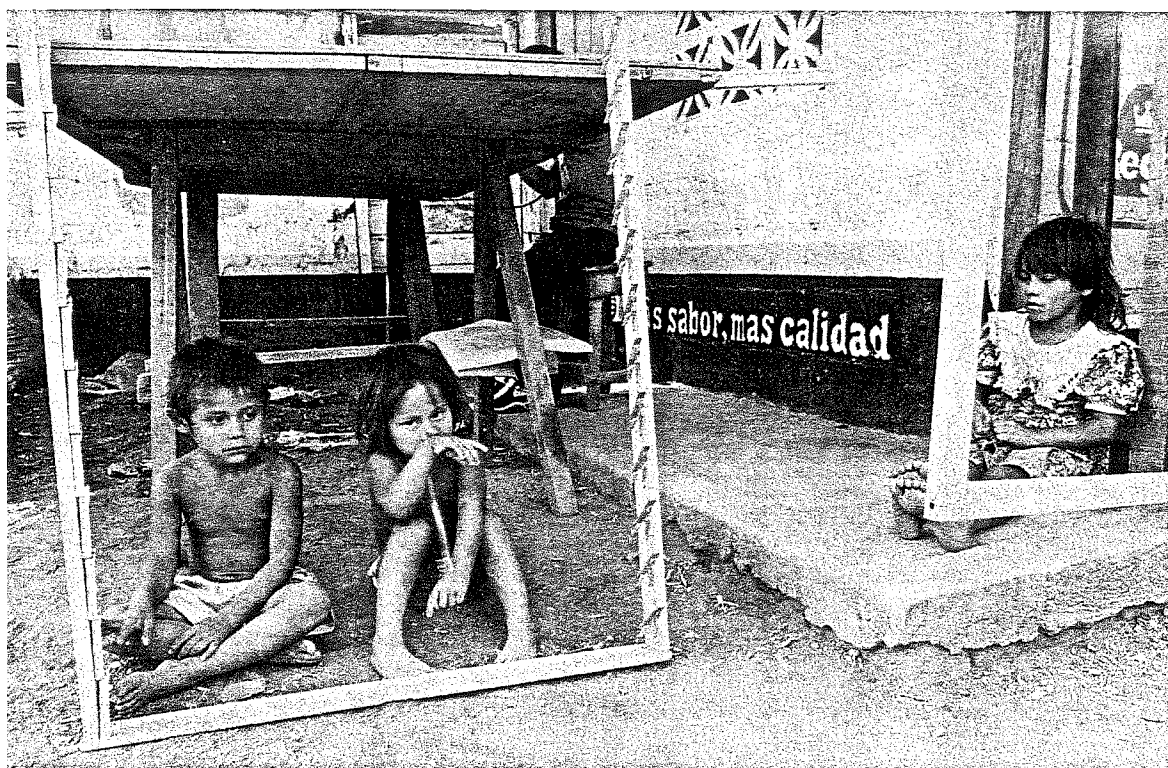
Leslie Domínguez' words transport me back to African villages in which I have lived and worked. This is not a distant memory since I recently moved back to the US to join the Harvard Graduate School of Education faculty after nearly six years of working in southern African societies. Her words also remind me of how pleased I am to have found colleagues at Harvard and particularly at the Graduate School of Education who also believe that education must be about change and not just about maintaining the status quo, with all its inequities. Together we bear considerable responsibility in helping to build such education systems, not just in the communities in which our children grow up but also in other communities, some far afield, with whom we are connected.

The keys to Leslie's experience are community and dialogue. So often we think of community education as an endeavor involving adults yet as Leslie recognizes, the children represent the future and it is their values and behaviors that we can shape for a healthier planet. The holistic approach which Leslie is following—working with children, parents,

community leaders and local organizations and engaging all of them in action—is to be applauded.

Leslie's article also highlights the importance of dialogue in changing the human condition. "Modern" agricultural practices have not led to an improved human condition for the poor and a western, imported model of schooling will not deliver it either. Leslie instead strives to work alongside her Dominican friends and neighbors, learning at least as much as she is teaching. This sort of dialogue constitutes for many of us the definition of education for social change.

Suzanne Grant Lewis, Assistant Professor in Harvard's Graduate School of Education, teaches courses on education for national development and educational policy and planning processes. She is also Director of the Field Experience Program at HGSE. Prior to joining the faculty she served as the Harvard Institute for International Development's (HIID) Team Leader on a girls' basic education project, advising the Malawi Government and USAID in educational policy and planning.



ANITA BACA

Central American children are the smallest victims

El Salvador Challenge

From Peace to Sustainable Development

BY THEODORE PANAYOTOU

OVER THE PAST FEW YEARS, EL SALVADOR HAS ACCOMPLISHED what can only be described as a political and economic miracle. Peace accords were concluded, ending a decade-long destructive civil war. Political reforms led to democratic elections and peaceful government transitions. Economic reforms have resulted in macroeconomic stability and rapid economic growth.

However, a degraded and dwindling resource base, coupled with serious challenges of mass poverty, could threaten the sustainability of both peace and economic growth in El Salvador, if not promptly and effectively addressed. The country has already lost 98% of its original habitat. Fifty percent of households are below the poverty line, as defined by the World Bank, and the country's already overburdened urban infrastructure cannot afford faster rates of urbanization. At the same time, with 50% of the country's population under 20 years of age, El Salvador is facing massive entry into the labor force, a trend likely to continue well into the 21st century. El Salvador's current economic structure cannot sustainably assimilate the high population growth rate. The rural resource base and the urban environment, both under severe strain already, would suffer further encroachment and degradation if the new entrants into the labor force do not find gainful employment in non-resource-based, labor-

intensive, export-oriented sectors.

El Salvador's challenge is how to regulate economic activity, address market inefficiencies and protect the environment without harming competitiveness, stifling investment, or introducing burdensome regulations. The country must find ways to invest in environmental improvement and social development without compromising fiscal discipline, enlarging bureaucracy, or jeopardizing economic growth.

The problems are immense. Poor access to water and sanitation exacts a high toll on human health and productivity. About 12,000 children die each year from preventable diarrheal diseases related to contaminated drinking water, poor hygiene, contaminated food and uncollected/untreated sewage and solid waste acting synergistically with poor nutrition and inadequate health care. Diarrheal diseases are implicated in 50% of the deaths of infants from one to twelve months and in one-third of the deaths of children from one to five years. Despite an annual rainfall of 1800 millimeters per year and a physical abundance of water (the Lempa River watershed is Central America's largest), El Salvador suffers from severe economic shortage of water due to wasteful use and mismanagement. In 1990, over 85% of the available surface water of 677 cubic meters per second was needed to assimilate the municipal and industrial wastes dumped untreated

ed into rivers and lakes, leaving little to cover the country's estimated "demand" of 408 cubic meters per second. One in four rural residents has no sanitary facilities, and almost none is connected to sewage pipes.

Natural forest cover is down to 2% of the country's land area, one of the lowest in the world, and is clearly inadequate to maintain ecological stability. A quarter of farm fields suffer from high rates of soil erosion, and about one-fifth of them experience significant productivity losses. Watersheds and agricultural lands are under severe pressure from unsustainable farming practices and excessive fuelwood harvesting. While 70% of the population depends on fuelwood for energy and the country's hydroelectric infrastructure is under risk from deforestation, there is hardly any reforestation effort.

With 90% of rural households burning fuelwood in poorly ventilated stoves, 3.7 million people are exposed to high levels of indoor pollution, which results in three times as many deaths and respiratory incidents as outdoor pollution. Overall respiratory illness is a factor in the deaths of about 11,000 children each year. Over one-half of all the children under five experience a respiratory infection in any given two-week period.

Finally, while the country still has representative areas of the original ecosystems such as tropical dry, montane, coniferous, and cloud forests, mangroves, and coral reefs, and its mammal and bird species are comparable to those of other countries in the region, they are far more vulnerable. Maintaining sustainable populations of these species will require serious efforts to preserve the last remaining natural areas of the country and the creation of corridors joining them with larger protected areas in neighboring countries.

A preliminary, partial, and conservative estimate of the costs of environmental degradation to the Salvadoran economy and society lies in the range of US\$ 300-400 million per year or 3-4% of the country's gross domestic product. This estimate includes only the health losses from water and air pollution and the productivity losses from soil erosion and sedimentation of hydroelectric reservoirs and other water bodies. It does not include material damages from air pollution, fishery losses from water pollution and overfishing, damages to infrastructure from water pollution and sedimentation, loss of timber, other forest products and biodiversity due to deforestation, or the loss of potential tourism and recreation benefits. While lack of adequate data prevented detailed valuation of these losses, fragmented information and experience from other countries suggests that these losses are unlikely to fall below \$200 million per year, bringing the total estimated losses to around US\$ 500 million per year or 5% of the country's GDP, a figure comparable to estimates attained from other countries that experience similar levels of environmental neglect.

Following is a set of actions that can be initiated immediately and begin to make a difference in the lives of all Salvadorans and the environment in which we live. These are actions that would increase access to safe water and

sanitation, reduce indoor and outdoor air pollution, and help farmers maintain productivity and improve their incomes while helping reforest critical watersheds and protect the country's energy and water supply infrastructure.

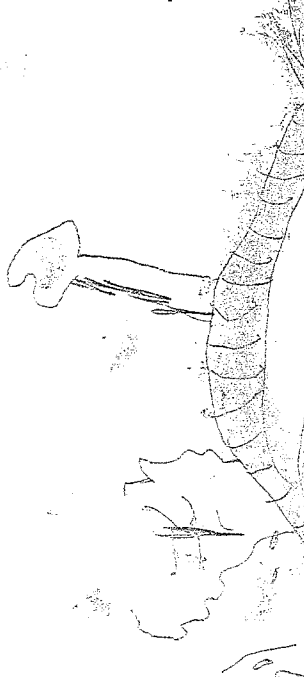
- raise water prices to cover the full cost of supply for 100% coverage
- privatize solid waste collection to lower cost and raise efficiency
- phase out the diesel subsidy for public buses
- institute a self-monitoring scheme for industrial pollutants with mandatory public reporting requirements;
- encourage private sector and NGO initiatives to educate the rural population on the harmful effects of indoor air pollution and to promote more efficient stoves and alternative fuels
- reform forestry regulations to promote private sector participation and to provide communities with incentives to protect the forests
- actively pursue joint implementation opportunities and participate in emerging carbon markets
- introduce economic instruments such as pollution taxes to internalize the environmental costs of economic activity

In addition to these policies and actions that can be initiated or encouraged by the government but carried out mostly by the private sector, local communities and the civil society, there are countless other opportunities for immediate action by individual businesses, community leaders, NGOs, and civic-minded citizens that do not require prior government action. The success stories of NGO and community initiatives are many, ranging from EDUCO's community-managed education to Salva Natura's management of protected areas, to ECO-OK coffee certification program (Certified Ecologically Grown Product) and community action to clean and protect the Ilopango and Coatepeque lakes. Private sector initiatives also abound, ranging from Sherwin Williams' and Izalco's waste minimization and treatment to PROCAFE's environmental self-monitoring and the private-sector promoted ecoefficiency centers. The scope for more of such initiatives is immense, and needs abound in El Salvador's environmental hot spots of Río Sucio, Río Acelhuate, Río Lempa, Lago Ilopango, the volcanic slopes around San Salvador, the biological corridors, and the Gulf of Fonseca, among others.

There are encouraging signs. A Ministry of Environment was recently established and an activist Minister was appointed to head it. A framework environmental law has recently passed through the National Assembly and for the first time, the government is working closely with a wide spectrum of NGOs and the private sector to address pressing environmental issues. Still, a lot more remains to be done to meet El Salvador's challenge to turn a fragile peace into sustained development.

Theodore Panayotou is an Institute Fellow and Director of International Environment Program at the Harvard Institute for International Development, as well as a Lecturer in Economics at the Kennedy School of Government.

**Carlos Alberto
"Carlitos" Sandoval,
8, remembers his
home town of San
Vicente, El Salvador,
with this drawing of
a palm tree.**



The Environment

First Hand and Bi-national

BY ERICA SIMMONS

IN PLANNING MY SCHEDULE FOR THE WEEKS OF RESEARCH I spent on the U.S.-Mexican border this summer, I knew I would have to factor traffic into my plans. This was certainly on my mind as I began to set up appointments in sister cities along the border for the summer to study the roles of two bi-national institutions that have been able to play in alleviating environmental problems in the border region.

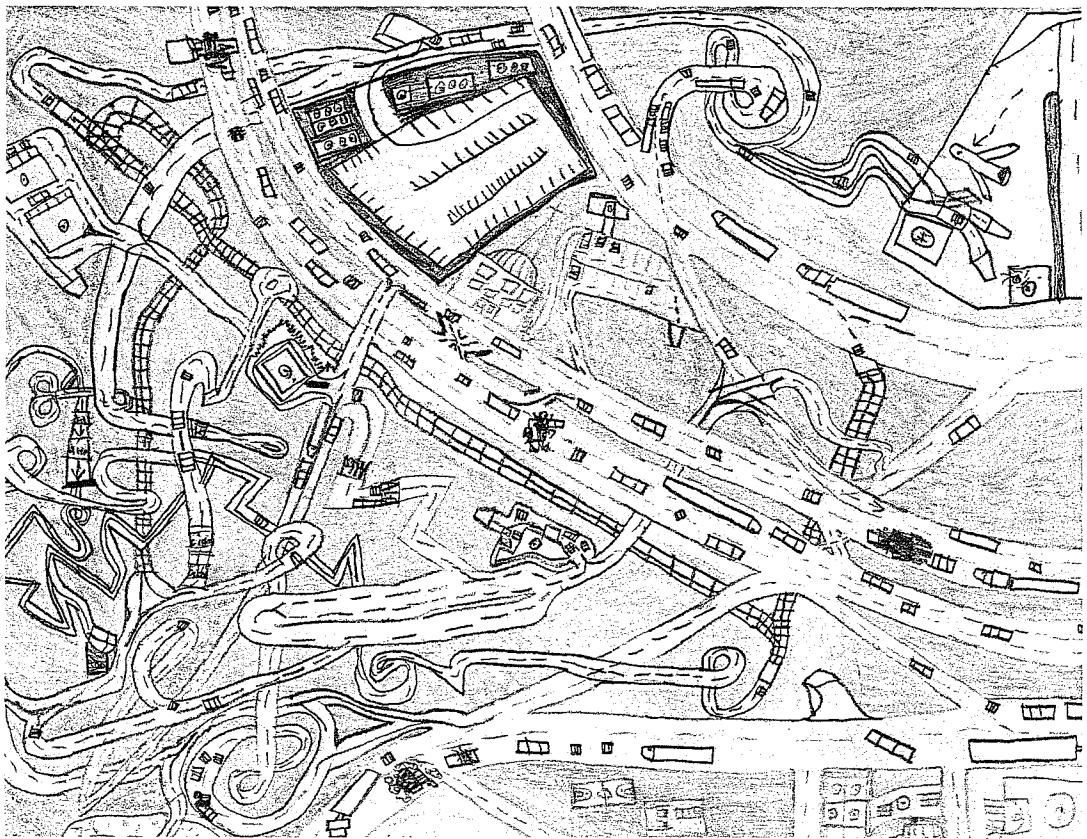
There may be less of a theoretical border with the creation of NAFTA's bi-national institutions, the subject of my research this summer, but the endless lines of cars constantly reminded me of the physical reality of the border crossing, a noxious mix of carbon dioxide and beeping horns. After my first full day of work in Ciudad Juárez, I prepared to cross to the El Paso side at 8 p.m. I feared the worst and began to mentally prepare myself for sitting on the bridge over the Rio Grande for at least an hour. But as I turned off the highway and towards the bridge, I saw no line of cars unfolding before me. I passed through customs in under five minutes and merely had to smile and reply "US" when asked my citizenship before I was waved across to the US side. Shocked, I was sure it was a fluke.

The next day I prepared myself for the border crossing. I left Juárez an hour and a half before my 3:00 meeting in El Paso. I ended up spending an hour in the International Boundary and Water Commission office waiting for the appointed hour to arrive. By now, after only two days in El Paso/Juárez, I was sure I had the system figured out: clearly, as long as one did not travel at rush hour, one would have no difficulties entering the US. I began to put this theory into action. My third day of research I called my host family in El Paso and told them I would be home by 8:30 for dinner. I left the office at eight and sat for almost two hours on the bridge in the dreaded traffic I had heard so much about. The customs officer even asked me to step out of my car and searched it thoroughly. I didn't get home

until 10:30; a dinner of cold lasagna was waiting for me in the fridge and much of my host family was already asleep. I considered myself lucky that the only repercussion of my first encounter with the endless lines of cars was a cold dinner as opposed to a missed meeting. I never allowed less than an hour for a border crossing after that night.

Erica Simmons is a senior in the Social Studies department and a candidate for a certificate in Latin American Studies. Funded by a DRCLAS travel grant, she spent her summer traveling along the U.S.-Mexican border and to Mexico City in order to do research for her senior thesis. Erica studied the roles that the Border Environment Cooperation Commission and the North American Development Bank, two bi-national institutions resulting from parallel agreement to NAFTA, have been able to play in alleviating environmental problems in the border region. Created in a highly politicized environment, the institutions are attempting to aid border communities in much needed environmental infrastructure development. Erica is interested in understanding the impact these institutions can have on the border and in the way the US and Mexico relate on environmental issues.

Drawing by Patrick Alvarado, 8, of Mexico City, son of 1997-98 DRCLAS Visiting Scholar Arturo Alvarado and Barbara Driscoll





The Urban Environment

PHOTOS BY JACK LUEDERS-BOOTH, TEXT BY ANDRÉ LEROUX

URBANIZATION HAS TRANSFORMED LATIN AMERICA OVER THE LAST forty years. Its cities, always diverse and lively, have now also become chaotic and centers of social conflict. Millions of subsistence farmers and rural townfolk have suddenly turned into metropolitan inhabitants, their lives influenced more by the ebb and flow of a global economy than by the rhythms of the agricultural harvest.

Zones unfit for human habitation have become a prominent feature of the physical urban landscape. Many of these places suffer from an obvious proximity to industrial wastes, or run high probabilities of disasters such as flooding and landslides, or themselves present a danger to sensitive ecological areas such as water supply and endangered microclimates. People like the Tijuana *pepineros* in these dramatic photos by Jack Lueders-Booth must live as they can, with resourcefulness their greatest ally.

The terrible irony is that such people depend on their deficient environment all the more for livelihood, since they often appropriate and give new value to runoff water, unused land, and even other people's garbage through their labor.

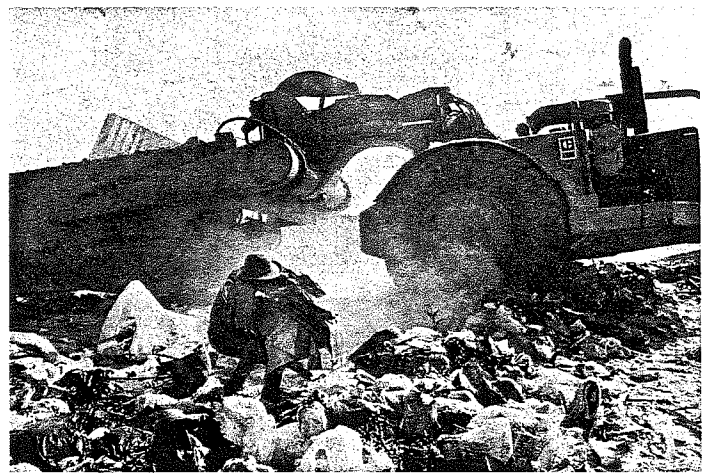
This may be one extreme. However, uncounted millions throughout Latin America, many of them in the working or middle class, acquire their land 'illegally' as squatters because of the prohibitive cost

and inaccessibility of land. The wealthy, while not called squatters, may 'develop' exclusive settlements at the margin of the law, often in beautiful but fragile natural settings at the periphery of the city, sometimes even in national parks. The authorities in many countries have all but acceded to *laissez-faire* as a method of land distribution, to corporations as well as individuals.

Because of the special problems created by urban areas, many people instinctively view the city as "not-natural," or "outside the environment." However, the dichotomy between man and nature is misleading. The city is the immediate environment for urbanites, whose public health depends in large measure on environmental health. Additionally, human beings consume resources and expel waste, making us part of a larger natural system on the regional and even global level. We are never truly outside the environment.

Jack Lueders-Booth is the photography administrator and Tutor in Visual and Environmental Studies at Harvard's Carpenter Center.

While a staff member of DRCLAS, André Leroux is completing his Master's in Urban and Environmental Studies from El Colegio de México in Mexico City, where he lived from 1995-1997. His thesis deals with environmental impact assessment in Mexico.



Jack Lueders-Booth's photographs were featured in the Center's first Latin American and Latino Art Forum in the fall of 1997. His work has been supported by the National Endowment for the Arts, the Library of Congress, and the Smithsonian Institute. He continues to create a photographic commentary on what it means to survive in and off of the dumps in a bustling border city.

Environment, Indians, and Oil

"Preventative Diplomacy"

BY THEODORE MACDONALD

AN INDIAN LEADER FROM THE Upper Amazon recently commented to me that the whole issue of the environment, Indians, and oil companies had taken on global mythical proportions. He was partly proud, partly surprised, and partly bemused. For many people, the mythic image evoked by an oilrig hacked into the Amazon Rain Forest, particularly if it looms over Indian communities, is that of Paradise Lost. However, for others who currently view the wide array of communities, institutions, organizations, companies, adventurers, journalists, and other characters, compounded by each's enigmatic or mutually misunderstood concerns, interests and agendas, the images are more like those molded by Gabriel García Márquez than by John Milton. Beyond comparing narratives, one can also ask if anything can be done to prevent this mix of interests from becoming a social and environmental tragedy in the region. Perhaps. Here we review two recent efforts by Harvard's Program on Nonviolent Sanctions and Cultural Survival (PONSACS).

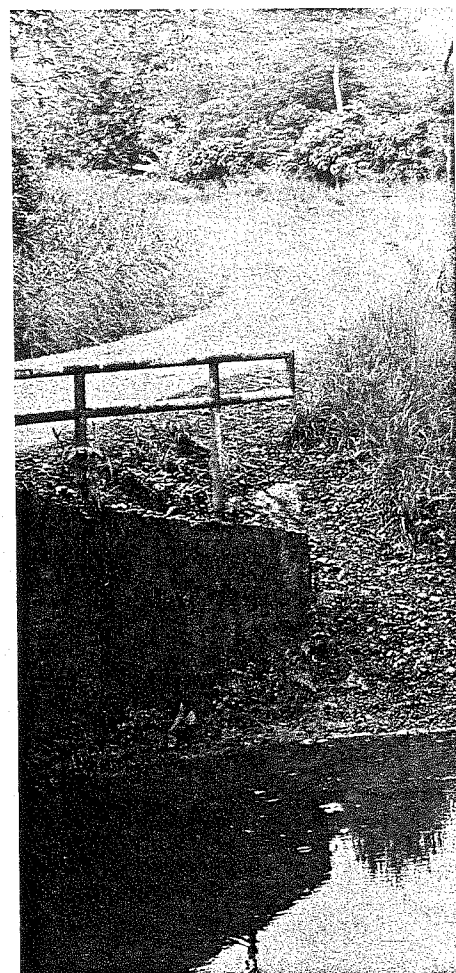
COLOMBIA: OXY AND THE U'WA

Ironically, a protagonist in García Márquez' *Noticia de un Secuestro*, Colombia's ex-Minister of Defense Rafael Pardo, helped draw PONSACS into a complex applied research/conflict management project in Colombia. In mid-1996, Pardo, then a Fellow at Harvard's Center for International Affairs, discussed with me the difficulties of deciphering the complex cultural and political "codes" of those involved in environmental disputes. PONSACS's interest in disputes involving international extrac-

tive companies, Indians, and rain forests were a case in point. Pardo quietly suggested the need for such work in Colombia. About a year and a half later, the Colombian Ministry of Foreign Affairs asked the General Secretariat of the Organization of American States (OAS) to undertake an on-site investigation of a stalemated, multi-stakeholder dispute between an indigenous group—the U'wa—and a multinational oil company, Occidental de Colombia (OXY). Pardo, then working at the OAS, recommended that the Chief of Staff, Ricardo Avila, solicit the participation of Harvard University's PONSACS Program. The General Secretariat, drawing in its Unit for the Promotion of Democracy, then established the OAS/Harvard Project on Colombia with experts in international law, indigenous rights, and the analysis and prevention of inter-ethnic conflict.

What was going on? In April 1995, U'wa Indians were threatening to commit mass suicide by leaping from a 1,400 foot cliff to protest OXY's plans for oil exploration in the Samore Block, the Colombian newspaper *El Nuevo Siglo* had reported. U'wa leaders said that oil production would destroy the world as the U'wa knew it. They and the Colombian national Indian organization also argued that all previous oil activities in Colombia's rain forest had already left a legacy of social and environmental degradation and destruction. In the face of national and international pressure, OXY halted all work in the Samore Block, and sought to open discussions with the U'wa and other critics of the proposed work.

Meanwhile, the Colombian Ministry of Mines and Energy and the



national oil company, Ecopetrol were contending that oil-exporting Colombia would become a net importer by the year 2005, thus precipitating a national economic crisis. Other ministries and directorates, particularly the National Ombudsman and the National Directorate for Indigenous Affairs supported U'wa rights. The national Indian organization, while strongly supporting the U'wa, argued that the National Directorate was, in general, an unnecessary paternalistic anachronism.

The U'wa situation prompted the various stakeholders to test aspects Colombia's progressive 1991 constitution, specifically with regard to indigenous rights. The case thus served as a platform to debate human rights, environmental risks demonstrated by earlier oil exploration, and national economic priorities. It also illustrated the entangled roles of various government ministries, expanded the political space occupied by



JAMES OGDHAM

Colombia's national Indian organization, increased attention on the environmental and economic impact of international oil companies operating in Colombia.

The fact that the Ministry of the Environment had approved OXY's work plan thus became submerged in a flurry of broad national political debates.

Added to the soup of stakeholders were, and still are, the various factions of the National Liberation Army along with sectors of the well-armed Colombian Revolutionary Armed Forces, who regularly blow up OXY's existing Cano Limón pipeline, and kill oil workers. This in turn has encouraged increased Colombian Army presence. This mix of guerrillas and army, close

to the U'wa's densely forested and mountainous terrain, places the Indians at considerable risk. While most U'wa try to remain neutral, they

In 1995, U'wa
Indians were
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exploration plans.

are simultaneously recruited and questioned by the Colombian army and the guerrillas alike. The clear presence and influence of guerrilla groups also sidetracked many aspects of the national debate with oil companies emphasizing the guerrillas' influence, while the indigenous organizations insisted that the issue of guerrilla involvement merely blurred Indian rights issues such as consultation and the need to evaluate potential environmental destruction occasioned by oil production.

All dialogues became acrimonious debates. The U'wa's situation, whether

interpreted as a culture and its lands at risk or individual lives in jeopardy, became a platform for arguing group rights and national economic priorities, but the stakeholders weren't listening to each other. The Ministry of Foreign Relations decided to seek outside help through the newly-formed OAS/Harvard team. At about the same time, the national Indian organization and the U'wa, with support from US non-governmental organizations submitted a formal complaint to the OAS's Inter-American Commission on Human Rights.

The OAS/Harvard team's initial research quickly recognized that, despite the apparent simplicity of this David and Goliath/Garden of Eden case, a complex set of concerns were clearly linked to a wide set of national and international interests. Nonetheless, the team focused its research on what, in its opinion, were the two critical themes: the Colombian Constitution's stipulated but ambiguous requirements for community consultation and respect for indigenous rights in determining the future of their traditional territories and resources.

The researchers' recommendations, drawing on much of the pioneering conflict management work at Harvard, focused on issues and concerns apparently shared by the key parties to develop some form of joint problem solving process.

In early September 1997, OAS Chief of Staff Ricardo Avila and the author of this article, PONSACS Associate Director Ted Macdonald, traveled to Colombia to present the team's report to all of the major stakeholders. The newly elected government of President Andres Pastrana, as well as many of the stakeholders, have now indicated a desire for continued involvement by the OAS/Harvard team, as a means to assure Colombia remains compliant with a "friendly settlement" recommended by the Inter-American Commission on Human Rights in response to the complaint. As of this writing (September 1998) plans for future work have been made but the second phase

For more

information on

PONSACS consult

its Website

<[http://data.fas.](http://data.fas.harvard.edu/cfia/pnsacs)

[harvard.edu/cfia/](http://data.fas.harvard.edu/cfia/pnsacs)

pnsacs >

of the project is not yet underway.

Though the U'wa/OXY case has obtained one of the highest profiles in the Americas, it is by no means an anomaly. PONSACS has already been asked to undertake similar research and recommendations in two oil-related cases in Ecuador as well as an on-going Indian/forest concession dispute in Nicaragua.

DIALOGUES ON "OIL IN FRAGILE ENVIRONMENTS"

Given the extent of mutual misunderstanding and the increased presence of oil activities in the Upper Amazon, PONSACS began a program last year to complement its direct involvement in field activities with broader, more traditionally academic efforts through meetings at Harvard. Thus, the program initiated the "Dialogues on Oil in Fragile Environments." The dialogues were founded on two simple background considerations: (a) exploration for and production of oil in fragile environments, particularly the Upper Amazon regions of Colombia, Ecuador, Peru and Venezuela, have produced a number of reactions and realities that range from non-Governmental organizations' demands for a total ban on oil production to oil company operations which are insensitive to either social or environmental concerns; (b) presently occupying a large and expanding middle range is a "mod-

erate center," composed of oil companies, environmental non-governmental organizations and indigenous groups concerned with minimizing the negative impact of resource extraction. There are few, if any forums in which these groups can meet informally and quietly.

The Dialogues were established to provide a framework for analytic, non-adversarial discussions that regularly bring together members of these interested parties in small groups. The meetings are expressly not designed as a forum for negotiation, but for free, open, and confidential exchange. The third-party facilitating team assists the flow of the meetings; the substantive issues, specific format and other aspects of the dialogue are defined, periodically revisited, and agreed upon by the participants themselves. Four oil companies and four non-governmental organizations, which had expressed concern for pursuing the objectives outlined above, participated in the February 1997 dialogue. Since then the group has developed ways to progressively and effectively expand to include more companies and non-governmental organizations, doubling in size since the first meeting.

"Dialogues on Oil in Fragile Environments": an academic effort to complement fieldwork.

There has also been a desire for direct participation by those local stakeholder groups involved in or affected by oil exploration and production in fragile environments, including many of the region's indigenous peoples. Consequently, beginning with the

September 1998 meetings at Harvard, indigenous representatives experienced in oil issues, from Bolivia, Colombia, Ecuador, and Peru, will participate in the Dialogues. The long-term goal is to establish a perma-

nent, yet informal forum for discussion and clarification of inevitable misunderstandings and disputes.

These illustrative projects are, in a sense a form of "preventative diplomacy." Given the current and often conflictive need to reconcile evolving international human rights norms with the perceived government need to attract foreign investment in Latin America, conflicts will inevitably increase. However, disagreement and conflict, provided that they are not met with repression and violence, are signs of a healthy and normally "messy" democracy. The expanding and direct role of indigenous peoples in environmental disputes with some perceptions of national development need not be a threat to stability. On the contrary, such participation illustrates expanded, and thus positive, political pluralism within culturally plural and traditionally asymmetric societies.

Anthropologist Theodore Macdonald is Associate Director of the Program on Nonviolent Sanctions and Cultural Survival at Harvard's Weatherhead Center for International Affairs. His most recent book, Ethnicity and Culture Amidst New Neighbors: The Runa of Ecuador's Amazon Region chronicles some of his research in the area, beginning in the early 1970's.

Ted Macdonald, far right, discusses oil negotiations.



La Planada

A Facilitator of Sustainable Development

BY JORGE I. RESTREPO

GUILLERMO CANTILLO WAS SITTING on the porch of the administrative offices at La Planada, Colombia, where I found him enjoying a sunny afternoon. He remarked that we had to take advantage of this rare occasion: in the rain forests, there are few afternoons like this one. We began to reminisce about his arrival on the farm in 1981 as a biologist, hired by the World Wildlife Federation in search of places that could justify a conservation project. In the first field reconnaissance, he knew that this was a special place. There were a great variety of flora and fauna; moreover, it was located in a multiethnic zone. Guillermo told me about his work and how he was dedicating more and more time to community development. Originally, he had arrived with the purpose of identifying birds. Now, he is linking conservation and community at this *Fundación para la Educación Superior* (FES)-supported nature reserve, which brings together researchers in the social, economic, biological and agro-economic fields.

From its beginnings, La Planada emphasized the importance of interacting with neighboring communities to help them strengthen their organizations and eventually achieve self-reliance. This process enables the community to establish a harmonious and constructive relationship with the environment, especially with nature. And this is not an easy task as the region has eight Indian reservations, which in turn form part of the Awaa Tribal Council of Ricaurte, known as CAMAWARI. Surrounding the reservations are mestizo farmers and villagers who plunder some of the jungle daily. The reserve not only keeps flora and fauna in its natural state, but is a major reserve for an unusual bear, known as the "spectacled" bear because of eyeglass-like marks around

its eyes.

La Planada eventually became a fundamental part of Guillermo's life, as it is becoming part of mine. After a year at Harvard as a Mason Fellow, I returned to Colombia to work at FES Foundation, as Director of the Environment Division. I see many of the lessons of the past year about interdisciplinary solutions in the La Planada's unique blend of biology and community development.

At La Planada, research projects oriented towards knowledge and conservation of biological diversity and the improvement of the quality of life of the residents of the area are designed, promoted and implemented. La Planada has integrated man as a vital part of the environment and understands the dynamics of socio-economic systems.

Thirteen farmers and their families have made the commitment to manage their properties in an integrated manner, seeking a balance between agricultural exploitation and forest management. For the majority of the residents of the region it is more "profitable" to cut down the forest than to conserve it as "cleared" property is worth more. This and many other dilemmas are faced daily by the Education Program. With great enthusiasm and dedication, two co-workers, Amparo and María Fernanda work to maintain the Local Educational System for the 18 educational communities formed in the zone.

La Planada is preparing to promote new alternatives that will guarantee the well-being of the inhabitants of the region in a healthy balance with the environment. The intervention network has been woven; around the discussion table, concepts such as "carbon sequestration" and other current awareness topics are heard. There is a felt need to include more elements of environmental economics such as



The kids of La Planada

decision-making inputs and program operations. Aurelio Ramos, an environmental economist, is preparing to meet with the La Planada team for a week.

I became aware of how much the different personalities were making the project a success. La Planada director Pedro Moreno has learned that in this type of project setting, classic administration does not produce results. Juan Carlos Vera, now assistant administrator of La Planada, had always dreamed of working at La Planada. As a teenager, he became curious when something different was established in his birthplace: a nature reserve. He left the region for some time to work and study in large cities, but he returned. In his work at La



Segundo has the honor of being the bears' custodian, but he has also learned to be a guide. For him that is an honor.

Commitment to La Planada is a journey into the depths of Colombia. Researchers and other visitors must travel to the city of Pasto in southwestern Colombia and from there travel three and a half hours on the road that goes to the Pacific port of Tumaco, to reach the reserve, a vision of the possibilities for environment and community. On the Andean hillsides is La Planada and its people: 3300 hectares of forest that seem to disappear in the expanse of a large green blanket that slides down the mountainsides to the sea.

Ana María Palacio Jaramillo, 5, from Colombia, daughter of DRCLAS Volunteer María Clara Jaramillo and Dr. Guillermo Palacio, drew this scene of a Colombian coffee farm. She wants to see the 'spectacled' bears.

Planada, he has had to deal with boundary conflicts, attend to visitors and know how much money there is in each one of the accounts. He is also a major promotor of the bears, which are on exhibit to the public. The bears are being prepared to reproduce in captivity and then to be released as their population increases. The visi-

tor gets to see the bears at La Planada and ends up walking the nature paths where a guide gives them a lesson in ecology, one of only a few eco-tourism projects in Colombia. Today the guide might be Don Segundo; tomorrow a young man from the region: it is a way of drawing the local community into the project. Don

Jorge Ivan Restrepo, a 1997-98 Mason Fellow at the John F. Kennedy School of Government, is now director of the Environment Division of FES Foundation, Cali, Colombia. Natural Reserve La Planada, a FES Foundation project, can be contacted for more information: Phone 572 6661700; fax 572 6654300; e-mail <fesambi@cali.cetcol.net.co>.

An Ecologist in Cuba

Citrus and Camaraderie

BY TAMARA AWERBUCH

ON A SNOWY AFTERNOON IN FEBRUARY, WE EMBARKED on an Iliushin airplane that would take Richard Levins and myself from Montreal to Havana. At first I was apprehensive about getting on an old Russian-made airplane. However, after a few minutes into the surprisingly pleasant flight and Richard's reassurances, I was no longer nervous about my first trip to Cuba.

My colleague Richard Levins, a professor of population sciences at the Harvard School of Public Health, has been making his way to the tropical island for the last 33 years as an advisor to the Cuban government on scientific projects in ecology, agriculture, and public health. He always had told me how the Cubans, in the face of limited resources, use vision, creativity, and a common ideology to provide answers to scientific problems that wealthy countries usu-

ally approach with an abundance of money. Richard now added that careful plane maintenance was a priority because of the Cuban emphasis on tourism; the smooth ride later became my private metaphor for our two-week, carefully-planned stay in Cuba.

This visit, however, was different for Richard than previous ones, because we were a team. I came along to provide additional support to ongoing projects and to start a collaborative relationship between the Human Ecology group at the Harvard School of Public Health and Cuban institutions. And Richard Levins was to give a plenary speech at a conference organized by the Institute of Philosophy in celebration of the Communist Manifesto's 150th anniversary. We would spend the first week with the National Institute for Research in Citrus and other

fruits, and the second with the Faculty of Mathematics at the University of Havana.

Our collaboration with researchers in Cuba was aimed at understanding why a scale insect present on Cuban citrus is not a serious pest in Cuba but damaging elsewhere. Richard and I have been trying to answer this question by analyzing data about insect scales and their natural enemies dwelling on citrus leaves. Cuban citrus workers had dutifully counted the scales on various trees twice a month for two years and kept a careful record.

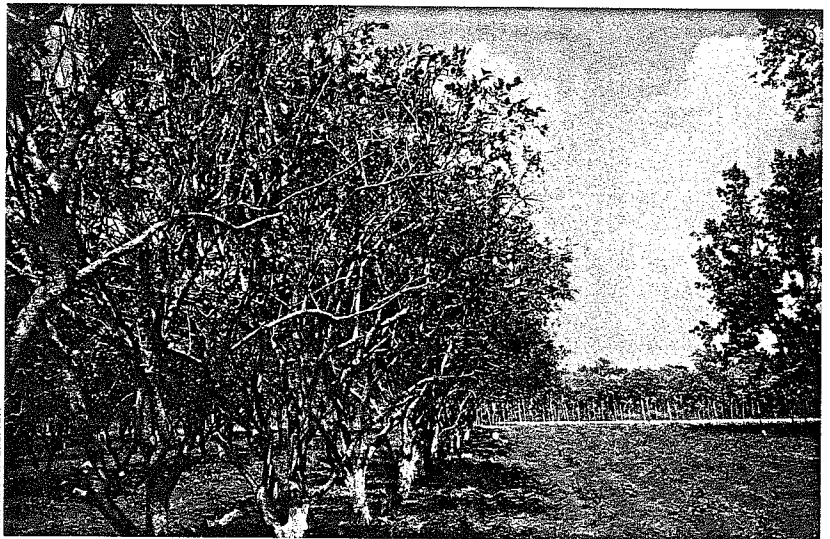
As I was sitting the first day in the Citrus Institute conference room with the citrus researchers, I was impressed by the informal productive discussions and the cooperative environment. Richard was the only man in the room. Later, I discovered that the leaders of the Institute and its subdivisions are mostly women. We also learned that instead of fixed departments, there are flexible research groups. Each person may belong to several such groups, leading one and being a participant in others. Some groups are long-term; others are created and dissolved, according to research needs. The Institute carries out research and then makes practical recommendations to farms. It has been a pioneer in the concept of mixed urban, suburban, and rural agriculture. It is on the forefront of graded transition to ecological and organic agriculture, as well as polyculture in fruit growing. Richard Levins has been a long-time participant and observer in this process, and his contributions carry significant weight, the Cubans told me.

To witness progress in these areas, we made a field trip to the Granja, the site of our collaborative research on pest dynamics of citrus. On the way, we stopped at the home of a Cuban colleague who was home sick and unable to participate in the excursion. Magda was a long-time friend and colleague of Richard's, and I asked him if it wasn't a bother to share his friends with me when there was so much catching up on old times to do. "I love seeing Cuba through your first-time eyes," he replied, and we entered into a beautiful Spanish-style house with high ceilings and colorful tile floors. A picture of Che Guevara was the only decoration on the walls. We were immediately offered Cuban coffee, prepared by Magda's son, whose family lives with her. Magda told us that in Cuba, there is a shortage of housing, and it is quite common for three generations to share the living space; the company of her son, daughter-in-law, and granddaughter were a great source of joy, she said.

After an hour, much too short for Richard and Magda to catch up on a year of life, we set out on the road to the Granja, stopping at an ice cream kiosk along the way. I licked my delicious vanilla ice cream with a certain amount of guilt, wondering why it was so popular to get ice cream when milk was so scarce in grocery stores. Indeed, reasonably-priced milk could only be obtained for children under seven. As we approached the Granja, we could smell the sharp fragrance of citrus flowers; and arriving, we saw the experimental polycultures of citrus mixed in

with rows of cassava, soybeans, and tomatoes. As we looked at the orange leaves, the scale insects, the object of our long-term study, became apparent as tiny brown spots attached here and there to the surfaces.

Back at the Institute we discussed the results of our studies, explaining why the scale is not a problem in Cuban citrus despite the fact that no interventions had been introduced. An analysis of the data showed that the scale insect is rare in early spring and only increases after the first flush of new citrus leaves. However, parasitic fungi appear in the fall and a wasp in early winter, resulting in a crash of the scale population. These natural enemies prefer different strata of the tree and different leaf surfaces so that the scale is parasitized in all parts of the tree. The seasonal buildup of natural enemies regulates the population so that although there is variation of two orders of magnitude during the year, the population remains in check from year to year. We learned that perhaps the best con-



trol strategy is not to intervene.

Richard and I shared these results with colleagues in all fields of life sciences who participated in the bio-mathematics course we conducted at the University of Havana during our second week in Cuba. The course was aimed at promoting theoretical research in biology and presented methods of qualitative mathematical analysis with special application to the coexistence of species, management of pests, and the dynamics of epidemics. We found even more collaborators through this course, and linked Cuban investigators to each other. We are looking forward to returning in March, 1999, with further investigations cosponsored by the David Rockefeller Center for Latin American Studies.

Cuban citrus fields are the subject of a long-term study.

Tamara Awerbuch is a member of the New Disease Working Group at the Department of Population and International Health and Co Chair of the Committee of Bio- and Public Health Mathematics at the Harvard School of Public Health. She is also a lecturer at the Dana Farber Cancer Institute.

Environmental Ethics and Latin America

Moral Resources for Reflection on Public Policy

TIMOTHY C. WEISKEL

ENVIRONMENTAL ISSUES HAVE become a central focus of public policy in the United States and around the world. The countries of Latin America know from experience that environmental problems are both compelling and complex. Furthermore, because of their history of colonial subjugation and their subsequent economic engagement with North America, these countries understand—perhaps more readily than any other region in the world—that their declining environmental conditions are intimately linked to economic and political policies pursued elsewhere by dominant foreign powers.

Perhaps, most importantly, Latin American countries recognize the ethical and moral implications of current public policy. Because they are the ones who are directly affected, they can pose the ethical questions most starkly. Who, for example, should bear the responsibility for widespread deforestation in some tropical areas? Is it the *campesinos* hired as day labor with chain saws who actually cut the trees? Is it the multinational beef production companies who employ the *campesinos* to clear the land to graze cattle for export to North American fast food chains? Is it the North American consumer who has become accustomed to seemingly cheap and convenient take out food? Or is it those who formulate import-export and trade policy that make it both possible and profitable to degrade foreign ecosystems for domestic profit? These are not just abstract or theoretical questions. They are instead issues of great moment and concern for anyone from Latin America, and North Americans have much to learn from our Latin neighbors about the ethical dimensions of public policy.

The interfaculty Working Group on Environmental Justice has been created at Harvard as an interdisciplinary and university-wide effort to examine issues of environmental justice both within this country and around the world, with joint support from the university Provost's Fund for Interfaculty Collaboration and the University Committee on Environment. Our attempt in this university-wide effort is to bring together faculty members from these schools and departments to meet monthly and share their understandings and perspectives on these matters. These exchanges help to assess what Harvard's various departments, faculties and schools might contribute to analyzing and resolving some of the problems in this important new area of public concern and policy consideration.

The Working Group will convene regular meetings of Harvard faculty and invited guests engaged in research in this realm to exchange information and views on important issues in this realm. It also intends to develop and maintain a university-wide comput-

er web-site to post Research Bibliographies, Papers In Progress, an Environmental Justice Document Archive and an Issue Update and Audio Archive series, featuring news reports on existing or emerging problems in environmental justice. As this web-site evolves, it will provide participating faculty and their graduate students with an established infrastructure to carry out collaborative work and extend their personal research in this realm.

Finally, the Working Group intends to build upon its faculty meetings and its emerging web-site infrastructure to organize a significant conference on Environmental Justice at Harvard in the coming months. We hope to assure the full participation of relevant Harvard Faculty as well as key national and international figures in this important new realm of environmental research and activism.

The Working Group is an offshoot of the Environmental Ethics and Public Policy Program, a core project of the Center for the Study of Values in Public Life at Harvard Divinity School. As part of the effort to edu-



Carlos Alfonso

Amela, 10, of

Masaya,

Nicaragua says,

"Don't destroy our

forests! Don't cut

our trees; they are

our only hope" in

this detail of his

drawing.

The Web and Environment Justice

Interfaculty Working Group on Environmental Justice
<<http://divweb.harvard.edu/csvpl/ee/EcoJustice/>>

The Environmental Ethics and Public Policy Program of the Center for the Study of Values in Public Life (CSVPL) "Occasional Papers Series"
<<http://divweb.harvard.edu/csvpl/ee/ops-00.htm>>

Harvard Seminar on Environmental Values
<<http://divweb.harvard.edu/csvpl/ee/hsev/>>

Subject Bibliographies in Environment Ethics
<<http://divweb.harvard.edu/csvpl/ee/bib/>>

'Short Title Subject Lists' of general environmental topics
<<http://divweb.harvard.edu/csvpl/ee/bib/titles.htm>>

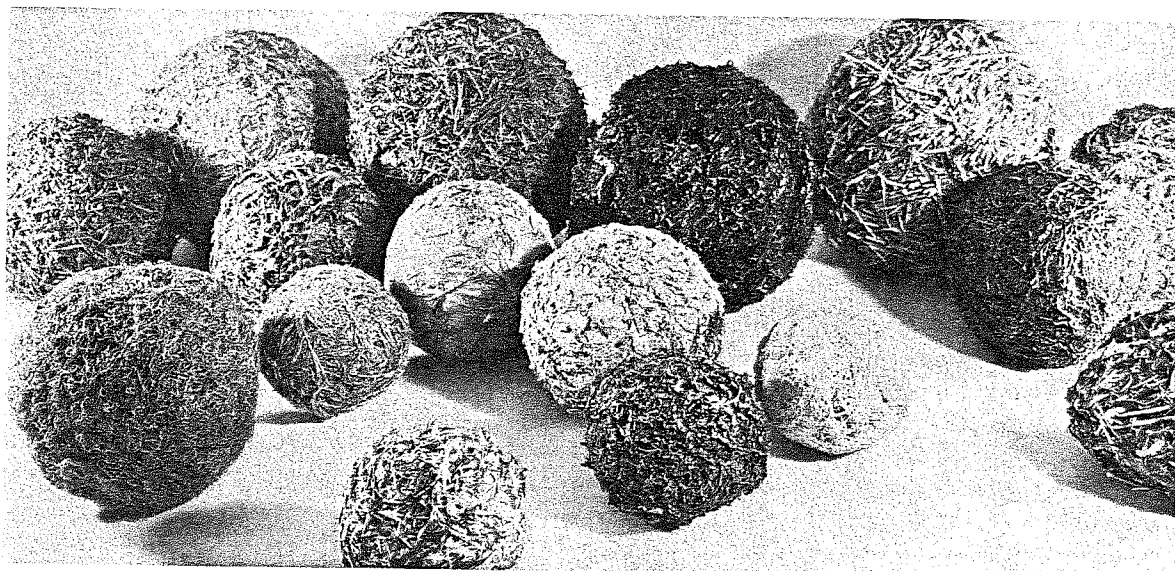
cate people who will undertake professional work in positions of public responsibility in churches, denominational organizations, social agencies, educational institutions and civic organizations, the Environmental Ethics and Public Policy Program trains students to conduct their own ongoing research on the ethical implications of important environmental issues.

As part of the Center for the Study of Values in Public Life, the Harvard Seminars on Environmental Values serve as a major means of outreach for the University Committee on Environment. People from outside academe are invited to attend the seminars and receive mailings to create real-life discussions with people on the 'front lines.' This outreach is enhanced by the publication of the Center's efforts on the web.

The Harvard Seminar on Environmental Values is focusing this year on "Air—Breath of Life, Winds of Changes: Toward a New Environmental Ethic." We will explore the connections between values and public policy in the light of what we are coming to learn about air in the Earth's ecosystem. New kinds of awareness imply new forms of ethical obligation, and we will be examining these connections throughout the year as we consider topics like airborne contamination, acid rain, "pollution permits," the spread of airborne diseases, aerosol carcinogens and second-hand smoke, indoor toxic environments, global atmospheric and climatic change and many other subjects that highlight the need for humankind to devise a new environmental ethic toward air.

Devising effective public policy on environmental matters requires a reassessment of deeply held cultural values. The sustained renewal of values in any realm of environmental concern stems ultimately from a fresh encounter with the fundamental conditions of human existence in the ecosystem. This year's Seminar topic makes this reflection possible, and it provides scientists, humanists, policy analysts, business people, government officials, and environmentalists a timely forum for deliberation on the important new task of developing an environmental ethic for air.

Dr. Timothy Weiskel is the director of the Harvard Seminars on Environmental Values, Environmental Ethics and Public Policy Program, Harvard Divinity School.



Ecology, Art, and Home

BY VALY STEVERLYNCK

GROWING UP IN THE ARGENTINE PAMPAS GAVE ME A great appreciation for even the simplest materials. As a little girl, I would sit in the dirt of the sun-scorched patio and admire the plain dirt; I would observe black ants and brown beetles crawl, and I would be filled with awe. These common things were my world; I could relate to them. But then I moved to the United States and was faced with an unsettling sense of "not-belonging." The cities were different, the people were dif-

ferent, the weather was different.

I was very homesick—until I looked down and realized that the natural world was very familiar. There was plain old dirt again, and the leaves were similar. I collected and filled my college studio with these well-known colors and textures and was able to feel home again. That was eight years ago. I still gather avidly. I still feel uprooted if I don't.

Valy Steverlynck is a Boston artist.

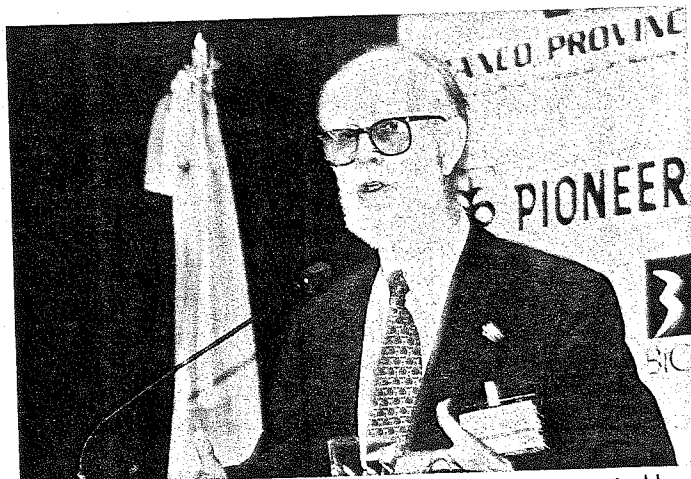
Solbrig Wins International Biology Award

BUSSEY PROFESSOR OF BIOLOGY Otto T. Solbrig, a member of the DRCLAS Executive Committee, has won the 1998 International Prize for Biology, presented by the Japan Society for the Promotion of Science. The prize is given for outstanding contributions to the advancement of research in fundamental biology; the specialty for the 1998 Prize was "The Biology of Biodiversity."

"This is the leading prize in the world for botanists," commented Peter Ashton, Charles Bullard Professor of Forestry. "It's the equivalent of the Nobel Prize for people in that field."

Solbrig, who was born and raised in Argentina, is the first recipient from Latin America or any third world country. He will be honored in Tokyo in a December 7 ceremony, in the presence of the Japanese Emperor and Empress and with the attendance of the Prime Minister and the Minister of Education, Science, Sports and Culture, as well as scientists from around the world. The award comes with a medal and \$10 million yen (around \$75,000).

"Otto is a pioneer in plant demography and the nature of ecological diversification in plants," added Ashton, who is Solbrig's colleague in the Department of Organismic and Evolutionary



Solbrig organized DRCLAS' first international conference on sustainable development in Buenos Aires in March 1997.

Biology. "He is not only an outstanding scholar, but also outstanding in the public arena, particularly in his recent contributions to issues of sustainable land use in Latin America."

Solbrig organized DRCLAS' first international conference, "Towards a Sustainable and Productive Agriculture in the Pampas," last year. He has co-edited three books on conservation agriculture, written several articles, and given talks and symposia. With his wife Dorothy, he wrote a book for general audiences, *So Shall You Reap*, that outlines the history of agriculture, culminating in modern high input agriculture.

"Otto Solbrig's energy, erudition, and humanity have played a crucial role in launching the David

Rockefeller Center and in building the Center's strong commitment to environmental studies and to scientific exchange and collaboration throughout the Americas," said DRCLAS Director John Coatsworth. "We are proud and delighted by this new recognition of his scientific achievements."

Solbrig is a former president of the International Union of Biological Sciences (IUBS) and the Society for the Study of Evolution. He serves on the editorial board of several scientific journals, and has served as a consultant for UNESCO, UNEP, UNDP, and the United Nations Conference in Rio.

He was one of the first researchers in the world to realize the threat that the transformation

of tropical landscapes posed for the maintenance of biodiversity. He led a study on "Convergence and Divergence of Ecosystems" during the International Biological Program (1970-1976) comparing ecosystems in the United States and Latin America, culminating in a book by the same name produced in collaboration with Gordon Orians. From 1982-1992, he organized and directed the "Decade of the Tropics," a program that produced a number of studies on tropical soils, savannas, and human biology, dealing with biodiversity. He is now involved in fostering conservation agriculture in Latin America. This long dedication to the environment and biodiversity have now culminated in his being awarded the International Prize for Biology, his colleagues say.

The International Prize for Biology was established in 1985 to celebrate the 60th anniversary of the reign of Japan's Emperor Showa and to commemorate his long-held interest in Scientific Research in the field of Biology. Solbrig is also only the second scientist from the southern hemisphere to receive the award; one previous recipient was from Australia.

Previous Harvard winners are Edward O. Wilson, Pelligrino University Professor *Emeritus*, and Ernst Mayr, Professor of Zoology *Emeritus*. —JCE

Caballero wins Colombia's top journalism prize

BUILDING ON WORK SHE STARTED AT THE David Rockefeller Center for Latin American Studies and as a 1997-1998 Nieman Fellow at Harvard, investigative journalist Maria Cristina Caballero has won Colombia's top journalism prize.

Caballero's exclusive interview with the most-wanted man in Colombia in December 1997 yielded a startling revelation: Carlos Castaño, leader of the paramilitary forces that make up

one of the most violent factions in Colombia's guerrilla war, was ready for peace talks. The scoop was widely recognized as an important breakthrough in the four-decade-long civil war pitting Castaño's paramilitaries against two Marxist guerrilla groups, and the government against all of those factions.

The interview also pointed the way to another important piece of journalism: five months after her December scoop, Caballero

published a special report showing that the political goals of the forces in conflict were very similar, according to their own never-before-published written plans for peace. That May special report in the newsmagazine *Cambio 16*—published with the support of the International Red Cross and the National Commission of Conciliation—was praised by a competing newsmagazine, *Cromos*, by Colombia's leading daily paper, *El Tiempo*, and was the subject

of the main story in *The New York Times*' international section. Bishop Alberto Giraldo, president of the National Commission of Conciliation, called a press conference to point out the importance of the report.

Caballero, who mostly wrote about drug trafficking and official corruption before coming to Harvard for a Nieman Fellowship in 1996, credited discussions at the David Rockefeller Center for her focus on trying to find new ways to understand and resolve Colombia's conflict. Caballero led the organization of the Center's May 1997 conference, "Law and Democracy in Colombia." The conference was attended by 350 professors, students and researchers, not only from Harvard, but from many other institutions interested in Latin America.

"After the conference on Colombia at the David Rockefeller Center, I thought that if all of the forces in conflict could talk with one another, many of my country's problems could begin to be solved," Caballero said. "When I told Castaño about this conference at Harvard, he was very moved that people at the university were discussing Colombia's problems, because he has a lot of respect for Har-

vard. Then he agreed to write down, for the first time, his peace proposal."

On Sept. 1, Caballero was awarded the Simón Bolívar National Prize, Colombia's equivalent of the Pulitzer Prize, for the best interview of the year 1997. She received the prize from Mexican novelist Angeles Mastretta at a ceremony attended by a "Who's Who" of Colombian journalism and government, including Vice President Gustavo Bell.

Caballero, who was selected by the Nieman Foundation and the Center for Public Integrity in Washington as a charter member of the new International Consortium of Investigative Journalists, is working on a book about the Colombian conflict, while also serving in a new position as director of investigations for *Semana*, a leading

Colombian newsmagazine. "It's hard to write a book in addition to having a very demanding job, but I think the book is very impor-



Maria Cristina Caballero poses at the award ceremony for the Simón Bolívar National Prize with photographer Bernardo Peña, who accompanied her on the interview with paramilitary leader Carlos Castaño.

tant for allowing both national and international readers to understand what has really been going on in my country," she said.

—John Lenger

BOOKS

Crossings: First Book in DRCLAS Book Series

Crossings: Mexican Immigration in Interdisciplinary Perspectives, edited by Marcelo Suárez-Orozco

Published by the David Rockefeller Center for Latin American Studies, distributed by Harvard University Press, Harvard University, 1998

A REVIEW BY JORGE I. DOMÍNGUEZ

"ARE YOU AN AMERICAN," asked the U.S. immigration officer at the checkpoint crossing to enter El Paso from Ciudad Juárez. "Yes," I affirmed without hesitation. He inspected me, and instantly welcomed me "home." Next day, same question, same crossing, but not the same me. Instead of a jacket and necktie, I wore jeans and a sports shirt; instead of driving in a car, I was walking into El Paso. The immigration officer this time inspected my passport with suspicion, and let me in only after a detailed inquisition. I won-

dered, what does an American look like?

Marcelo Suárez-Orozco has assembled a splendid collection of papers and commentaries by eminent scholars who focus on crossings from Mexico into the United States, the causes and consequences of binational crossings, and their effects on the personal and collective meaning of American-ness. The authors concentrate on aspects of the recent immigration experience that are new and that differentiate this wave of immigration from experiences earlier in this century. The

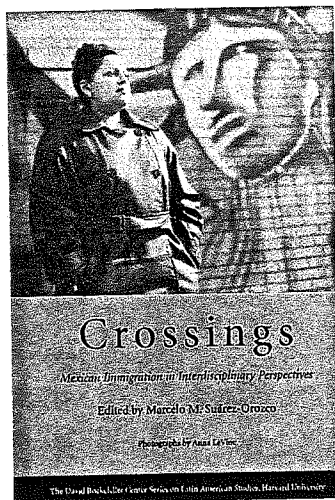
book exemplifies the worth of interdisciplinary work across the social sciences as well as the gains from collaborative work by U.S. and Mexican scholars.

The conclusions from this research are noteworthy and sobering. As Suárez-Orozco notes, Mexican immigration will continue to dominate immigration to the United States over the next decades, even if the extremely high flows of Mexican immigration to the United States during the 1980s will eventually decrease. Second, the Mexican immigration momentum is structured by powerful eco-

nomie and sociocultural forces not easily contained by the heightened U.S. border control policies that took effect during the 1990s. And, third, in the late 1990s Mexican immigrants were more likely to settle permanently in the United States than in the past.

The discussion of the counterproductive effects of U.S. policies runs through many of the book's chapters. The Immigration Reform and Control Act of 1986 (IRCA) legalized large numbers of Mexican immigrants. That made it easier for Mexican women and children to immigrate into the United

States to join their relatives, and thus it weakened the pattern of seasonal or return migration to Mexico of Mexican males in the United States. It gave travel rights to many Mexicans in the United States, enabling them to visit more frequently their "homes" in the United States and in Mexico. The



IRCA also launched a round of restrictionist U.S. and state policies that continued through the 1990s with equally counterproductive effects. Various authors find, for example, that a pervasive effect of these new barriers is to prolong the length of stay of Mexican migrants in the United States: once in, difficult as it was to get in, might as well remain!

Wayne Cornelius studied the effects of Operation Gatekeeper, launched south of San Diego in October 1994. It has cost hundreds of millions of dollars, involved thousands of Border Patrol officers, and employed high-technology equipment. In the two years that followed, Gatekeeper had little effect on the proportion of Mexicans who entered the United States on their first try, or on the median number of job-search days for undocumented migrants in San Diego. Only 8 percent of employers interviewed in San Diego had noticed any decrease in the number of immigrant workers seeking jobs at their company during the year following the

beginning of Gatekeeper.

Anti-Mexican immigration attitudes in the mid-1990s contributed powerfully to the enactment of the 1996 welfare bill and to the passage of Proposition 187 in the state of California, both seeking to limit immigrant access to public services in varying degrees. Also in 1996, the Congress enacted the eerie IRAIRA (the Illegal Immigration Reform and Responsibility Act). These and other measures, perhaps for the first time, made noncitizen legal immigrants feel vulnerable. As Susan González Baker and her colleagues point out, naturalization application rates doubled nationwide in 1995 from 1994 levels, and they increased by a factor of five in California. In fiscal year 1996, more than a million legal permanent residents applied for U.S. citizenship.

Despite such anti-immigrant attitudes and policies, the 1990s are a decade of high immigration; Mexicans are by far the single largest component of this inflow. At mid-decade, of the nearly 25 million foreign-born U.S. residents, more than one-quarter had arrived since 1990. At current rates, by the end of 1999 this decade is likely to break the record for the highest number of immigrants arriving in one ten-year period (which had belonged to 1901-10 when 8.8 million legal immigrants entered the United States).

Because there are so many Mexican-origin people in the United States and because more will arrive, their fate in the United States matters to everyone in this country. The experience of Mexican-Americans is quite troubling. David Gutiérrez observes that the income and educational gaps between Mexican-Americans and non-Hispanic whites had narrowed in the decades that followed World War II but widened in the 1980s and 1990s. Marcelo Suárez-Orozco recalls his previous work (with Carola Suárez-Orozco)

showing that length of residence in the United States is associated with *declining* school achievement, that is, the children of immigrants sink into the morass of a poor and ill-educated American underclass. Cornelius reports on the development of a segmented labor market in San Diego, where new arrivals are paid lower wages and are employed in jobs that require little prior training or English and are less likely to provide either job or language training. Richard Brown and his associates show that more than half of noncitizen children of Mexican-Americans have no health insurance (compared to only 14 percent of noncitizen non-Latino white children).

In a first-rate piece of statistically sophisticated and analytically subtle research, Dowell Myers shows that arrivals in the labor market since 1970 are not rewarded as fully as more established workers with the same education or the same occupational level. This occurs in part because in recent decades the earnings rewards given to U.S. citizens have fallen, and that effect reverberates throughout immigrant labor as well. The declining reward system reduces the incentives for adaptation for productive economic roles, with the consequent increased attraction of crime and other social pathologies.

This book is valuable as well for its various technical contributions. Myers demonstrates statistically the power of focusing closely on such variables as time of arrival (and the socioeconomic context of that time) and age at arrival (because of the potential impact of schooling in the United States). Peter Andreas shows the multiple plausible inferences from the same statistical finding. One of the predictable consequences of making border crossing more difficult has been to widen the scope of smugglers of people and to increase the price charged by smugglers. From the

perspective of U.S. officials, the increased price of smuggling is an indicator of policy success: it is more expensive for migrants to cross. And yet, the same indicator points to the stimulus for the creation of profitable smuggling organizations. What was once the simple crime of an individual crossing the border illegally becomes a booming criminal business. Finally, Thomas Espen-shade and Maryann Belanger illustrate how slight differences in question wording yield dramatically different answers from the U.S. public concerning immigration. It matters greatly whether the "targeted" population is constituted of children or adults, legal or illegal immigrants, citizens who were once immigrants or those who are still noncitizens, and whether the services that might be denied feature welfare versus education or health. One reason for this volatility is that immigration has low salience as a problem for the U.S. public. Asked to name the most important problems facing the country, immigration is mentioned less often than "don't know" responses.

Millions of Mexican-origin people have led valuable and productive lives in the United States and, as Mary Waters insists in her commentary in this book, these may include many of those most successfully engaged with life in the United States. Many have and will intermarry with non-Mexicans, speak English (sometimes exclusively), and live in nonsegregated communities. The key for the United States is whether, collectively, the country and its new immigrants can switch the track of history to make it more likely that its Mexican immigrants will proceed along the better path.

Jorge I. Domínguez is the Director of the Weatherhead Center for International Affairs and a member of the DRCLAS Executive Committee.

Facing History

Between Vengeance and Forgiveness: Facing History After Genocide and Mass Violence, by Martha Minow, Beacon Press, 1998

A REVIEW BY MARGUERITE FEITLOWITZ

AT THE CLOSE OF THIS CENTURY OF DEATH camps, killing fields and desaparecidos, there is perhaps no more urgent question than the one raised in Martha Minow's useful new book: Can societies recover from mass atrocity without falling prey to the legacies of a violent past? "There are no tidy endings," Minow sensibly observes, no safe way to respond to the unspeakable. The impulse to forgive—to "turn the page"—can be as dangerous as the bloodthirst for vengeance. Even the best intentioned institutional efforts—trials, truth commissions, and reparations—all potentially carry moral, legal, and/or political costs. The author, a Harvard Law Professor, parses these tensions clearly and systematically, in language that is accessible to a wide spectrum of readers.

Minow grounds her analysis in concrete history: the Holocaust, apartheid, the internment of Japanese-Americans in the 1940s, the Comfort Women of Korea. While she mentions more than once Latin America's brutal military regimes, she is disappointingly vague with respect to names, places, and dates. Still, this book is valuable for Latin Americanists, because the issues are pressing—and controversial—from Guatemala to the southern cone.

"The logic of law will never make sense of the illogic of genocide," holds Holocaust scholar Lawrence Langer, who is quoted early in the Introduction. Langer is correct, but so is Minow who argues that cynicism, bitterness, and outrage are engendered by legal inaction. The victims of crimes understandably look to the courts not only to punish criminals, but also to signal that moral safeguards are working. These needs are exceedingly hard to meet after national or international trauma. Minow points up the conflicts by looking at The Nuremberg Tribunal, which first defined "crimes against humanity," gave rise to the UN Genocide Convention, and established the principle that nations cannot morally ignore savagery committed beyond their borders. Yet even Telford Taylor, the Chief U.S. military prosecutor, conceded that in pursuing justice

against the Nazis, the Tribunal violated some essential legal principles. For one thing, the charges were codified after the events took place; the list of defendants was highly selective; and crimes committed by the Allies were never prosecuted. Minow argues that all trials are subject to being politicized, and that the adversarial process may be inherently unsuited to the gray areas of mass repression—crimes committed under duress, "bureaucratic massacre," the passive complicity of civilians, the involuntary complicity of citizens paralyzed by fear. Trials by definition are spectacles of conflict with clear winners and losers, and this, argues Minow, can endanger recovery.

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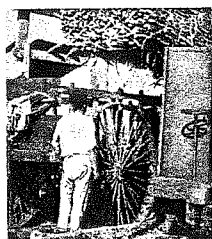
She believes that Truth Commissions are a better recourse, and uses South Africa as a prime case in point. In a trial, the objective is to separate the perpetrators, to mark their difference from the rest of society; a truth commission seeks reconciliation, even unity. Desmond Tutu emphasizes the African concept of *ubuntu*, which means "humaneness," an inclusive sense of community based on respect for everyone. Far from being "soft on crime," *ubuntu* depends on the assertion of human rights guarantees, and encourages the rigorous gathering of facts through the testimony of victims and the confessions of criminals granted amnesty from prosecution. In South Africa, more than 20,000 individuals have testified. The documentation gained here is likely more extensive, detailed and nuanced than that which could ever come out of a trial. The focus on victims confers dignity and respect, which is itself important for national recovery. So too is the therapeutic climate and discourse of the proceeding. Yet here too, Minow warns, there are potential side-effects: the emphasis on "victimhood" can "shortchange justice"; granting amnesty in exchange for truth can be conflated with forgiveness. It is crucial, she holds, to name names. The moral potency of a Truth Commission derives from its ability to expose what was hidden, to destroy the secrecy that engendered impunity.

Minow devotes a rather abbreviated chapter to reparations, apologies and memorials. As a form of official acknowledgement and documentation, reparations help weaken future attempts at denial. Reparation can also help to address the impotence felt by victims who lost not only loved ones, but cherished heirlooms and assets earned through hard work. Of course no sum of money can bring back the dead. Minow also points out that "awarding" monies can play into cultural stereotypes, further poisoning the social atmosphere. The issue of public space is extremely charged and Minow could have explored the subject at greater length. She does, however, tell a fascinating story about the Shaw relief in downtown Boston. Although it commemorates a Civil War battle fought in 1863, it was not until 1982 that the names of the fallen African-American soldiers were added to the sculpture—a victory won only after considerable protest. Apologies—like that made by President Clinton for the Tuskegee Experiment, by Tony Blair for the Irish Potato Famine or by the Vatican for its complicity in the Holocaust—often come belatedly, and for reasons of political expedience. Minow astutely points out that such apologies run the risk of being "soliloquys" that assume forgiveness, crowding out the very victims they purport to engage.

This book grew out of Minow's work with Facing Ourselves and History, the Boston-based group which develops curricula dealing with the Holocaust and other forms of violence. This initiative—which has set standards nationwide—is inspired by the belief that we need not be prisoners of history, that prevention is possible. This message is powerfully introduced in the Foreword by Richard J. Goldstone, former Chief Prosecutor of the International Criminal Tribunals on the Former Yugoslavia and Rwanda and Judge, Constitutional Court of South Africa.

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