

Science for Nicaragua Newsletter

Produced by the Nicaragua Committee of Science for the People

Volume 1, No. 4

July-August 1987

Letters from Managua.....

Of the six SfN instructors scheduled to begin teaching in Nicaragua last March (see *SfN Newsletter*, Vol. 1, No. 2), four accepted the positions offered to them. Three of the four filed reports this month for the Newsletter.

Jeff Woodside

(Jeff is teaching in the physics department of the Managua campus of UNAN, the National Autonomous University of Nicaragua. His salary is being provided by the Geneva-based organization ICM, the Intergovernmental Committee on Migration, whose activities include providing technical expertise to developing countries: a "brain drain" in reverse.)

June 6, 1987

Greetings! A note to let you know how things are going. As had been planned, I'm working in the physics department at UNAN; things are going well. I'm teaching the course called "Mecánica Teórica," which is an intermediate level classical mechanics course that includes an introduction to the equations of Lagrange and Hamilton. The physics major at UNAN is for 5 years, while my students are in the 3rd year. In the second semester I will likely continue with the same students, giving them the 3rd year course in electrodynamics.

The department offers two areas of concentration: geophysics and solid state physics; normally a student will choose one or the other area after their third full year of study. The emphasis on geophysics has direct significance for the country. Nicaragua has a great potential for geothermal power and, in fact, they are already operating a geothermal plant near the volcano Momotombo. Building up expertise in geophysics will aid this type of development. The stress on solid state physics also makes sense for a developing country, the field being one of the more "practical" ones in physics, one of the areas most closely related to technological developments of economic importance.

In addition to the academic courses in solid state, the department has an active research group concentrating in this area. At present their principal project is to get a vacuum deposition system functioning, with the idea of using it to produce solar cells and/or semi-conductors of interest for research.

A very urgent need here is textbooks in Spanish. I feel strongly about this. The students' ability to work independently and study thoroughly is greatly handicapped by the scarcity of textbooks. Can SfN/SfN come up with some money, on a regular basis, to buy appropriate books? To be of much good, they would have to be in Spanish, which might complicate the logistics a bit. But they would be available in Mexico and, most likely, in Costa Rica. I'm talking about maybe \$200 a year. What do you think? The most current need is a set of about 15 intermediate level E&M texts. I can't think of titles, but something in between Jackson's book and the Berkeley Physics Course E&M book by Edward Purcell would be appropriate.

On another note. As you may know, in response to the murder of Ben Linder by the Contras, about 70 North Americans went on a March for Peace through the region of the country where he worked and was killed. I went on that march, and I'll send you an article about it shortly for the Newsletter.

Hasta la victoria, siempre,
Jeff Woodside

Bob Sutcliffe

I arrived February 25 and started teaching on February 28. I teach the following courses at UCA:

1. *The economic crisis and the Third World* (for teachers in the Sociology and Administration Schools).
2. *Social planning* (for 43 third year sociology students).
3. *Statistics for social sciences* (for 60 second year sociology students).
4. *Imperialism, dependency, and transition* (for 20 fourth year sociology students, taught jointly with Amalia Chamorro, Head of the School of Sociology).
5. Occasional lectures in other courses, especially *History of Latin America*.

I am also supervising two final year sociology student research projects:

1. The determinants of the structure of the labor force and employment in Nicaragua (jointly with the Ministry of Labor)
2. The growth of the informal sector in Nicaragua and its socio-economic role.

I am preparing an article for the next issue of *Cuadernos de Sociología* (the journal of the UCA Sociology Department) on "Social and Political Reactions to AIDS."

I am currently negotiating the following activities:

1. A course on The World Economic Crisis for teachers of various faculties in UNAN-Managua.
2. A talk in UCA on "AIDS and homophobia."
3. A series of talks on economics in INIES (Nicaraguan Institute of Economic and Social Research).
4. A talk to the annual seminar of ANICS (Nicaraguan Association of Social Sciences) on "The Transition to Socialism."
5. A series of radio programs on the Radio Güegüense (station of the Ministry of Culture) presenting recordings of operas.

During the second semester (starting August) I suspect I will do less teaching, more research supervision and more outside lecturing. And more traveling.

Tom Jackson

Editor's Note: As we mentioned in the March-April issue, Tom Jackson is working part time with the Elders for Survival hydrology program at IRENA, the Institute of Natural Resources and the Environment, as well as teaching at the UNI (National Engineering University).

May 18, 1987

My schedule has stabilized at one day at IRENA and the remainder of the week at the UNI. I'm at IRENA only one day of the week as the result of a somewhat arbitrary decision by my department head.

It's pretty difficult to organize research with only one day at IRENA—especially field research—so I modified my plan. I'm translating the Hydrologic Engineering Center's manual for its backwater profile computation program, HEC2. This program,

(continued next page)

Nicaragua Appropriate Technology Project

by Weimen Tchen

which allows the calculation of the hydraulic characteristics of natural channels, is the backbone of American hydraulic engineering for flood plain determination and levee design.

Unfortunately, the User's manual is incomprehensible in English, let alone in a poor translation. So I have been reorganizing the material and creating examples to illustrate the options of the program. This program was developed back in the days of punch cards and is definitely not "user friendly." There is interest in the manual, however, and I have had inquiries from the Drainage Division of the Mayor's office.

At UNI I am preparing course notes for two courses I'm scheduled to teach in August: *Hydraulic Structures* and *Water Supply and Sewage Disposal*. I'm preparing a text for mimeographing for the first course. The second one has a text which will require a little correction (very little, I hope).

Fridays I am teaching English in the Computation School. Two two-hour classes. The students are bright and motivated. I was surprised to learn that they have had only one year of English. We were sight-translating some fairly complicated technical literature last Friday.

One other project at present is the preparation of a lecture on the design of small dams (*micropresas*) for flood control. This will be presented at the Mayor's office in June. It is material that dovetails nicely with the hydraulic structure course so I'm preparing the lectures and notes for the class at the same time...

A final possibility for this semester is some work on ground water flow modeling. But some of the initial planning was scrapped after problems arose between the different departments as to jurisdiction, etc. Most of this went over my head except that I've absorbed the fact that interdepartmental feuding is as highly developed here as anywhere else in the world.

So that's about it. I'm busier than I'd like but that's better than the reverse. For all the problems—and I haven't even begun to list them—the UNI is an interesting place to work.

Of course the work we do here is really secondary to the political implications of our project here. I hope there is some way of promoting the fact these American (and British) professors are here muddling along in solidarity with the Nicaraguan government. In some sense we Americans here are a small deterrent to invasion—but only if people know we're here.

I will send along a more polished report at a later date.

In solidarity,
Tom Jackson

Linguists for Nicaragua

is an ad hoc international organization of linguists and language educators that stands in solidarity with the people and revolution of Nicaragua, and in opposition to U.S.-sponsored aggression against Nicaragua. It provides technical and material aid to:

- » the Ministry of Education's Bilingual-Bicultural Education programs in Miskitu, Nicaraguan English, and Sumu for non-Spanish speaking children on Nicaragua's Atlantic Coast
- » the Center for the Practical Study of the Languages of Nicaragua, a joint effort of LFN and the Center for Research and Documentation of the Atlantic Coast, a sister institute of the MIT Linguistics Faculty.

LFN's major projects have been linguistics and education workshops for personnel of the bilingual program in its centers on Nicaragua's Atlantic Coast and linguistic institutes in Managua for Nicaraguan linguists and language educators. The work of LFN has now been consolidated within the Center for the Practical Study of the Languages of Nicaragua. The goals of the Center are to train community linguists and to develop practical linguistic work in Nicaragua on the languages of Nicaragua.

For further information, contact Linguists for Nicaragua, c/o Wayne O'Neil, Room 20D-210, MIT, Cambridge, MA 02139.

On April 28, Benjamin Linder was killed along with two Nicaraguan companions. He had been examining the prospects for a dam near the northern town of El Cuá. This is part of the Cuá-Bocay Integrated Development Project, directed by the Jinotega provincial government with technical and financial aid from the Nicaragua Appropriate Technology Project (NICAT) based in Bellingham, WA.

NICAT was founded in 1984 to oppose the U.S.-backed Contra war by (1) involving people from the ecological community in the movement against U.S. intervention in Nicaragua and (2) by aiding Nicaragua's economic growth and independence. The El Cuá-San José de Bocay is near the Honduran border, in one of the areas of greatest Contra activity. Small farmers have been driven by the war away from their scattered settlements and into towns, creating shortages of housing and water, and placing added burdens on providers of health care and education. NICAT is working to take care of immediate needs in a way that supports long-term development.

The power needed for clinics (refrigeration of medicine) and night classes has been supplied by unreliable generators with fuel shipped from Managua. Ben was working on a dam for a small scale hydroelectric generator which would also provide drinking water free of parasites. One such generator went on line in May 1986; three more (including the one at El Cuá) are in the works. Don Macleay is setting up a vocational school so that the local people can build and operate the generator turbines, along with learning the skills of machinists and electricians. The surveying of potential hydroelectric sources is continuing with Niko Kozobolidis.

Lumbering by multinationals under Somoza and the use of firewood has caused extensive deforestation. Mira Brown is training women instructors in the construction of fuel-efficient clay-and-sand stoves with a door and a chimney. This replaces open fires whose smoke caused respiratory and eye problems.

In the U.S., NICAT uses videos and a slide show for outreach. For more information contact Gordon Scott at (603) 671-8303 (East coast) or Phil Bereano at (206) 543-9037.

The SfN Newsletter regularly publishes articles about other committees of scientists and educators working on projects in Nicaragua. Dozens of these projects, involving hundreds of our colleagues, have been organized over the last few years, a sure sign that the scientific community is not accepting the Reagan administration's characterization of Nicaragua. If you are working on such a program we want to bring it to the attention of our audience. The SfN Newsletter reaches more than 1000 members of Science for the People and other friends of SfN. Please send a short description of your program to our Cambridge address (see box below).

Science for Nicaragua Newsletter is produced by the Nicaragua Committee of Science for the People, and is distributed free of charge to members of the Science for the People organization. Tax-deductible contributions should be made payable to Science Resource Center.

This issue was produced by Michael Harris, Weimen Tchen, and Leslie Fraser.

SfN chapters:

897 Main St., Cambridge, MA 02139 (617)-547-0370 ;
1627 Euclid St., Berkeley, CA 94709 (415)-549-1233

Two Gifts for Peace

SfN has recently received two extraordinary donations from friends in the university community. Here, in their own words, the donors explain the stories behind the gifts:

New York FACHRES-CA

(Faculty for Human Rights in El Salvador/Central America)

Enclosed is a contribution of \$1000 from NYFACHRES to support the teacher exchange with Nicaragua. The money represents a portion of funds that were donated by members of the New York State United Teachers to publish an ad in the union newspaper opposing Albert Shanker's call for aid to the Contras. The union refused to print the ad, so we have asked for, and received, permission from those who contributed to donate the money to groups involved in direct efforts that counter the effects of the contra war.

We hope the money will help you carry on the program of sending faculty to teach in Nicaragua.

Very truly yours,
George R. Vickers
for the NY area steering committee

Fast for Peace (Dartmouth)

Dear SfN:

During February 30 Dartmouth students fasted for 1-5 days to raise humanitarian aid for the people of Nicaragua. John Lamperti, a Dartmouth professor, had some information about your program and several students decided to devote the money they had raised to your project. Enclosed is a check for \$900. In toto we raised \$3000, and the nationwide campaign raised \$30,000.

In peace,
Laurie Adams

These gifts should make it possible for SfN to open an office in Managua for the first time. Thank you all for your overwhelming support.

Announcements

Fifth North America-Nicaragua Colloquium on Health Managua, Nicaragua November 5-15, 1987

The Committee for Health Rights in Central America (CHERICA) is sponsoring the fifth major interchange between North American and Nicaraguan health care communities. This year, for the first time, we are encouraging scientists to attend, as part of an ongoing effort to expand the focus of the Colloquium.

The 10 day event includes presentations by Nicaraguan and international health care professionals, extensive tours throughout Nicaragua, meetings with government officials and opposition leaders, and social and cultural events. For the science contingent, we will try to arrange special tours to the medical schools in Managua and León, and to other facilities, in order to learn more about the research and teaching in Nicaragua.

The colloquium provides an excellent means to learn about Nicaragua—the people, the politics, and the science and health care—in an intensive and fulfilling forum. Previous participants (to date over 600) have rated the conference as excellent and outstanding.

For a complete description, please write to CHERICA (Box S), 513 Valencia #6, San Francisco, CA 94110, for a free brochure. For questions about the conference in general, call CHERICA, (415)-431-7760. For questions about the scientific aspect, call David Kimelman, Ph.D., at (415)-476-2669. Registration deadline is September 15, 1987. Deadline for those wishing to make an academic presentation is August 15, 1987.

Position Available for Medical Coordinator

VECINO, a Boston-based committee which carries out construction and health care projects in Nicaragua, is hiring a coordinator for their medical projects, to be based in Nicaragua. Requirements include, but are not limited to: fluent Spanish, experience working in Nicaragua, and experience in administration and public relations or political organizing. Applications are due August 1, 1987 (this is impossible for SfN Newsletter readers, for whom exceptions will be made). Send letter of interest, CV, photo, and two letters of reference to VECINO, P.O. Box 1684, Jamaica Plain, MA 02130, Attn: Joanne Sunshower.

Send a friend to Nicaragua:

. . . be an SfN Sustainer!

By March 1988, SfN hopes to have 15 instructors on Nicaraguan campuses. To do this we need your help. SfN needs 100 sustainers—friends who pledge continuing support—by the end of this year. For as little as \$5 or \$10 a month you can be a friend of SfN. Students can become sustainers by pledging only \$10 a quarter. Thank you for your support.

YES! I want to send a friend to Nicaragua. Enclosed is my first month's pledge for:

- \$10/month (SfN sustainer)
 \$5/month (SfN friend)
 \$10/quarter (Student sustainer)
 Enclosed is a one-time contribution of \$____

Name: _____

Affiliation: _____

Address: _____

Tax deductible contributions should be made out to
Science Resource Center
897 Main St.
Cambridge, MA 02139

Lab supplies needed by UNI

The following is a list of equipment needed by the laboratories of the National Engineering University in Managua. If you can donate any of the following items, please contact either the Cambridge or Berkeley office of SfN (addresses and telephone numbers on last page). Donations to help cover shipping costs are also welcome.

BASIC LAB SUPPLIES

Test tubes	Glassware
Culture plates	Graduated cylinders
Volumetric flasks	Filter paper
Sample jars	Bunsen burners
Small vacuum pumps	Mercury
Manometer	Teflon tape
Nuts and bolts	Chronometers (stop watches)
Thermometers	Microscopes
Glass plates	Glass cutter
Any optical equipment	C-clamps
Tubing (glass, plastic, garden hoses)	
Hose clamps	Metric or English rulers
Test tube stands and clamps	Calibrated scales (any kind)

ELECTRICAL

Ammeter	Voltmeter
Solder	Electrical wire (all types)
Single density computer disks	Cables

SOIL ANALYSIS

Borden tube gauges 15-700 bars	Balances
Permeameter	Hydrometer
Test stands	Anhydrometer
Infiltrometer	Soil sampler
Tensiometer	Ovens
Nested sieves (#4, 10, 20, 60, 100, 200) for analyzing sands	
Hot plates	

CHEMICAL

pH meters	Electrochemical cells
Calamel electrodes	Calorimeter

Books for Peace

by Robert Van Buskirk

The west coast Science for Nicaragua group, together with the U.C. Berkeley student group SAICA (Students Against Intervention in Central America), recently completed a successful material aid drive for Nicaraguan and Salvadorean universities. In the effort, dubbed Books for Peace, we collected donations of books from students at the end of the Spring semester.

Our two groups collected and sorted over fifty boxes of books. Two hundred of these are advanced technical books; these are being sent to universities in Nicaragua. The rest of the books collected are being sold back to book stores. The funds will be used to buy more useful books that will soon be sent to Nicaragua, and to provide a monetary donation to the University of El Salvador. We have already received a total of \$350 cash and over \$300 in used book credit, and many books remain to be sold.

In many ways, the Books for Peace project has just begun. The book collections can easily be organized at the end of each semester. Every six months, it should be possible to send hundreds of books and hundreds of dollars in material aid to Central American universities. But there are several obstacles:

1. We do not have an efficient way of selling back the large numbers of books that are not being sent to Nicaragua. Currently, we have to take the boxes one by one to as many as three different bookstores before we "get rid of them all."

2. In Mexico City, new textbooks in Spanish cost \$3-\$5. At present we have no way to buy books in Mexico and send them to Nicaragua, although we are exploring several possibilities for doing so.

3. We also have no direct links with universities in El Salvador. Therefore, we are limited to giving monetary donations to humanitarian organizations such as NEST (New El Salvador Today) rather than sending books directly to the universities.

Hopefully, in the coming months we will be able to overcome these obstacles and use the resource of used student texts to provide material aid to universities in Central America. If you are interested in helping this effort or if you have any comments or suggestions, please contact: **Robert Van Buskirk, 1627 Euclid St. Berkeley, CA 94709; Tel. (415)-549-1233.**

Meanwhile, back in Boston, about 3000 pounds of books and journals await shipment to Nicaragua. More details in the next issue.

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Cambridge, MA 02139

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*Cooperation in Scientific Education
with Nicaragua*