

Scientists Aid Search for Argentina's "Desaparecidos"

A team of four forensic scientists, assembled by the AAAS Committee on Scientific Freedom and Responsibility (CSFR), traveled to Argentina in March 1985 to direct a 5-week training workshop in the identification of human skeletal remains.

The invitation to conduct the training came from the Argentine government's human rights secretariat, the agency now in charge of determining the identities of thousands of persons killed during military rule from 1976 to 1983. The Ford Foundation, as part of a grant in support of the Association's human rights activities, provided funding for the trip.

In June 1984 the AAAS sent a delegation of scientists to Argentina to observe the medical and scientific investigation of the human remains of the "disappeared" and to make recommendations to the National Commission on "Disap-

peared." The Commission has now completed its inquiry into the circumstances regarding the "disappearance" of more than 9000 persons abducted by the security forces in the 1970's. Most are assumed to have been killed. The bodies of the missing, or "desaparecidos," as they are known in Argentina, were often buried in a single or mass grave marked with the legend "N.N."—for "unidentified."

In September 1984, the Commission recommended that the government begin a concerted effort to identify and determine the cause of death of the "disappeared." As a first step, the Commission suggested that teams of scientists should be trained in the archeological techniques used to open graves and remove skeletal remains. The AAAS agreed to assist in the training. Twenty participants, ranging from practicing scientists to undergraduate students in archeology

and anthropology, attended the workshop held at the University of Buenos Aires Medical School.

For the first 2 weeks of the training, Clyde C. Snow, a forensic anthropologist from Oklahoma and director of the workshop, led a team of six students in the excavation of ten "N.N." graves.

During the second week of lab work, Snow was joined by John J. Fitzpatrick, a radiologist from Cook County (Illinois) Hospital; Robert H. Kirschner, a pathologist and deputy medical examiner for Cook County; and Lowell Levine, a forensic odontologist from Nassau County, New York. Besides trying to establish identity, Snow and his teammates instructed the students on how to determine the cause of death.

The Case of Liliana Pereyra

One case, that of 21-year-old Liliana Carmen Pereyra Azzarri, is indicative of the undertaking.

According to her landlord, naval personnel abducted Liliana, who was 5 months pregnant, on 5 October 1977. The police reportedly informed her mother that Liliana had been killed in a shoot-out on 15 July 1978. An autopsy report, obtained later, shows that Liliana had been buried in "El Parque" cemetery.

What had happened to Liliana between October 1977 and July 1978?

Liliana's mother, fearful that inquiries to the police could lead to reprisals against her family, waited until the military left power in November 1983. She then began to check the cemetery log for the physical characteristics of the "unidentified" buried in "El Parque" during July 1978. The physical details given in one entry matched those of Liliana.

Meanwhile, human rights investigators had received testimony from three women, all former prisoners, who said they were detained with Liliana between November 1977 and February 1978 in a naval detention facility in Buenos Aires. According to the women, Liliana gave birth to a boy, and a few days later Navy personnel took her away.

In early March 1985, Liliana's mother heard that a group of forensic scientists were attempting to identify the "disappeared." She approached Snow, and arrangements were made to take the students to "El Parque." On 9 March, the grave presumed to be that of Liliana was

Instruments and Lab Equipment Needed

At the request of the Government of Argentina, AAAS' Office of International Science (OIS) has agreed to assist with donations of used or surplus instruments and equipment for use by Argentine universities, hospitals, and research laboratories. OIS has agreed, for 1 year, to help identify potential donors, furnish information about items most urgently needed, and put donors in contact with appropriate Argentine officials.

Argentina is facing an extremely difficult economic situation, in which President Raúl Alfonsín is applying measures of tight austerity. At the same time, the democratically elected government is trying to rebuild the universities and restore scientific research in Argentina after years of neglect. Some Argentine scientists living abroad have returned and others are helping in different ways, but equipment replacement is a key constraint.

Transportation of donated equipment is being furnished free by the national shipping company (ELMA) and Aerolineas Argentinas, and customs and tax facilitations are provided. Donated material will be furnished only to nonprofit and governmental institutes and may not be sold.

Illustrative of the many kinds of items urgently needed are high-performance liquid chromatography systems, various centrifuges, portable x-rays, electron microscopes, computers for cardiograph research, -20° freezers, cell incubators and sterilizers, oscilloscopes, water distillers, and laminar flow apparatus.

For more information, contact James W. Rowe, Western Hemisphere Cooperation Program, at the AAAS address, telephone 202-326-6650.

opened, and the remains were taken to the medical school.

Antemortem records, such as dental and medical records and x-rays, often play a crucial role in the identification of skeletal remains. In Liliana's case, a chest x-ray taken prior to her disappearance matched the x-ray of the reconstructed spinal column taken in the lab. Other characteristics matched as well, including sex, age, stature, and race.

Two other forensic findings unraveled the mystery surrounding Liliana's fate. Contrary to the official police report that Liliana had been killed in a shoot-out with the police, the forensic scientists determined, after painstakingly reconstructing the shattered skull, that in fact Liliana had died from a close-range gunshot wound to the head. "Liliana's death," says Snow, "had all the markings of an execution." The second finding confirmed the account given by Liliana's fellow detainees that she had experienced a term or near-term birth.

"All this seems grim," says Snow, who presented Liliana's case last April when he testified in the trial of Argentina's nine former military leaders, "but here at least, we have looked for death and found life. We were able to tell her mother that although her daughter is dead, out there somewhere she has a grandchild. That opens the way for the Grandmothers of the Plaza de Mayo to begin a search and possibly track down the child."

Since 1977, the Grandmothers of the Plaza de Mayo, a local human rights group, have been searching for at least 145 children who, like Liliana's son, were born in detention or abducted with their parents and later separated from them. Many of these children, the Grandmothers believe, are now living with families of the same military personnel responsible for the "disappearance" of their parents. The AAAS has assisted Argentine scientists in employing genetic techniques to determine grandpaternity (see *Science*, 27 July 1984, p. 397).

A Race Against Time

The forensic studies have produced some promising results. By the end of the workshop, the trainees had positively identified two skeletons. They believe their detailed studies will aid investigators in tracking down further medical records that will lead to the identification of the other eight. Several judges, after hearing of the workshop results, commissioned the team of students to exhume "N.N." graves in their districts. In addition, the Argentine government is

expected to announce the establishment of a technical commission to continue and coordinate the forensic work throughout the country's 22 provinces. Should that take place, Snow plans to return to Argentina to work with the commission.

But even with these early successes, the scientists are in a race against time. Many old medical and dental records have already been discarded. Incomplete records pose another problem: more than half of the "disappeared" were between 20 and 30 years old, an age group which generally receives little medical care. Most of the missing were buried more than 7 years ago, and with each year the skeletal remains decompose, erasing vital clues for identification. What is needed, the scientists say, is the establishment of a computer data bank for cross-checking a wide range of information, including cemetery records, autopsy reports, and antemortem medical and dental records.

Trust and cooperation remain, however, the most important ingredients in this work, according to Snow. Human rights groups and the families of the missing must accept that a national effort is required to direct the forensic work and sift through the volumes of information. Likewise, the government must convince the relatives that, once the scientific evidence has been collected, it will prosecute those responsible.

The AAAS, through this initiative and others in the future, will continue to assist the Argentine human rights effort. A more detailed report on the forensic findings will be available from the CSFR late this year.

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Transcripts of National Security Discussion Offered

National security and scientific inquiry was the focus of a media round table on 3 May 1985 at the National Press Club in Washington, D.C.

The discussion featured Bobby R. Inman, president, Microelectronics and Computer Technology Corp., and former deputy director, Central Intelligence Agency; Richard N. Perle, assistant secretary of defense for international security policy; and William J. Perry, managing partner, H & Q Technology Partners and former under secretary of defense for research and engineering. Donald

Kennedy, president, Stanford University, moderated the round table. Some 50 journalists and other invited guests participated in the round table.

This round table was the first in a series of such sessions that are part of the Media Outreach Program, a cooperative project of the AAAS, Association of American Universities, and Scientists' Institute for Public Information. The Program, made possible by a grant from the Andrew W. Mellon Foundation, is designed to improve the understanding by the mass media and, through the media, the public, of major issues in university research.

For a free transcript of the Media Outreach Roundtable on National Security and Scientific Inquiry, write Carol L. Rogers, Office of Communications and Membership, at the AAAS address.

Directory to Identify Research on Impacts of Technology

New technologies will present challenges for the workforce of the present and future. But the consequences—both good and bad—of these new technologies may not be distributed equally. Recent research findings indicate that women, minorities, and disabled people have the most to gain *and* the most to lose with the introduction of new technologies in the home, school, and workplace.

What skills will be required of workers in the future? How can barriers which in the past have prevented large segments of the population from participating in developing and producing new technologies be effectively removed?

Many educators, managers, labor leaders, policy-makers, and scientists are concerned with and active in research on issues related to the impact of technology on historically disadvantaged groups. To assist those seeking information on this topic, the AAAS is compiling a directory of researchers and institutions involved in the study of the impact of technology on women, minorities, and the disabled. For more information, contact Julie A. Early, Office of Opportunities in Science, at the AAAS address.

For more information about the activities and publications described in "AAAS News," write to the appropriate office, AAAS, 1333 H Street, NW, Washington, D.C. 20005, unless otherwise indicated.