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39. H. Berlin, *Rev. Mex. Estud. Antropol.* **4**, 141 (1940); I. Rouse, "Mesoamerica and the West Indies," "Handbook of Middle American Indians" (Tulane Univ. Middle American Research Institute, New Orleans, in press).
40. R. P. Bullen, "Similarities in Pottery from Florida, Cuba, and the Bahamas," *Actas del XXXIII Congreso Internacional de Americanistas, San José, Costa Rica* (1959), vol. 2.
41. I am indebted to R. P. Bullen, W. G. Haag, C. Hoffman, M. McKusick, and F. Olsen for information upon which Fig. 4 is based, though they are in no way responsible for my placement of the cultures.

News and Comment

Population: Planning Group Hears Encouraging Reports on Efforts To Start Latin American Programs

San Juan, Puerto Rico. With a great deal of caution and discretion, the U.S. foreign aid program has begun efforts to stimulate government and Church leaders in Latin America to do something about that region's monumental population problems. These efforts, it must be acknowledged, are timid and small in the face of a population growth rate that leads the world. But they are significant, not only because they are unprecedented and relatively daring but because they have uncovered a surprising amount of receptiveness in both Latin-American governmental and Church circles. Such is the picture that emerged here last week at the fourth triennial Conference of the Western Hemisphere Region of the International Planned Parenthood Federation (IPPF), a nongovernmental organization that has heretofore been virtually alone in efforts to bring birth control to Latin America.

The disappearance of loneliness is perhaps best illustrated by the fact that while IPPF's three previous regional meetings failed to draw one governmental representative from any nation, officially appointed government delegates were sent to the latest meeting by Argentina, Bolivia, Brazil, Chile, the Dominican Republic, Ecuador, Guatemala, Honduras, Nicaragua, Panama, Paraguay, Peru, the U.S., and Venezuela. (Representatives of 13 other Caribbean, Central American, and South American nations were also on hand in an unofficial capacity.) In addition, the United States Government not only gave its formal blessings to the conference but, safe behind last year's Fulbright amendment, which authorizes the use of foreign aid funds for "research into problems of population growth" (*Science*, 20 Dec. 1963), actually footed the bill for seven Brazilian delegates and paid $7500 for translating and interpreting services.

Reality calls for repeatedly emphasizing that the present state of population control in Latin America is less than trivial when viewed against a birth rate that, if unchecked, will triple the present population by the end of the century. But, if anything is to be accomplished, there has to be a beginning of concerted, well-financed, government-endorsed action, and, unless the conferees were engaging in comforting self-delusion, it appears likely that the Latin-American beginning is near at hand.

This impression was conveyed by representatives of the U.S. Agency for International Development (AID), which, over the past few months, has quietly been meeting separately with high Church and government officials throughout Latin America to test sentiments for developing population planning programs. On the basis of these meetings, AID has drawn an impression about the state of mind that exists in Latin-American ruling circles on the subject of birth control that may be stated as follows:

Despite the failure so far of the Alliance for Progress to meet its general goals, the requirement that long-range economic planning must precede participation has led to a broadened awareness of the relationship between population growth and economic development. As a result, government officials who previously were unaware of, or unconcerned by, their nation's birth rate are now becoming highly concerned, though not to the point that they are willing to do anything substantial that might conceivably result in a clash with the Church.

The Latin-American Church hierarchy, on the other hand, appears to be experiencing the liberalizing ferment that, in other parts of the world, has caused the Church to emphasize that it is not opposed to family planning but, rather, is opposed only to certain techniques of family planning. In addition, the Church has tacitly indicated a recognition that the social unrest that frequently accompanies uncontrolled population growth is not conducive to the well-being of the Church or its adherents. However, Church leaders, both in Latin America and elsewhere, are not the least bit receptive to the wishful thinking of population planners eager to jump them to the conclusion that the long and emotionally held Catholic position on family planning should suddenly be, or actually is in the process of being, re-

versed. Where the Church now stands, AID has concluded, is on a troubled in-between ground bordered by deeply felt, difficult-to-change doctrine on one side and a growing awareness of the doctrine's disagreeable consequences on the other.

In some countries, it was reported, this has led to an unspoken truce with population planning groups: The Church has not condemned their efforts, and the government has even gone so far as to offer what one governmental delegate described as "back-door cooperation." Generally, however, it appears that the attitude on the part of both Church and government has been that any programs involving methods other than the theologically acceptable rhythm method must be carried out in a fashion that will permit all parties to make a gracious retreat if the issue flares up.

On the basis of these evaluations of attitudes in Latin America, AID has concluded that, while the situation is changing and can be encouraged to change even more, nothing but great destruction could result from any effort to bring about abrupt shifts in religious or governmental policies. First of all, it is recognized that, even if the Church and Latin-American governments were suddenly to reverse their attitudes, no means are at hand to give impoverished, low-literacy populations the small-family goals that took generations to evolve in the western, industrialized nations. India and Pakistan, for example, have government-endorsed and -financed family-planning programs and are unaffected by religious opposition, but despite a decade of effort neither nation has yet produced any significant reduction in its birth rate. Perhaps even more important than the lack of a technology that can bring swift changes in birth rates amidst Latin America's conditions is the awareness that nothing can happen there until the ruling groups become acutely motivated to make something happen. And it is in this direction that AID is making efforts, with frequent harping on the theme that uncontrolled population growth imposes a crushing burden on efforts to accelerate economic development. Hand in hand with this economic argument goes the humane plea for looking upon birth control as a public health measure designed not only to balance population and resources but also to serve as a preventive for Latin America's booming abortion rate.

Ever since President Kennedy reversed President Eisenhower's stand and made population growth a legitimate subject of government concern, U.S. officials have been gingerly addressing themselves to the issue, with statements judiciously engineered to hit the subject, but without offending religious or national sensibilities. The statements add up to a progression of increasingly franker approaches to what these same officials readily say privately —that if the underdeveloped countries don't stop having so many babies, many of them are going to find it impossible to maintain even their now inadequate standards of living. It never comes out quite like that in public, but at the IPPF conference the official U.S. statement made a fairly close approach. Delivered by William D. Rogers, Deputy U.S. Coordinator for the Alliance for Progress, it stated:

> Let no one underestimate the importance of population to economic and social development under the Alliance. . . . Latin America has the highest rate of population in the world. . . . In the most practical, material way, population increase has become an indisputable element in the march of the Alliance for Progress. . . . There is in short a palpable and undeniable relationship between population and economic development. At best, quick increases in population are postponing and stretching out the entire development process; at worst, it may well be that Latin America simply cannot absorb its mushrooming population and meet the minimum goals set by [the Alliance]. . . . In Latin America, time is of the essence. Programs and efforts that in one decade might have enormous consequence for the future prospects of a nation may be too little and too late a decade hence. The time is now, not ten years from now.

As for what the United States is prepared to do, the answer offered by Rogers is that it is going to do almost anything short of giving away contraceptives—which, after all, are relatively inexpensive and within the means of any country that decides their purchase merits government support.

"Our efforts," Rogers stated, "will be concentrated in the fields of information, training and research. . . . We intend to cooperate closely with national governments, indigenous scientific institutions, and educational institutions while respecting their particular cultures and moral values."

Privately, however, AID is thinking about going beyond the policy of simply responding to requests for help. Birth control, in or out of Latin America, is such a sensitive, emotion-laden subject that no country can expect to impose its will upon another, but between passively waiting for cries for help and aggressively promoting birth control there is a politically and theologically safe middle ground of drumming up requests for help. And AID population officials, who, when cautioned to go slow, wave the Fulbright amendment like a police pass, are working on programs designed to convince Latin-American leaders that overpopulation is among the greatest threats to the

Science and Society: White House Tea for Academy Wives

News of science and news of society rarely cross paths, but Mrs. Johnson's afternoon tea for wives accompanying their husbands to the annual spring meeting of the National Academy of Sciences in Washington this week was something of an exception. The event may tell little of Johnson's attitude toward federal support for science —an invitation to the White House does not, as many have discovered, imply immunity from budget cuts or an identity of views on all subjects of interest to the visitors. Nonetheless, Mrs. Johnson's gesture to the wives of America's most distinguished scientists is worth notice, for not longer ago than the Eisenhower reign, scientists were not considered very good company, and the appearance of one at a party would have been as surprising as a photo of Ike embracing Mao. Kennedy, who took a friendly view of scientists and was interested in their work, ended their social banishment; scientists became frequent visitors. The new President and his wife have had a colossal number of tea parties, and neither too much nor too little should be read into this one. But it does suggest that Johnson wants the friendly relations established by Kennedy to be maintained, and that the scientists are not about to be sent back into exile.—E.L.

economic development of their countries. If present plans are carried out, each AID mission in Latin America will shortly be instructed to appoint a senior official to handle population matters; all indications of interest on the part of Latin Americans are to be assiduously cultivated and encouraged; grants are to be made available for training Latin-American students, graduate and undergraduate, in all aspects of population matters at institutions in the United States and elsewhere; and U.S. assisance would be provided for government and private institutions in the population field.

In the face of Latin America's appalling population statistics, AID's principal source of encouragement has been that its efforts so far have stirred no hornets and, in fact, have met with interest and even support from rather unexpected places. In one country, for example, the archbishop asked an AID representative for 500,000 copies of a pamphlet advocating family limitation. In others it soon became clear that the government health ministries were virtually unaware of the Church's current interest in population problems, and, as a consequence, public health officials were certain that any family planning effort would create a theological storm. It is possible, of course, that the public-health people know whereof they speak, and the touring AID officials may have been treated to a dose of being told what they obviously want to hear. But when Church officials were delicately queried on where they stood, the answer, it is reported, was that population is indeed a serious problem and the Church should not be considered a monolith on the issue. This attitude, relayed back to the public health ministries, is said to have evoked surprise and a recognition of possibilities that were previously thought to be beyond attainment.

What is perhaps most certain in the population picture is that whatever is going to happen is not going to happen quickly. Strange to say, despite all the berating of the U.S. Government for not turning down the birth rates of the underdeveloped nations, no means now exist for limiting the families of couples who are only mildly motivated toward this goal. A recognition of this technical lack has led to a large-scale expansion of research aimed at producing cheap, simple, and reliable methods, but none yet exists for mass use. The oral contraceptives now in use are still too costly for nations whose per capita incomes are often a few hundred dollars a year, and, even if the cost were reduced, it appears that there are serious difficulties involved in getting uneducated women to follow the dosage schedule.

Thus, however impatient many persons may be to bring about a sudden decline in the birth rates of the underdeveloped nations, the goal is not going to be reached quickly. Education, research, and diplomacy are the only available paths to the goal, and progress along these paths cannot be expected to be swift. But at least a start has been made.

—DANIEL S. GREENBERG

Alaska: A Thorough Postmortem on Earthquake Urged on Behalf of Both Science, Reconstruction

In the weeks since the big Alaskan earthquake, the Coast and Geodetic Survey and the Geological Survey, two old-line, relatively small, low-budget federal science agencies with unglamorous missions, have been receiving unaccustomed attention and deference in Washington.*

Both agencies have been analyzing data and surveying damage in the field since the main quake on 27 March, and they are regarded as the government's expert counsels on earthquakes.

For example, the two federal agencies charged with funneling federal loan funds into reconstruction of private dwellings and commercial buildings—the Federal Housing Administration and the Small Business Administration—have indicated that they will govern the flow of funds according to information gained from the surveys on the effects of the earthquake and prognoses for the future as applied to specific construction sites.

This solicitous attitude toward science advice seems to be fully shared by the Federal Reconstruction and Development Planning Commission for Alaska, established by the President after the quake to assure coordination in federal and state efforts and the most effective use of public funds for relief and reconstruction. The commission is made up of officials of the major departments and agencies involved in Alaskan operations and is chaired by Senator Clinton P. Anderson (D–N.M.).

Anderson is looking for more than immediate, utilitarian returns. He has asked for a coordinated major investigation of scientific and technical aspects of the Alaskan earthquakes, to help penetrate the enigma of earthquakes which makes their cause a subject of continued debate and their prediction impossible.

Such an effort would require detailed analysis of a mass of seismographic data on the Alaskan main shock and aftershocks, and of information on the seismic sea waves which followed the quake, plus an extensive survey of geological and geomorphic changes and of damage to man-made structures. An investigation on the scale Anderson and others contemplate has not been made on earthquakes before and would heavily involve not only government and university scientists but other government elements, such as the Air Force, with its aerial photography capability.

The two survey agencies last week made their early findings available at the annual meeting of the American Geophysical Union in Washington—the Coast and Geodetic Survey in a preliminary report and the Geological Survey in an informal briefing which was to be followed this week by a first report.

The interested reception given the reports at the meeting seems to indicate enthusiasm for a study in depth of the Alaska earthquake swarm. And there appear to be technical grounds for such a study in the fact that the Good Friday earthquake was the best-documented major earthquake in history.

It happens that a new World-Wide Standard Seismographic System, supervised by the Coast and Geodetic Survey, is nearing completion and has some 98 stations operating in more than 50 countries and territories. The instruments in these stations are standardized, and officials involved in operating the network feel that these instruments provide much more accurate measurements of amplitude and time of shocks than were available in the past.

The new seismograph network grew, indirectly at least, out of the so-called Conference of Experts in Geneva in 1958, which was convened to assess the technical capability for the detection of nuclear detonations. The conference called attention to the sketchy state of knowledge about seismic activity in general, and the world-wide network was, in part, a result of a sharpened interest in theoretical seismology here

* The Coast and Geodetic Survey is a bureau of the Department of Commerce and the Geological Survey is lodged in the Department of the Interior.