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<i>Role of Tropical Medicine in International Relations:</i> MAJOR GENERAL GEORGE C. DUNHAM .....	105	<i>to Olefins:</i> DR. M. S. KHARASCH, ELWOOD V. JENSEN and W. H. URRY. "Gall-flower" of the Fig, a Misnomer: DR. IRA J. CONDIT and DR. STANLEY E. FLANDERS. A Gummosis of Citrus Associated with Wood Necrosis: DR. G. H. GODFREY. Why the Rainbow and the Corona Never are Seen in the Same Cloud: DR. W. J. HUMPHREYS. The Naming of Methods, Processes and Techniques for Authors: DR. S. ANDERSON PEOPLES and DR. EMMETT B. CARMICHAEL. Government Aid to Educational Institutions: HAROLD R. RAFTON .....	128
<i>The Mastodon and Early Man in America:</i> DR. LOREN C. EISELEY .....	108	<i>Scientific Books:</i> <i>American Forests:</i> DR. RAYMOND J. POOL. <i>Ebulliometric Measurements:</i> DR. EDGAR REYNOLDS SMITH. <i>Infinite Series:</i> PROFESSOR CHARLES N. MOORE. <i>Books Received</i> .....	132
<i>Obituary:</i> Joseph Christie Whitney Frazer: PROFESSOR WALTER A. PATRICK. <i>Recent Deaths</i> .....	110	<i>Science News</i> .....	10
<i>Scientific Events:</i> Ordnance Research Laboratories at the Pennsylvania State College; The National Advisory Health Council; The Eli Lilly Award; The Inter-American Typhus Conference in Mexico .....	112		
<i>Scientific Notes and News</i> .....	114		
<i>Special Articles:</i> <i>The Hemoagglutinative Properties of Amniotic Fluid from Embryonated Eggs Infected with Mumps Virus:</i> JEANETTE H. LEVENS and DR. JOHN F. ENDERS. <i>Distribution of Radioactive Arsenic Following Intraperitoneal Injection of Sodium Arsenite into Cotton Rats Infected with Litomosoides Carinii:</i> ALFRED H. LAWTON, DR. A. T. NESS, FREDERICK J. BRADY and DEAN B. COWIE. <i>Synergistic Action between Sulphonamides and Certain Dyes against Gram-negative Bacteria:</i> PROFESSOR F. S. THATCHER. <i>Acid Phosphatase in Growing Axons and Degenerated Nerve Tissue:</i> DR. A. M. LASSEK and DR. WALTER L. HARD. <i>Precocious Gonad Development in Oysters Induced in Midwinter by High Temperature:</i> DR. VICTOR L. LOOSANOFF .....	117		
<i>Scientific Apparatus and Laboratory Methods:</i> <i>An Application of the Lyophile Process to the Maintenance of Cultures for Microbiological Assay:</i> MAVIS C. NYMON, PROFESSOR I. C. GUNSALUS and PROFESSOR W. A. GORTNER. <i>Isolation of Trichomonas Vaginalis with Penicillin:</i> DR. GARTH JOHNSON, MARGARET TRUSSELL and FRANCES JAHN .....	125		
<i>Discussion:</i> <i>Addition of Carbon Tetrachloride and Chloroform</i>			

## ROLE OF TROPICAL MEDICINE IN INTERNATIONAL RELATIONS<sup>1</sup>

By Major General GEORGE C. DUNHAM, U. S. Army

PRESIDENT OF THE INSTITUTE OF INTER-AMERICAN AFFAIRS

MEDICINE plays an increasingly important role in international relations, and particularly in our interdependence with Latin America. For the countries south of the Rio Grande, the practice of tropical medicine is of major significance. Tropical medicine is not only curative medicine, diagnosis and treatment of diseases that tend to occur more frequently in the tropics, but also preventive medicine and public health for the prevention of these diseases.

Any attempt to raise the standard of living where

it is regrettably low in the great mass of the population, as in many American countries, must necessarily entail the extension of public health and care of the sick. The development of relations between the United States and the southern republics is based upon the economic progress and stability of these countries, with attendant political stability. Latin America furnishes a great market for United States products. Economic progress is essential for the development of a profitable market.

Immediately after Pearl Harbor there was a meeting of the Ministers of Foreign Affairs of all the

<sup>1</sup> Address at the annual dinner of the American Foundation for Tropical Medicine, Inc., February 5, 1945.

American republics, in Rio de Janeiro. These men, fully alive to the dangers that faced their countries, took many steps to protect their peoples. One of these measures was the adoption of a resolution calling for international cooperation in the field of medicine and particularly in the field of public health. Within two months the Institute of Inter-American Affairs was created as a means of putting these resolutions into practical effect.

It was realized by all the governments that something had to be done promptly. The danger was acute in the early part of 1942 when there was a real threat of invasion of the Americas by the Axis powers. Had the enemy taken Dakar, there would probably have been at least an attempted aerial invasion. We escaped only by a very narrow margin. Consequently it was felt that measures must be taken immediately to improve conditions in the other Americas with first emphasis upon facilitating the production of strategic materials for war uses, and upon protecting the troops of those countries and of the United States.

In March, 1942, the Institute of Inter-American Affairs began to work first in Ecuador and eventually established operations in eighteen of our neighboring republics—in all except Argentina and Cuba.

Before any work was undertaken an agreement was drawn up between the Institute of Inter-American Affairs and the government of the country wishing to participate in the cooperative health program. This is an international document. The method of operating, adopted after considerable thought and worry, was to put all work on a purely cooperative basis. Small groups of technical people, including doctors, sanitary engineers, nurses and others, were sent to the various countries as operating and advisory field parties. The field party is incorporated within the structure of the national government as a cooperative health service that is part of the local ministry of health.

The chief of each field party represents the Institute of Inter-American Affairs in a given country, and at the same time is in charge of all cooperative operations under delegated authority from the countries. It might be thought that this dual authority would give rise to conflicts, but so far the method has worked with notable success.

The work undertaken is in the form of projects. The minister of health or his representative and the chief of field party decide what should be done, such as malaria control or the construction and operation of a health center. The project agreed upon, funds are made available for it. The whole program is a realistic, practical one because the need for immediate action was urgent. Little time is lost in making

recommendations or handing out advice. The cooperative funds are used for actual health work and for emergency medical care.

At the beginning, most of the funds were appropriated by the Institute of Inter-American Affairs, and the local governments also appropriated funds. Later when work was well under way, extension of the original agreements was proposed, to provide for continuation of the program. In the year or so that had elapsed, the governments had recognized the value of the work and were willing to appropriate more funds, usually on a matching basis. Three of the countries participate on a basis of fifty cents of their money to a dollar from the United States. Others spend more. Brazil has provided five million as against three million dollars on an extension agreement; Bolivia, one million to our half million dollars. The Institute of Inter-American Affairs as now organized will operate until the end of 1948. Programs in Brazil, Chile and Mexico will continue for that period; those in other countries will terminate during the period 1945-1948.

Projects cover the whole field of health work. Hospitals are being built and operated; malaria control, water supplies and sewerage systems are being provided; nursing education is being extended. Over one hundred health centers are being operated throughout the republics. A few health departments have been organized such as the one in Guatemala City, to be run for three years by the Cooperative Service.

Much of the work is being done in undeveloped areas with great possibilities not only for industrial but also for agricultural expansion. The eastern part of Peru and Bolivia and much of Paraguay is largely grassland and sagebrush. Southern Paraguay and the Brazilian state of Matto Grosso, which is about twice the size of Texas, show promise for future growth; so, too, does the vast Amazon basin.

Public health projects are operating extensively throughout the Amazon area. A malaria control project at Belem on the estuary has reclaimed land, provided dikes, tidegates and drainage ditches and protects the airport there. The development of air transportation throughout the tropical countries requires protection from tropical disease for airway passengers. Wherever airports are built, everything possible must be done to combat local communicable diseases.

In cooperation with the Brazilian government, a teaching institute has been established at Belem, a city of over 300,000 people. Known as the Evandro Chagas Institute, it provides in-service training for doctors, nurses and technicians, and specializes in training for work in the Amazon Valley. At San-

tarem, up the river about five or six hundred miles, and at Iquitos, Peru, 1,500 miles farther, small hospitals have been established. Malaria control projects are in operation. All the work is cooperative. That in Brazil is being done by Brazilians, with only technical supervision from the personnel of the institute. The Amazon program is being directed by a Brazilian doctor, Dr. Paulo D. C. Antunes, who was trained in the United States.

There are over eight hundred projects of various kinds throughout the southern republics, all of them cooperative; in none of them are we doing the work alone. We are working together with these countries and helping them to improve the health of this hemisphere.

As another example of the work of the program, a malaria survey at Chimbote, Peru, revealed that about 30 per cent. of the townspeople had malaria parasites in their blood. Chimbote is a small town, and its problem is largely a local one, but it has the best deep water harbor on the west coast. There the Peruvian Government put in port works and built a railroad back into the Andes to tap iron and coal deposits. Malaria control was urgently needed. The beach was sandy, with fresh-water pools, the bottom below sea level. Available grades were limited by the elevation of culverts at the upper ends and by the elevation of the ocean at the lower. However, the grade on our main drainage ditches which are now completed is .0004. With a small hospital and health center, with water and sewerage systems which have now been completed, that town will be able to develop economically as it could not do before. The population has already grown from about 4,000 in 1942 to over 8,000.

There are many other factors involved, such as training men to carry on the work. Over 600 men will have been trained in medical and health fields if the institute expires at the end of 1948. Many others are being trained on the job. North American doctors have been sent to Central America for observation of tropical disease treatment and control. After the war there should be an exchange of teachers between this country and our neighbors.

Medical schools in the other Americas are frequently overcrowded. Many operate on the French system, and their courses vary from six to seven years. Through the cooperative health service there is a constant interchange of ideas with the other Americas in the field of medicine. In this way we are building towards a unity in the profession of medicine in all its branches.

Dr. Monge, dean of the medical school at Lima,

Peru, requested a study of their curriculum. Plans to revise the course of study have resulted from the visit of Dr. Weiskotten, dean of the medical school at Syracuse University. If we can have further exchange of ideas and personnel throughout all the Americas, we can do much to unify the medical profession in this hemisphere. The men who come to the United States for study are already doing much to bring about the desired interchange.

Another difficulty rests in the field of medical literature. French text-books are generally used, largely because the United States text-books are too expensive. The tuition at a number of the schools is only about thirty dollars a year. Text-books that sell for five dollars in this country sell for ten or twelve in the southern republics, and these books are English texts. In many of the schools, students study only from lecturers' notes. Text-books can not now be obtained from Europe and those available were published before 1939. Medical journals are also very scarce. Lack of paper has hampered our plans for a monthly edition of the *Journal of the American Medical Association* in Spanish and Portuguese.

The gradual solution of some of these problems has a distinct bearing upon the relations between the United States and these countries. All tropical medicine, all medical care, all public health, are directed toward raising the standard of living which ultimately means economic progress for the hemisphere. All the taxpayers' money spent by the Institute of Inter-American Affairs in the other Americas will come back to the taxpayers of the United States in improved trade relations. More political stability will result through economic development.

The cooperative health service that has been established has demonstrated a facility for withstanding political changes. Several revolutions have occurred, but in no place was the work terminated. In Guatemala, where one of the largest revolutions took place, the work was stopped only a day and a half. Operations continued in Bolivia and El Salvador during non-recognition periods. The program has seen many ministerial changes. In one country the cooperative health service has gone on under six different ministers of health.

The overall objective is to promote economic development and progress. Under present conditions, the limit of foreign trade available in many of these countries is low and can only be increased when the standards of living are raised. Important factors in raising the standard of living are public health and adequate medical care.