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A CROSS-CULTURAL ANTHROPOLOGICAL ANALYSIS  
OF  
A TECHNICAL AID PROGRAM

Based on field analyses by Charles Erasmus,  
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Institute of Social Anthropology, with the  
cooperation of the Health and Sanitation  
Division of the Institute of Inter-American  
Affairs, and the Ministry of Health Servicios  
of Brazil, Colombia, Mexico and Peru

Edited by George Foster  
Director of the Institute of Social Anthropology

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CONTENTS

I. INTRODUCTION - - - - - 1

II. DESCRIPTIVE DATA - - - - - 4

    A. Justification and Plan of the Work - - - - - 4

    B. Health Centers of the Servicios and Their Activities 10

    C. Anthropological Field Techniques Used, and Types  
        of Data Obtained - - - - - 41

    D. The Nature of Folk Medicine - - - - - 45

III. ANALYTICAL DISCUSSION - - - - - 59

    A. Patients' Attitudes Toward Health Centers - - - - - 59

    B. The Anthropological Approach as Applied to Health  
        Center Programs - - - - - 71

    C. Some Wider Implications - - - - - 92

A

## I. INTRODUCTION

The United States has committed itself to a long-range policy of technical cooperation with the governments of many countries in the hope that standards of living can be improved and a democratic way of life fostered. American scientific know-how is sufficiently developed that ways of increasing food production, controlling rivers, eliminating endemic diseases and the like present no serious technological challenges. A series of basic postulates or rules, or scientific laws of proven validity, are evoked to analyze the peculiar factors in any given situation, and the solution is worked out within this framework. This solution has predictive value. With a stated amount of money invested in a certain way over a given number of years, the probable results can be forecast with a high degree of accuracy. Vary the amount of money spent, the time allocated, or the techniques proposed, or all, and the result can still be foretold. Or the goal may be determined, and the necessary steps to achieve it can be worked out. Either way, the equation can be made to balance.

This is not the case when human beings are injected into the picture. Social scientists have made little progress in uncovering the laws which govern human conduct. Only in a very general way is it possible to predict what a person, or a people, will do if this, that, or the other thing is done to or for them. A Peruvian farmer is given what he is told is an improved variety of potato. Will he plant the new and abandon the old? Maybe. And maybe not. Or, state it this

way: the goal is to persuade the Peruvian farmer to plant a potato that will give him a greatly increased yield. What steps are necessary to make him do this? The social scientist has some hunches, but hunches are a poor substitute for accurate knowledge. He cannot balance the equation. He is still groping for the general rules to provide him the framework within which he can work out the answers to specific problems.

Yet the ultimate success of technical aid programs depends on the ability to predict how the people to be benefited will react to the proposals made to them, and how the human element may be manipulated to achieve a particular goal once it is set.

This paper deals with some of the theoretical implications of the growing social science of what may be called "human engineering." It discusses problems of predictability of human behavior, and makes suggestions as to what steps may lead to greater accuracy in this field. It illustrates the manner in which the social sciences, on the operational level, may contribute to the success of specific technical aid programs by analyzing and explaining the behavior of the peoples involved, and by pointing out to administrators the means by which customary action patterns may most easily be modified, and the points at which particularly strong resistances will be encountered. It is concerned with the question as to whether in the area analyzed--Latin America--there are regularities in cultural processes which, if known, would facilitate the determination of those factors which favor and

those which inhibit the introduction and acceptance of new techniques and concepts.

This paper also deals with a corollary point, the importance of the study of idea and action patterns of technical aid personnel, and of the need to modify these patterns in accordance with the findings of such studies in order to facilitate the success of programs. The factors which favor and inhibit the introduction and acceptance of new techniques and concepts are to be looked for in the conscious and unconscious beliefs and attitudes of these people as well as the customary action patterns of the recipient peoples.

The programs of eight Health Centers which have been developed jointly by the United States Government, through the Institute of Inter-American Affairs and other cooperating governments, were analyzed by social anthropologists of the Smithsonian Institution's Institute of Social Anthropology. Stress was laid on the culture of the peoples toward whom the programs were directed, their ways of life, and their attitudes toward this particular technical aid program. An attempt was made to determine what categories of culture should be known in order effectively to promote public health programs, and concrete illustrations are given of how knowledge of these aspects of culture facilitates program operations. Attention was also devoted to the unformalized cultural premises of operating personnel which seemed to bear directly on the success of going projects. Suggestions for future planning and study are made.

## II. DESCRIPTIVE DATA

### A. Justification and Plan of the Work

This report is conceived within the theoretical framework, set forth in the Introduction, here enlarged and elaborated upon. It is based on the recognition that an important result of American technical aid programs has been the pointing up of the disparity between our knowledge of scientific techniques and of human beings. An agronomist, for example, can analyze soil and tell how it must be treated to give the best results for whatever crop is planned. A public health officer knows how to eliminate malaria and hookworm, to lower infant mortality rates, and to check venereal disease. A railway engineer can design and build a line to meet the capacity requirements for present or future needs as determined by the economist. In short, technical knowledge has achieved a high level of certainty and efficiency. Budget and personnel are the principal limiting factors in planning any program.

But no one can predict exactly what will be the reaction of the peoples to be benefited by any program. Why do they all too often fail to use the fine privies with box seats built for them? Often fail to come to the Health Center for prenatal examinations? Frequently view with suspicion new agricultural practices? Hesitate to change from one crop to another?

To plan effectively technical aid programs directed at peoples with highly varied cultural backgrounds, and to carry them out efficiently, a systematic knowledge of human behavior is essential. This knowledge is not now available in anything like the detail that seems indicated, nor will it be forthcoming unless the problem is recognized as an integral part of all technical aid programs, and plans made to do something about it.

The pages which follow are the result of an experiment, an attempt to combine the concepts and field methods of the social anthropologist with those of the technical aid program administrator to point out means by which this knowledge can be acquired and put to work. It was hoped that anthropological analysis of such programs with a history of several years' successful operations might reveal significant cross-cultural regularities in culture processes, recognition of which would facilitate the development of concepts and operational procedures which might successfully be applied to similar situations in different cultures.

A dual goal was envisaged: (1) that of determining what may be common factors which favor and factors which inhibit the introduction and acceptance of ideas and habits new to the ethnic groups in question; (2) that of pointing up difficulties in going projects, and making remedial suggestions. The second goal is ameliorative and short-range. The first goal is ultimately of much greater significance, more theoretical in nature, and correspondingly more difficult to grapple with in concrete terms. It implies interpreting regularities in processes

in terms of cause-and-effect relationships valid in much of Latin America, which would have predictive value as far as any new program might be concerned.

Anthropologists believe that they can greatly facilitate technical aid programs through their knowledge of the recipient cultures, by their understanding of the reactions of human beings to new situations, and because of their control of certain disciplinary ways of looking at and analyzing situations in which the human element is the unknown part of the equation. Anthropology offers no panacea, and most anthropologists do not feel that they miraculously will come up with all the answers. But they do feel that the anthropological point of view, coupled with the specific types of data with which they customarily work, will often result in clarification of points not immediately understood by scientists trained in other fields, thereby contributing to the over-all success of many projects.

The social anthropologists who did the field work on which this report is based are staff members of the Smithsonian Institution's Institute of Social Anthropology stationed in México, Colombia, Perú, and Brazil.<sup>1/</sup> It goes without saying that without the enthusiastic

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<sup>1/</sup> Mexico: Isabel Kelly; Colombia: Charles Erasmus; Peru: Ozzie Simmons; Brazil: Kalervo Oberg. No field worker had had less than two years of experience in Latin American culture; one had had nearly fifteen. In Colombia Silvio Yepes, trained by the Institute of Social Anthropology personnel in previous years, contributed significantly to successful gathering of data.

cooperation of Institute of Inter-American Affairs personnel, staff members of the Latin American Servicios, and the Ministries of Health of the four countries involved, the project could not have been carried out.<sup>2/</sup> The editor of the report is the director of the Institute of Social Anthropology. He is responsible for the final interpretation of field data, and for the selection and order of their presentation. In this task he has drawn extensively on the ideas as well as the data of his associates, who share his basic point of view to a greater or lesser extent. Their energy and enthusiasm in gathering and interpreting significant data have made possible this report.

Limitations of time and money made it almost essential that the research here described be carried out in the countries in which Institute of Social Anthropology personnel were stationed. Fortunately, major Institute of Inter-American Affairs programs had existed for a number of years in these countries. Most of these programs were scrutinized to determine which would serve most readily the purposes described. It was finally decided that analysis of Health Centers established by the Health and Sanitation Division in cooperation with local Ministries of Health offered the greatest possibilities: It was noted that

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<sup>2/</sup> It is unfortunately impossible here to list the names of all individuals who have shown interest and contributed of their time. Particularly to be mentioned are: Washington: Henry Van Zile Hyde, Wyman Stone, Ernest Maes, Millard Smith; Mexico: Alonso Hardison, Martha Garst; Colombia: Jean F. Rogier, A. J. Kranaskas, J. H. Meyer, Katherine Kain; Peru: J. Harlan Paul, Alberto Lari, Victor Valverde; Brazil: Eugene P. Campbell, Howard W. Lundy, Edmund G. Wagner, Clara Curtis, Ernani Braga.

comparable programs exist in all countries; they involve contact with a wide range of people, particularly rural and low-income urban groups; ideas of health and illness are always deeply imbedded in the folk belief and folk value systems of such people; these are the situations and conditions in which anthropologists have had most experience.

The following general guides were sent to field investigators in each country: familiarize yourself with the history and organization of the projects to be analyzed; find out what are the basic goals of each project; acquaint yourself with the steps taken to reach this goal; briefly analyze the cultural setting of the project, placing particular emphasis on folk beliefs of health, illness, and curing; interview as many as possible of the people who have benefited or otherwise come into contact with the program; analyze their reactions and record their comments and criticisms; determine what aspects of the program have received general approval and acceptance, and which have not; attempt to determine what personal, cultural and other factors have mitigated against complete success in reaching desired goals, and which have made for success.

This report, and the field work on which it is based, should not be considered models of anthropological procedure. Both are, unfortunately, hasty and incomplete improvisations in that they were sandwiched in with regular assignments of Institute of Social Anthropology

personnel.<sup>3/</sup> It was not possible for the editor and the field personnel to get together beforehand and agree on a standard procedure; all instructions were given and discussions carried on by correspondence. It was not possible to hold conferences during the course of the work, nor after the data were in. Largely for this reason, and the relatively short time allotted to field work--less than a month in each case--no two sets of data are absolutely comparable, and certain fruitful lines of investigation which one worker turned up were not followed by the others, who in turn hit upon other ideas and approaches of value. At the same time this proved advantageous in that a wider range of total data resulted from which the editor could draw conclusions, even though answers to the same questions did not always result for all four countries. Were the same field workers, after this experience, and after a round table conference, to set out on another similar project, the results could logically be expected to be of much greater utility.

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<sup>3/</sup> Institute of Social Anthropology field personnel spend from 5 to 8 months a year teaching basic social science courses--particularly social anthropology and sociology--in institutions of higher learning in the countries to which they are assigned. From 3 to 5 months a year are spent in making field studies of significant segments of the populations of these countries. These field studies serve two purposes: advanced local students are given laboratory-type training in the social sciences as a part of their graduate studies, so that eventually they can be placed with technical aid programs in their countries; basic data on Latin-American populations are gathered and made available, through the series Publications of the Institute of Social Anthropology, to interested persons in the United States and other countries.

B. The Health Centers of the Servicios and Their Activities.

The Division of Health and Sanitation of the Institute of Inter-American Affairs operates in each country by means of cooperative agreements with one or more Ministries. The operational units in the Spanish-speaking countries are known as the Servicio Cooperativo Interamericano de Salud Pública, which is frequently abbreviated to Servicio. In Mexico the term Dirección usually is used. In Brazil the unit is known as the Servico Especial de Saúde Pública (SESP).

The original objective of all programs seems to have been to act as a source of professional and technical aid and service to be called upon by Ministries of Health according to needs and problems. Thus, any given Servicio had no fixed mission, but could be called upon to conduct a national or regional campaign of inoculation against smallpox, to undertake malaria control, or to construct, equip and place in operation a hospital, dispensary, or health center. In accordance with this fluid role the Ministry of Health (or any other Ministry concerned with the project) was expected to take over the operation of long-range undertakings once they were established, leaving the Servicio free to undertake new projects. In line with this philosophy, a wide variety of activities has been initiated. These include programs in the fields of preventive medicine, health education, environmental sanitation, the building of Hospitals and Health Centers, the training of nurses, construction of potable water

supplies, sewage systems, the carrying out of campaigns against malaria, yaws, venereal disease, tuberculosis, intestinal parasites, and the like.

Nevertheless, the original and continuing major interest of the Health and Sanitation Division has been public health, i.e., preventive medicine, disease control, sanitation projects, and health education. Due to lack of medical facilities in many places the Servicios have also had to construct and maintain hospitals, so that actually an important part of the budget has been devoted to medical care rather than public health.

The Health Centers whose programs were analyzed are as follows:

#### MEXICO

1). The Beatríz Velasco Alemán Center, in the Colonia del Rastro in Mexico City. About 100,000 persons live in the zone of action, most of whom are in the lower income brackets. Families are supported by wage earners (masons, carpenters, day laborers) or by piece work (shoe making and repairing, twisting of cordage, other home occupations). The population is heterogeneous as far as cultural antecedents are concerned, and shifting in composition, with persons from all parts of Mexico.

2). The Xochimilco Center in the town of the same name, near Mexico City, famous for its "floating gardens." The area served includes perhaps 30,000 persons, and comprises a small semi-urban nucleus surrounded by scattered houses and adjacent villages.

Basically, however, the population is rural in composition and attitude, in that a majority of the families served live from agriculture. The people are conservative, deeply steeped in tradition, and have a relatively uniform cultural background. A good many elements of modern life go back to pre-Conquest times, and the Aztec language still survives, in addition to Spanish.

#### COLOMBIA

1). The Barrio Ricuarte Center in Bogotá. This project is directly comparable to the Alemán Center in Mexico in that it serves a low-income urban group of about 60,000 persons of diverse cultural antecedents. The analysis also includes the sub-center of Fuente Aranda. In a sense Fuente Aranda is more like a rural village than an urban district in that it is on the edge of the city, is completely surrounded by fields, has its own market and church, and reflects some sense of integration among its 6,000 inhabitants. Economically the people are in worse straits than those of Ricuarte.

2). The Center in La Dorada, a town of 8,000 inhabitants on the west bank of the Rio Magdalena in the province of Caldas. The town began to grow only about 25 years ago, and owes its importance to its strategic location as a river, highway, and railway terminal, where freight destined to Bogotá is transshipped. Most of the population comes from the provinces of Caldas, Tolima, and Antioquia. The town has a frontier feel, and the lure of easy money is apparent. Fishing, cattle-raising, and corn and rice culture are sources of income in

addition to stevedoring. Physically the population is much mixed, with white, Indian, and Negro blood apparent in all possible combinations.

#### PERU

1). The Barrio Rimac Center in Lima. This district is the oldest part of the city, and has a population of about 100,000. Most of its inhabitants fall within the lowest income brackets of Lima. The largest occupational category represented is that of factory workers, who are employed in Lima's light industries. Both in ethnic composition and economic position the district is directly comparable to the Mexico City and Bogotá Centers.

2). The Chimbote Center in the town of the same name, a small port on the north coast of Peru in the province of Ancash, with a population of about 15,000. Most of the workers are employed in the local fishing industry, or by the Corporación Peruana del Santa, Peru's most ambitious project in the development of water power for industrial purposes. The town recently has begun to grow rapidly because of increased industrial activity, and the original, relatively homogenous coastal population is being much diluted with foreign elements, particularly serranos who come down from the mountains, and who in general are more Indian in their racial composition than the indigenous population, and have been less exposed to ideas of Western culture.

#### BRAZIL

Brazilian data are less comparable in that there is no real urban center in which a Health Center exists. The larger of the two towns studied is:

1). Colatina, on the south bank of the Rio Doce about 128 kilometers up the railway line from Vitoria, capital and principal city of the State of Espirito Santo. Colatina itself has a population of less than 8,000, but is the administrative center of a município with about 100,000 inhabitants. The study was restricted to the city itself, though outsiders are treated and carried on the records as "non-residents." Coffee-growing, lumbering, and cattle-raising are the important economic activities of the area. It is estimated that up to 30% of the município population is of German, Italian, and Polish descent. Negro blood is also significant.

2). Cametá is located on the left bank of the Tocantins River near its mouth, about 150 kilometers up stream from Belem. The town has a population of 3,500, and is the administrative center of a município with about 50,000 inhabitants. White blood constitutes a small minority of the total. Nearly four-fifths of the population is classified as "mestizo," predominantly Indian with white and Negro admixture. The town is a sleepy river port, with no motor transportation; during the rubber boom it had a much larger population, and cacao plantations were established. Today it has no newspapers, no theaters, no social clubs, not even a football club. Fishing, and gathered forest products, particularly palm and other nuts, deer and boa skins, manioc flour, and the like, constitute the economic basis of life.

The services of the Centers vary slightly, but are in general comparable. The Rimac (Lima) Center, for example, offers the following daily services: pre- and post-natal hygiene, infant hygiene (including inoculations), dental clinic, venereal disease clinic, tuberculosis clinic (X-ray and fluroscope), laboratory analysis, and school-age hygiene. There is a head doctor and a head nurse whose duties are administrative and supervisory. Each service is conducted by a doctor, who is assisted by nurses assigned on a rotating basis. Nurses spend half a day attending in the services, and the other half home-visiting. In addition there is a sanitary engineer who, assisted by 5 inspectors, maintains an inspection control of all business establishments in the Rimac district.

The other Centers offer generally similar services. Privy construction, malaria control, milk distribution, public baths, and similar extra services characterize some Centers. There also seems to be some variation in services in that some Centers take individuals of all ages, whereas others concentrate on mothers and children of pre-school ages, leaving school children to other government agencies. As pointed out above, the Centers officially and theoretically are interested exclusively in public health, and stress is on preventive medicine. But in order to establish the Centers in each community and to gain patients, ailing persons often are given an examination and treatment, whether or not their illness may constitute a public health menace. There is considerable difference between Centers in

this respect: some are much more willing than others to accept ill patients. The Brazilian Centers appear to be more oriented toward offering general medical services of all types. In Chimbote and Colatina hospitals are also operated by the Servicios.

Nurses and their assistants make home visits both to check on patients, and to urge them to keep their appointments. Some Centers lay more stress on home visiting than others. Xochimilco, for example, goes out of its way in its attempts to keep patients coming in at regular intervals. The Alemán Center, on the other hand, considers that a service is being offered the inhabitants of the district and that it is up to the people to realize its value.

Staff members of all Health Centers are nationals of the countries concerned. Institute of Inter-American Affairs personnel serve in planning and advisory capacities to the over-all programs, but do not participate in servicing specific projects.

Fairly extensive quotations will be made from field reports so that readers not familiar with Servicio programs will have a better picture of the physical facilities offered, and of the functioning of the Centers and Hospitals. That which follows is a description of the Colatina, Brazil, Health Center, and an account of some of its activities, taken from Oberg's report.

"The Health Center, operated by Servico Especial de Saúde Pública (SESP), is a one-story parallel-winged building with a connecting reception and demonstration veranda. It is a functionally designed three-part structure, with two parallel service wings connected at opposite ends by the third unit, the central waiting area. Thus when viewed from above the building has the general shape of a 'Z.' In one wing are located the director's office, offices for visiting nurses, offices for sanitary inspectors, demonstration room, and necessary sanitary facilities. The other wing is made up of two units consisting of the doctor's office, nurses' station, and two examination or treatment rooms, preparation room, dentist's office, laboratory, milk preparation and distribution room, and sanitary facilities. The end walls of the building are of natural grey stone, and the columns along the veranda and in the waiting room, and the pilasters along the exterior, are of smooth pressed red brick. The exterior wall and interior partitions are of brick and mortar plastered with cement to give a smooth hard finish. An outstanding feature of the design is the large window area which occupies most of the space between the pilasters. The roof is of tile, and floors are cement tile or concrete. The Health Post also

has a garden project for demonstration purposes, in which fresh vegetables are grown. Free seeds and seedlings are distributed to the population upon request.

SESP also operates a 40-bed hospital, located directly across the street from the Health Center. Although Colatina is classified as a Health Post Type A, it is sometimes called a 'medical center' because of this hospital. The hospital, besides providing general treatment for its patients, also has a surgery, a maternity ward, and child-care facilities. At present it is being enlarged and will have an out-patient department for tuberculosis.

Some conception of the program of medical assistance, sanitary supervision, and health education can be gained from the following figures of personnel employed by SESP in Colatina. It must be taken into account, moreover, that in addition to Servicio personnel there are in Colatina 7 private doctors, 13 dentists, and a municipal sanitary engineer.

<u>Medicos</u> (doctors) . . . . .	6
<u>Secretario</u> de caixa (secretary) . . . . .	1
<u>Almoxarife</u> e auxiliar (storeroom keeper). . . . .	1
Aux. e <u>escritorio</u> (office clerk) . . . . .	1
<u>Enfermeiras</u> (nurses) . . . . .	13
<u>Visitadoras</u> sanitarias (regular number 6) (asst. public health nurses) . . . . .	2
<u>Cosinheiros</u> (cooks) . . . . .	4
<u>Costureira</u> (clothes mender for hospital). . . . .	1
<u>Arquivista</u> (file clerk) . . . . .	2
Aux. <u>hospitalar</u> (asst. nurses). . . . .	16
<u>Atendentes</u> (attendants) . . . . .	5
<u>Laboratoristas</u> (laboratory workers) . . . . .	2

Guarda sanitaria (sanitary inspector) . . . . .	1
Lavadeiras e assistentes (washwomen and helpers) . . . . .	6
Motoristas (drivers) . . . . .	2
Empregados (servants) . . . . .	28
Dentista (dentist) . . . . .	1
Jardineiro (gardener) . . . . .	1
Carpinteiro (carpenter) . . . . .	1
Guarda Nocturno (night watchman) . . . . .	1
Economista (housekeeper) . . . . .	1

The Center is open between 8 in the morning and 5 in the afternoon, except for an hour for lunch. The hospital is, of course, always open. As patients enter the central waiting room they form a file before the wicket of the 'arquivo,' or record room. As they call out their names the recorder draws out their family folders from the file. If the person is visiting the Center for the first time a card is made out on which is put his or her name, address, age, race (branco, preto, or pardo) and data about the children who may be brought in for treatment. This information is also put into the folder in which the record of the patient's visits and treatment are entered. After the folders are withdrawn from the file they are distributed among the doctors who then call up the patients in order of their entry into the Center. ~~In the~~ <sup>meanwhile</sup> the patients sit on long benches in the waiting room waiting for their turn to be called. As the doctor calls out a name the patient enters the consulting room where he is examined, is given treatment or a prescription for medicines, or is sent to the

laboratory for blood sampling or is told to bring in a stool sample. In many cases he has to return the following day to receive his medicines. If the case is a simple one he is given a prescription which he presents to the druggist across the waiting room or goes to get an injection in the injection room. After he receives his injections or medicines with instructions for use he goes home. If the drugs are not available he is told to go out and buy them at one of the city's numerous drug stores. Emergency cases are treated directly in the hospital, and if a patient must enter the hospital he is sent there providing room is available. The hospital is generally full and patients often have to remain at home where they are visited by the nurses and doctors.

After the doctor has finished his consultation or treatment he enters the data in the patient's folder which is then sent back to the recorder who files it. The waiting room is generally full all forenoon and sometimes in the afternoon. As many as 200 people may pass through the Center daily. My impression both at Colatina and Careté was that the medical facilities were not sufficient to take care of the load placed upon them. On Saturdays the Center is closed to the public, although open in the forenoon to give an opportunity for the staff to make up their records. On Sundays it is closed.

The impression one gains in observing the operation of the Center is one of efficiency, speed, kindness, sympathy, and cleanliness. One way of estimating the growth of the turnover or movement through the Center in the past 5 years is to take into account the annual increase in the number of family folders in the files.

December 1946 . . . . .	607 Family Folders
December 1947 . . . . .	1417 Family Folders
December 1948 . . . . .	1641 Family Folders
December 1949 . . . . .	1825 Family Folders <sup>4/</sup>
December 1950 . . . . .	2455 Family Folders <sup>4/</sup>

This increase in movement through the Center appears to indicate that the people appreciate and use the medical facilities and are in fact pressing upon its capacity. The plan to extend the hospital and to set up sub-posts in the municipio further indicates the demand of the local population for the medical assistance provided by SESP.

Important among SESP activities is what is termed 'hygiene.' There are four phases to this work; Prenatal Hygiene, Infant Hygiene, Pre-school Hygiene, and School Hygiene, depending upon the size of the Post. Type A Posts carry on all four while Type B Posts carry on only prenatal and infant hygiene.

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<sup>4/</sup> The reader must be cautioned that this does not necessarily imply a four-fold increase in load. Folders often remain in files after families have given up treatment.

Pregnant women are encouraged to register at the Center, and to visit it periodically and receive the advice of the public health nurses on food, clothing, care of breasts, and other matters concerning pregnancy. If they do not turn up at the Center when expected they are visited by a visitadora, or assistant public health nurse, once per month during the first six months, twice per month during the 7th and 8th months, and weekly during the 9th month. The visitadoras carry a thermometer, simple remedies, and the folder of the person visited. They take the woman's temperature, inquire about her health, give advice about food, and enter her condition on a card in the folder. If the woman requires medical attention she is told to visit the Center and if she is too ill to go she is visited by a doctor or a nurse. Excepting serious cases, the care of pregnant women is the task of public health nurses and visitadoras.

It is customary in Brazil for deliveries to be attended by a mid-wife. This is true of all classes whether rich or poor, rural or urban. SESP met this situation by getting control of the mid-wives. They were given courses in delivery, supplied with the necessary materials and told to report difficult cases to the Center. In areas where there are no hospitals and only a few doctors this is undoubtedly the best way to meet the situation.

Infant hygiene is the task principally of nurses and visitadoras. After a child is born the mother is visited once a week during the first month and is encouraged to come to the Center once per month thereafter or at any time the child requires attention. The mothers are given instructions at the Center in the care of infants, how to wash them, how to feed them, about hours of sleep, the use of mosquito nets, etc. I attended a class at the Center during which a visitadora demonstrated how a baby should be washed to about 12 or 15 women, all carrying babies in their arms. Generally a large doll is used but on this occasion a real baby was employed who objected strenuously. With 3 strange Americans sitting in the front row the young visitadora proceeded with trembling hands and quavering voice which hardly carried above the loud chorus sent up by the babies. Without question, however, these demonstrations are of great value to mothers with infants.

A very important part of infant hygiene is the preparation and supplying of pasteurized milk which is put into sterilized mamadeiras, or nursing bottles equipped with nipples, and made up according to formula. Some member of the family then calls for these prepared bottles as many times a day as necessary and returns the empty bottles for sterilization.

Pre-school hygiene begins at the age of one and continues until the seventh year, when the child enters school. Although the child is brought to the Health Center for treatment when ill or is visited by a doctor, by far the greatest part of the work is done by nurses and visitadoras who go from house to house visiting the children who are registered at the Center. Their work involves advice to the parents about food, clothing, sleep, and cleanliness, and making sure young children are vaccinated and injected against major diseases like diphtheria, pertussis, typhoid, tetanus, and smallpox.

Health education constitutes an important part of SESP activities. Every member of the organization from the superintendent down to the humblest office clerk is expected to be an example of sound health habits. In every Post each person has his or her own drinking glass with the name pasted on the bottom, and a personal towel. Hand washing has become almost a ritual. From the head offices in Rio de Janeiro to the smallest sub-post there are placards on the walls telling people to 'Wash your hands before meals and after leaving the toilet' picturing a pair of hands in a basin full of sudsy water and a large piece of soap. This notice is also tacked on the walls of bars, restaurants, and other public places.

In every Post there is either a miniature model of a privy, or, as at Colatina, a full-sized model in the backyard showing stages of construction. Notices read 'Build your toilet of straw or wood, taking this as a model.' A notice showing various foods, such as meat, fresh vegetables and fruits, eggs, and milk, is accompanied by a sign 'Food is the basis of life.' Particular attention is paid to children, 'Every child has a right to be healthy; bring your child to the Health Post,' or if a health club has been established for children, the notices read, 'In the health club children learn to keep their health and fight disease.'

In addition to these visual devices, every member of the medical and sanitation staff is a missionary of the health education program. As one man put it, 'There is little point in curing a man of dysentery if he is allowed to go right out and reinfect himself.' Doctors, nurses, visitadoras, and sanitary inspectors, while they go about their regular tasks, instruct the people in ways and means to avoid illness and to live a healthy life. The importance of purified water, the proper disposal of human wastes, the need for a balanced diet, and protection against mosquitoes is stressed as well as the need for immediately attending to ailments by visiting the Post."

Since in large part the success of these programs depends upon the doctors, nurses, and nurse's assistants, quotations from field reports will indicate types of problems encountered. That which follows is taken from the Cametá, Brazil, report by Oberg:

"The young doctor sits behind his desk while I sit at his left. He picks up the folder on top of the pile before him and calls out a name. After reading the card carefully he hands it over to me. I note that the man is 35 years old, is classed as a mestico, and lives in a little settlement up the river. He is married but has no children. A moment later a man saunters in slowly, dressed in a clean but ragged shirt and trousers, barefoot, and holding a wide-brimmed straw hat in his hand. He sits in a chair at the doctor's right.

The doctor turns to him and says, 'Please tell me what is your trouble.' There is no reply, and the man begins to look around the room at the various instruments and the charts on the walls. 'Could you tell me where you have pains?' The doctor asks again. Still no reply. The man continues to look around the room as if the doctor and I did not exist.

'Do you have diarrhea?' The doctor asks. The reply is a simple 'Não.' The doctor stirs impatiently in his chair, looks closely into the man's face and asks, 'Is

your head aching?' 'Ta.' (está). A long silence. 'Do you have shivering spells?' 'Sim.' After these three revealing replies the doctor takes the man's temperature, feels his pulse, listens to his chest, and sends him over to the laboratory to have a blood slide taken, with a reminder that he is to come back later when called.

Turning to me the doctor says, 'Looks like another case of malaria. We shall know for sure after the laboratory report.' He picks up another card and calls a name. This time a man with four boys enters the consulting room. The doctor asks the man's name and looks at the card again. 'Are these all your sons?' he asks. 'Yes,' replies the father. 'But you have a card for only one son,' the doctor adds.

The father moves uneasily and replies, 'All my sons are ill but I was afraid to ask for all four because I thought you would refuse so many. But they are all sick and I wish you would cure them. I left home yesterday to bring them here.'

The doctor asks the man to sit down. 'Look,' he says, 'We are all here to help you and your family free of charge. SESP is for the people. You must bring your children whenever they complain of being sick, do you see?' The four boys are examined and sent over for their blood slides. All four have symptoms of malaria.

Something like this goes on all day. Later the doctor said, 'Now you see the kind of people we treat. Excepting the town's people who are now accustomed to our service, many people still treat it as something strange and unbelievable. The poor of the islands have never had money enough to go to a doctor. They go to a curandeiro or to a druggist. All their lives they have been pushed around by people in authority and it is hard for them to realize that SESP is out to help them free of charge, that we are really interested in their welfare.'

On another occasion the doctor told me the following: 'When I first came here I had great difficulty in getting the people being examined for dysentery to bring in stool samples. We gave them containers but the return of these containers was low. One day I began talking very intimately with the patients. I explained that I wanted to help them but that they had to help me first. We must work together to find out the cause of the disease. Then I drew pictures of the germs and said that there are many kinds that live in the intestines and that we had to destroy these little things. Now if you don't help me find out what kind of bacteria you have, how can I treat you? I continued this for weeks and little by

little the stool samples began to come in, followed by satisfactory cures. The people began to see that what I said was true. At first they were dumbfounded to find someone who did not just order them about but took an interest in them and talked to them and treated them as human beings. Doctors and people in office have never treated them like this before. These people are good people. Once they understand something they cooperate very well."

The nature of the contact between doctors, nurses, and nurses' aides on one hand, and the people on the other, is illustrated by the following quotations from Peru, from Simmons' report:

"The contact between doctor and patient is usually brief and formal. In Rimac, the doctors tend to believe that patients feel freer with the nurses and that the latter are generally closer to the patients than they themselves are. As a result, they leave most of the explaining and 'education' to the nurses, (who do so during their home visits). Their questions and examinations are perfunctory and rapid, the former usually requiring a yes or no answer. They will often ask the patient if he has any questions, but the offer was rarely taken advantage of in the cases I observed, the patient usually limiting himself to answering the

doctor's questions. On the other hand, every doctor interviews every patient who comes to his service and of course performs the most important and strategic duties in the service. The doctors in the venereal disease and tuberculosis services stated that they must see each patient, that 'people are not satisfied with talking to anyone less than the doctor in charge because they do not have faith in the others.' The exigencies of attending large numbers of people explain and justify the brevity and formality of the doctor's relationship with his patients, but the fact remains that such a situation severely limits rapport between doctor and patient and reinforces the former's tendency to leave the largest part of educating the people to the nurses. The formal role of the doctor in this relationship is enhanced by the usually humble attitude of the patient. Awe of the doctor's professional prestige is enhanced by his membership in the gente decente of the general society, and the reactions of patients to doctors I have observed in this study partake of the general Peruvian tendency of the 'lower class' to sentir muy corta, i.e., to feel very constrained and uncomfortable, in the presence of a member of the 'upper class.' In general, however, doctors I observed were courteous and

pleasant to their patients and did not attempt in any way to make them feel subordinate.

The doctor's conceptions of the nature of the people they deal with are varied, and the small sampling permits few generalizations. A number of individual prejudices were encountered. One doctor stated that the sambos (Negro-mestizo or Negro-Indian mixture) are much less cooperative than the mestizo or Indian patients, another expressed the belief that the serrano (highlander) will not cooperate at all, but the sambos and criollos (mestizos) will, and a third held a similar belief that costeños (coast dwellers) are cooperative but serranos are difficult to deal with. Another doctor had no complaints, and said that all the people are cooperative and appreciative. My major impression, however, is that all the doctors more or less share the belief of others of their class and status in Peru that the gente del pueblo (the group which probably provides up to 98% of their clientele) are ignorant, of a 'low level of culture,' and indifferent. One doctor stated this explicitly: 'There is little opportunity for the doctors to learn the thoughts of the people because they have contempt for those thoughts, are not interested in what the people have to say, and

cut them off short.' Another said that the gente del pueblo in general have a great deal of resistance against learning.

The doctors have no extensive or systematic knowledge of the etiologies, syndromes, and cures which characterize popular medicine, nor do they know much about the properties and functions of the herbs and other household remedies used by the people. All of the doctors know about the major folk diseases of ojo (evil eye) and susto ('fright'), although even here there are often large gaps in their knowledge; in general they have little knowledge of the wide and varied range of beliefs that constitute popular medicine. Their familiarity with folk beliefs is confined to the few which they continually encounter in the course of their work. The doctors in the maternity and infant services volunteered information on nursing beliefs; the doctor in the venereal disease service said that many people believe the blood test weakens them; and all the doctors could contribute something when asked about the people's ideas of hygiene, but beyond this they could tell me little.

In spite of their apparent lack of knowledge of folk medicine, most of the doctors are aware that popular belief and practice retain a great deal of vigor and are

very pervasive. Apparently few if any patients explicitly bring these beliefs to the attention of the doctors. One of the doctors said that he does not hear much about the folk illnesses because the people are embarrassed to speak of them to the doctor since they are afraid he will consider them ignorant if they do. This is undoubtedly an element in the situation, due to the type of relationship between doctor and patient already described, but more important is the popular belief that folk illnesses are not known or believed in by the doctors and must be treated at home or by curanderismo, (by the curandero, the medicine man). The doctors say they never encounter complaints from patients that they are suffering from susto or any of the other folk diseases. Under these circumstances, the doctors have felt no need to develop special techniques for dealing with the people, that is, techniques that take into account the folk beliefs. The doctors operate as though the folk medicine does not exist. One doctor told of his experience in Iquitos in prescribing harmless diets along with necessary remedies in the face of strong belief that dieting was a major part of any cure, and another described how he became known as the doctor who cured susto when he practiced in the sierra, but neither of these men employ

similar tactics in their work on the coast. One doctor said that he does not believe in making concessions to popular beliefs, that the only way to teach the people the truth is to keep hammering away at them, and not by lowering the standards of medical knowledge by catering to the people.

Most doctors believe that the people accept their diagnoses and prescriptions, although they are less certain about acceptance of the advice and instructions they offer in addition. Among the Rimac doctors there is a general feeling that progress is being made, that more and more people are coming to the Center all the time and subjecting themselves to control, that perhaps all is being done that can be done. The Center doctor in Chimbote is not nearly as confident that things are getting better all the time. He feels that something should be done to stimulate and increase Center attendance, but has no specific plans of how to go about this. Counterbalancing the view of the Rimac doctors is a vague awareness on their part that the people are suspicious and ready to reject the Center's services if quick and concrete results are not forthcoming. The head doctor at Rimac expressed a view held by some of the others as well that the doctor is always suspect and on trial,

that the people assume he knows nothing, and he must therefore prove himself. He said that the strongest point of resistance is the male adult, that few of them come to the Center, and that they may influence strongly their wives and children who do come.

When on duty in Rimac Center, a nurse's contact with patients is usually even briefer and more routinized than that of the doctor. The only exceptions are the nurses in prenatal care and the infant clinic, the former giving advice and counseling, the latter explaining hygiene and proper diet to the mothers sent her by the doctor. All the nurses eventually take a turn at this duty, but their usual activities in the Center are concerned with receiving patients, preparing them for examination, assisting the doctors, giving vaccinations and injections, and so on. The interviews are of 5 to 10 minutes in duration and, according to the nurses, the women rarely ask questions although solicited to do so.

Nurses at the Rimac Center make four home visits a day, in the morning or afternoon, in a zone assigned to them. Visits may be made for a number of reasons: to inquire about a patient who has stopped his venereal disease treatment, to persuade venereal disease and tuberculosis contacts to come to the Center, to check up on the

fate of a child or adult who has been diagnosed as having one or another illness, to inquire about a family that has stopped visiting the Center, to visit a recent maternity case, or to pay a routine visit to a family that has not been visited for a long time. They attempt to visit all the families in their zones at least once or twice a year. During the visit, a nurse will usually first inquire according to the purpose of her visit, then ask about the health of each of the family members listed on the Center family record she carries, and finish with a stock speech about diet and necessary hygienic precautions.

When home-visiting, nurses are not subject to the pressures they feel in the Center, and often spend up to thirty minutes with a family. However, in my opinion, their techniques leave much to be desired in terms of the effectiveness of their visits. They tend to place the major emphasis on persuading the people to attend the Center rather than to utilize the visit as an opportunity for health education. The manner of persuasion is usually a direct frontal attack asking why the woman has not come to the Center and thus immediately placing her on the defensive. The woman's usual reaction is to launch into a series of excuses justifying her defection.

Questions about diet and hygiene are usually of the closed type (e.g., does your child eat everything? instead of what does your child eat?), and no attempt is made to investigate actual dietary and hygienic practices in the home. Instead of consulting with the woman and inquiring about her dietary and hygienic patterns, the nurse will make a standard speech about the diet, hygiene, and precautions and care in case of the sick which should prevail in the home. (Deber--'must, 'should'--is a verb frequently used.) In short, the nurse usually assumes the attitude of a superior rather than of an equal in visiting her families, and employs an inflexible standard approach rather than one of adjustment to the particular family and situation.

In Chinboto, where nurse's aides are used instead of nurses, the situation does not differ greatly. The nurse's aides, who usually have only a primary education, receive a brief course of training from the Center doctor and the one registered nurse. Their approaches in home visiting are reminiscent of those of the nurses in Rimac, but are somewhat less forceful and their speeches less complete. Confidence in nurse's aides on the part of the professional personnel is generally low, the nurse saying that she has to watch them all the time, the

doctor saying that their turnover is very high because of the extremely low salary paid and because they go into business for themselves as inyeccionistas once they learn the technique in the Center of giving hypodermic injections. According to the report of a meeting of Servicio project heads, discontent with nurse's aides is general, but they must be used because graduate nurses are reluctant to leave Lima and work in the jungle. In general, nurses and nurse's aides are courteous and pleasant to the families they visit, and this is reciprocated. In Chimbote, a nurse's aide said that when the Center first opened, few of the women would admit her when she made her rounds, but now she is rarely refused entrance. Visits are always terminated by leaving written appointments to the various Center services for various members of the family. The mother usually assures the visitor that the appointments will be kept.

Like the doctors, the nurses' knowledge of folk medicine is largely confined to familiarity with ojo and susto, but unlike them, they come into first hand contact occasionally with folk illnesses in their domiciliary visits, and so have a stronger awareness of the pervasiveness of folk beliefs. They occasionally

encounter evidence that illnesses have been treated at home or by curanderos. So far as could be determined, neither nurses nor nurse's aides make any constructive attempts to deal with such situations when they are encountered. One Rimac nurse described a case of infant diarrhea she encountered that the mother insisted was due to susto. She told the woman there is no such thing as susto, that the diarrhea was due to microbios. In Chimbote, the Center nurse told me that she instructs the nurse's aides to watch for cases of ojo and susto and tell the people these illnesses do not exist and that they should bring their children to the doctor. An exception to this negative pattern is a Rimac nurse, who unfortunately no longer does home visiting because of supervisory duties. This nurse spoke of adjusting herself (actually said lowering herself) to the level of culture of the people, of acting as a friend and counselor and thus winning the confidence of the people rather than acting as a professional. She said that nurses cannot always be negativistas, but must make some concessions to the people.

Some of the nurses did not understand the hot and cold distinctions in foods, remedies, and illnesses, (see discussion of folk medicine below) but the head nurse

at the Chimbote Hospital spoke of cases of serranos who come to the hospital suffering from rheumatism and arthritis which they say are due to cold, and request hot remedies. She has no idea what these may be, and so the people go away discontented, she said. She has also been confronted with requests for hot remedies for body aches, headaches, and tuberculosis."

C. Anthropological Field Techniques Used, and Types of Data Obtained.

Field methods used varied somewhat from investigator to investigator, as did the types of data sought. In all cases the investigators talked at length with the doctors in charge of Centers, and made a number of rounds with the nurses visiting patients. Investigators returned alone to talk with a number of patients, and visits were made to homes which had never been visited by nurses. The summary of field methods used in Peru is quoted to indicate in greater detail how the social anthropologist works.

"The techniques employed for the investigation were participant observation (in Centers and Hospital) and interviewing. At the Lima Health Center each of the four major services was visited for a half-day or more, and private interviews, varying in length according to the opportunity provided, were held with the five doctors, with eight of the sixteen nurses, and with the sanitary engineer. On five occasions, nurses were accompanied on their rounds of home visits to observe their activities and to make contacts among the people. Eight major informants were interviewed, with each of whom were held two or more interviews of at least two hours' duration. In addition, brief conversations were held with ten to fifteen other informants encountered in the homes of the major informants. At the Chimbote Hospital,

each of the two doctors was accompanied in his daily rounds and out-patient consultations, and private interviews were held with them and with one of the two nurses. At the Chimbote Health Center, which has only one doctor and one nurse, one and one-half days were spent observing Center activities, and a number of private interviews were held with the doctor and the nurse. Two of the seven nurse's aides were also interviewed. On three occasions, nurse's aides were accompanied on home visits, and an inspection tour was made with the sanitary inspector. Five major informants were interviewed among the people. Since I was always introduced to potential informants by a nurse or nurse's aide, I lost no time in explaining that I had no official connection with the Servicio and that I was not a medical doctor, but a university professor interested in studying the 'customs' of the people. This was necessary, of course, to forestall or mitigate possible resistances and reservations which might be directed against a medical identification."

A survey was made in the Ricuarte district in Bogotá whereby one house in each block in a contiguous area--a total of 62 houses--was selected at random. Inhabitants were asked if they knew of Center services, and if so, whether they took advantage of them, and if not, why not. Concepts of folk medicine and disease treatment were

recorded, and compared with the treatment prescribed in the Center. In La Dorada, Colombia, the treatments prescribed by the Center were compared with folk treatments in 16 homes. Data were secured which indicated what types of illness people thought were best treated by doctors, and what types best treated by home remedies and/or curanderos.

Folk medicine was analyzed in Mexico, and extensive statistical material was taken from the files of both Centers which pointed up types of situations in which good rapport had been established with patients, and situations in which resistance was encountered. In Brazil the cultural milieu in which the Centers and Hospitals function, as well as the functioning of the services themselves, were described in greater detail than in the other countries. No systematic analysis of folk medicine was made in that country.

The most important types of data which resulted from these investigations, and which will be utilized in the analytical part of this report, are as follows:

a) Extensive data on popular concepts of folk medicine in the Spanish-speaking countries. These include ideas of casualty, classification, magical treatment, herbal lore, the function of the curandero (medicine man), and home treatment.

b) Attitudes of patients and potential patients toward services offered by Centers, information on the types of illness for which patients would consult the Centers, and the types for which they would seek other means of treatment.

c) Statistical data on persons attending Centers and Hospitals, percentages of those who do not finish certain types of continuing treatment (e.g., prenatal, venereal disease), and the like.

d) Information on administrative and operational techniques of Centers and Hospitals which appear to be successful in winning and keeping rapport with patients, as well as information on those techniques which function less effectively.

Of the several categories of culture which should be more or less thoroughly understood in order successfully to carry out a health and sanitation program, local ideas of health, well-being, disease, its cause and its treatment, appear to be the most important. Some knowledge of them is also essential to understand the analytical discussion which forms the final sections of the report.

D. The Nature of Folk Medicine.

Among the peoples in question there is no single central integrated theory of disease, either between the three countries, or within any one country. There are, nevertheless, certain common themes and concepts which usually appear, so that the three countries can be treated as a unit for present purposes. It may surprise the reader to realize that probably the single largest element in the total body of belief is that which has come down through two millenia from the humoral pathology of Hippocrates and Galen. Health resulted, according to that theory, when the four humors--blood, phlegm, yellow bile and black bile--were in proper proportions in the body. This balance was maintained by a proper distribution within the body of the four elements, each of which was characterized by opposing qualities of heat, cold, moistness and dryness. This concept, with subsequent modifications and elaborations, reached Spain and Western Europe via the Arab World, and was transmitted to Hispanic America after the Conquest, where it remained the basis of medical classification and teaching until the 18th century. Selected aspects of this theory--particularly the concept of heat and cold as qualities of the body, of types of illnesses, and of foods and herbs--became part of the folk belief of most peoples. General concepts of "humors" have also prevailed.

Hence, today there is a widespread tendency to explain much illness in terms of "heat" or "cold," which do not necessarily correspond to

actual temperatures, but which are innate qualities of substances. Pneumonia, for example, is often classified as a "cold" disease, while typhoid fever may be "hot." Correspondingly, foods are frequently classified as "hot" or "cold," as well as herbs and other remedies. In Xochimilco, for example, some of the "hot" foods are sugar, honey, green chile pepper, brandy, black coffee, human milk, garlic, peanuts, onions, and salt. "Cold" foods are rice, spaghetti, potatoes, most meats, beans, most leafy vegetables, most fruits, coffee with milk, and chocolate. Lists differ in each village in Latin America, and there is no universal agreement as to what is "hot" and what is "cold." Nevertheless, in most places the idea exists, and has as a concomitant the feeling that a "hot" illness, i.e., one with a "hot" cause should be treated with "cold" medicaments and foods.

The "hot" and "cold" distinction provides a scheme for defining under what conditions and in what sequence certain foods can be eaten, what the results will be if the scheme is violated, which remedies can be used for which illnesses, and what the results will be if these rules are transgressed. In short, it appears that the "hot" and "cold" distinction provides a general framework of dos and don'ts for popular medicine.

A second common belief is what may be called the "clean stomach," the idea that periodic cleansing of the stomach and intestinal tract by means of strong physics is essential to health. The common Latin American practice of taking a physic every three or four months is

based on this conception. This belief also seems to be associated with the idea that the liver is a chief source of illness, and that purification of the blood is essential to recovery or maintenance of health. The relatively high proportion of digestive upsets among informants quizzed suggests the reason for preoccupation with the stomach, and also explains the extraordinary number of herbal remedies called estomacales which serve to "wash the stomach clean." Preoccupation with the blood is also exhibited by the general belief that extraction of blood for venereal or other tests weakens the patient, and explains why in some communities health authorities making periodic checks on children have been run out by irate parents.

Analysis of folk concepts of disease in the three countries under consideration suggests a tripartite etiological division: empirical, or rational; magical, or supernatural; and psychological (when an affective or emotional experience is considered the primary cause of an illness).

Empirical: An idea or action pattern of medicine may be classified as empirical in so far as it is logically consistent, verifiable, and understandable with reference to the body of empirical knowledge available to popular medicine. The idea may be erroneous, of course, in terms of modern medicine, but this does not mean that it fails to make sense in terms of the limited knowledge available to the adherents of folk medicine. In this sense, the popular etiological

pattern that defines the experiencing of abnormal cold as the cause of respiratory illness is empirical. Closely related to extreme cold as an etiological factor is aire, or mal aire ("air," "bad air"). This is sometimes explained as an actual current of air, a draft, which cools the body producing various types of illness. Contracting aire is almost inevitable if one emerges from a house with a "heated" body, or if one breaths air much cooler than that which one has been breathing. This in large part explains the Latin American belief that central heating is unhygienic if not downright dangerous. Aire is also at times thought of in a magical sense (see below). The violations of "hot" and "cold" food prohibitions, and of the rules prescribing the use of "hot" and "cold" remedies, when such violations lead to illness, may also be classified among the empirical etiological patterns, as may be those based on the concept of the clean stomach. The role attributed to "microbes," however poorly the term is understood, is another evidence of an empirical pattern. The recognizably contagious qualities of such diseases as measles and smallpox likewise make them fall in this category, as does the belief that gonorrhoea comes from intercourse with a menstruating woman, or from sitting on a hot rock, that malaria comes from eating certain fruits, or not sleeping enough at night.

In general, illness and injury which are the result of empirically determined causes are considered by the "folk" to be "natural." The most common "natural" diseases include whooping cough, colds, grippe,

measles, chicken pox, smallpox, intestinal worms, teething diarrhea, mange, venereal disease, typhoid fever, pneumonia, tuberculosis, rheumatism and the like.

Magical: An idea or action pattern of popular medicine may be classified as magical when it consists of or employs elements that lie outside the body of empirical knowledge, and are not verifiable or understandable in terms of that empirical realm. The most important and common illness in all Latin America that has an entirely magical etiology is ojo, "evil eye." Certain individuals have the power, often unintentional and sometimes unknown to themselves, of causing illness in small children by looking at them, or admiring them verbally. Such a person may touch or even beat the child at the time of looking, thus preventing the ojo from taking effect. If this is not done recourse is had to home cures or curanderos.

In Colombia and Peru there is a common feeling that a pregnant (or sometimes menstruating) woman who picks up a small child will cause it to fall ill. The word seco de primerizo is used in the former country, and pujo in the latter. Some kinds of susto ("fright") are of magical etiology in that a malignant spirit or ghost may take possession of an individual, frighten him, and cause him to fall ill. Bewitchment, making use of rag dolls or images representing the victim, into which pins are stuck or which are otherwise injured, is also a magical form of illness.

Psychological: In many ways this is the most interesting of all categories, in that it is folk recognition of the fact that strong emotional experiences can cause an individual to fall ill. In Peru, for example, embarrassment or shame produces chucaque, a strong disillusion tiricia, great anger colerina, and jealousy or sibling rivalry among young children caisa.<sup>5/</sup> Susto ("fright") also frequently falls in this category in all three countries, and is interpreted as illness and potential death from having had the soul knocked loose from the body as the result of the shock of fright. The Colombian descuajamiento, a child's disease caused by a sudden physical blow, may be related to this concept. The Colombian belief that children may suffer from the "cold" emanating from a dead body-- hielo de muerto ("ice of death") seems also to be basically psychological. In Mexico epilepsy is believed to be the result of strong resentment or anger.

Various other popular illnesses and concepts exist which will not be discussed for lack of space. The above three categories have been mentioned to indicate that in folk etiologies there are several definable categories of illness. In spite of much overlapping, and lack of correspondence from country to country, the general picture holds true, and is meaningful to the subject at hand in that types of remedies

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<sup>5/</sup> In the last-named case a child who notices his mother's pregnancy and feels jealousy may be the victim.

used, and willingness to submit to a trained doctor, depend in large measure on the conscious or unconscious recognition on the part of the patient or his family of the nature of the illness.

Folk cures make use of a variety of techniques. Most common is the preparation of infusions of herbs to be taken internally. Massage is often resorted to, and usually is accompanied by the feeling that the action removes the illness or poison from the body, in a mechanistic sense. The famous egg-rubbing of the body of a child believed to suffer from evil eye falls in this category. A warm, freshly-laid egg is passed over the body of the little patient, broken open and examined, and if a spot appears on the yoke, it is assumed that el ojo has struck the child; this diagnostic practice also has therapeutic value and frequently is believed to cure the child. Poultices often are used, sometimes for mechanical effects, but more commonly for magical reasons: in Peru and Colombia a live pigeon is split open and applied to the body for certain illnesses. Diet, with special attention to the "hot-cold" qualities of the foods, is of importance in all places. Certain days often are used for curing (Tuesday and Friday, especially in Peru) and certain hours of the day. Religious orations and creeds frequently are recited.

Though generalizations are dangerous, it appears that there is a tendency to resort to herbal remedies for those illnesses here classified as of empirical etiology. And these are the illnesses for which, with least hesitancy, one consults a trained doctor rather than, or in

addition to, a curandero. These are the illnesses which it is felt the doctor recognizes and understands, which fall within his range of training and experience. Conversely, those illnesses of magical and psychological etiologies, though often also treated with herbal remedies, with greater frequency are attacked by the curandero by means of massage, rubbing with an egg, magical poultices, baths, and magical orations. And, in general, these are the diseases which it is felt a doctor cannot understand, cannot cure, and should not be bothered with.

This discussion perhaps makes clearer what one who studies popular medicine in Latin America quickly comes to see: there is a fairly sharp (but not absolute) dichotomy between two categories of disease, which for want of better terms may be called "popular" or "folk," and "scientific." In the minds of the people these categories are thought of as those which can be treated with remedios caseros, home remedies, including the curandero, and those which yield most effectively to remedios del médico, to treatment by a trained doctor. Each type of illness has its own domain, and the remedies for one will be ineffectual for the other. Household treatment is the result of much experience; one knows of or hears second hand of many individuals cured in the same way of the same thing. Moreover, doctors either fail to recognize or snort in disdain at the venturesome patient who mentions the words susto, ojo, descuajamiento, and the like, so it is simplest for all to avoid use of the terms, or when home diagnosis shows this to be the cause of illness, avoid the doctor entirely.

The theoretical justification in the minds of the "folk" for illness here described in terms of magical or psychological etiologies is sufficiently important to warrant elaboration. The symptoms of these illnesses are for the most part fairly common--most frequently diarrhea, vomiting, and fever--and psychological symptoms are relatively infrequent, though by no means lacking. Because of the generality of these symptoms, particularly when combined with an even more flexible series such as crying, and action patterns that can be discerned as due to emotional instability or stress, they lend themselves to almost any kind of an interpretation, and it would seem that this is precisely what happens in the case of the majority of important folk illnesses. Hence we may proceed on the assumption that the most important role in the diagnosis of magically and psychologically based ills is played by the type of causative event that is defined as peculiar to the illness in question by popular etiology, in that the causative event creates the expectancy for the appearance of a particular disease. For example, a child falls from his bed, becomes frightened, and cries, so the parents expect susto to appear. Then, any of the vague symptoms may be seized upon to confirm the presence of susto. Many of the appropriate symptoms can be discerned with a little imaginative effort, such as paleness, eyelashes growing long, sadness, and so on. There are other symptoms that may have been present all the time but assume a new significance after the expectancy is created, such as crying or vomiting, either one of which is sufficient to diagnose ojo once the

appropriate causative event has occurred. Similarly, in other illnesses with a psychological etiology, e.g., chucaque and colerina, the causative event and the expectancy it creates may be decisive. The syndromes in these illnesses are probably in great part manifestations of culturally patterned behavior, i.e., the man who experiences profound embarrassment may be expected to react according to the chucaque syndrome. (Of course, it is possible that the individual actually develops these or other symptoms as a result of his emotional experience. A fit of anger or a fright, e.g., may certainly have physiological repercussions.) It is also not difficult to see the functional value of such behavior as a way of escape for the individual, a means of taking refuge from the unpleasant experience he has had. In colerina, the individual escapes from the embarrassing or unpleasant aftermath (and possible retribution) of his fit of anger by taking refuge in illness which renders him immune.

A number of other general folk concepts of medicine and health may be listed, to help serve as basis for discussion of suggestions as to how health and sanitation projects may function more efficiently.

1). Health consists in feeling well; it is not possible to be ill if one feels well and has no evident symptoms of disease. Since sickness is due to sins of omission or commission, or to fate, there is very little a well person can or ought to do to keep himself well. Treatment is sought when a person falls ill, and usually there is apathy to doing much until the person is quite ill. This feeling about

health is akin to the Latin American concept of machinery maintenance: if a machine runs obviously it is all right and needs no care; it is clearly logical to repair it only when it needs attention, i.e., when it ceases to function properly.

This concept of health is related to a feeling, particularly prevalent in Mexico, that it is shameful to be ill, or admit that one is weak enough to succumb to germs. One should be muy macho, very much a man, able to absorb a good many disease-causing elements and still be unaffected. Tubercular victims seem particularly loath to admit that they are afflicted.

2). Bathing is probably more often than not frowned upon, particularly if a person is ill. But there are many exceptions, and some ethnic groups in Latin America, provided with the opportunity, bathe regularly. Bathing during pregnancy is frequently considered advisable.

3). Ventilation is dangerous at any time, particularly at night and in the room of a sick person. Sick rooms should be closed up tight.

4). Contagion is recognized as characterizing certain diseases, particularly whooping cough, measles, smallpox, but the idea that others, such as syphilis or tuberculosis, are also contagious, is generally lacking.

5). In parts of Mexico, at least, there is a pattern of isolation of patients for some illnesses. The reason is largely magical. A sick person is weak, hence particularly subject to dangerous elements. A visitor might have "strong blood," for example, and this would be detrimental to the patient's recovery.

6). Vaccination and injections are characterized by ambivalence. Apparently a relatively high percentage of smallpox vaccinations become infected, and there is some belief that in a weak person they cause the disease. But the preventive value of smallpox vaccination is also widely recognized, so parents are torn by indecision; forcible vaccination generally makes up their minds for them. The taking of injections for almost any ill is very common in Latin America; it might be called the single greatest medical fad, and any corner drug-store will obligingly inject any one of a number of drugs. But among significant groups there is also the feeling that sticking anything into the body is dangerous and undesirable, particularly if bleeding results, or if the object is to remove blood for a test.

Pre- and post-natal care are an important part of all Servicio programs. These periods in the life of the mother and child also are of prime concern to folk peoples, as to all others, and elaborate sets of belief and practice have developed which govern the actions of the individuals concerned. Generally in Latin America there is a belief that gestation requires 9 months for a male, but only 8 months for a female. Relatively few dietary prohibitions limit a woman's fare during pregnancy. The belief was recorded in Mexico and Peru that a pregnant woman should drink little water, and that from a small container; otherwise the foetus will develop a large head inhibiting easy delivery. In Colombia some informants stated that a woman should avoid milk and butter, since these foods produce a large foetus. Generally there is a

feeling that any practice thought to produce a large foetus is undesirable. Teas of mint and other herbs are often prescribed to prevent nausea.

In Mexico frequent bathing and regular exercise are believed essential to avoid delay in ejection of the placenta. Massage of the abdomen by a midwife is common, and it is stated that breech presentations are sometimes spotted and corrected in time to permit normal delivery. In Mexico, in the Peruvian sierra, and doubtless in the other countries, birth often occurs in a squatting or kneeling position, the woman supporting herself on a chair, hanging from a rope, or being grasped under the arms by her husband. Her braids sometimes are placed in her throat to produce vomiting, and contraction of abdominal muscles to expell the foetus. The umbilical cord is cut before the placenta is expulsed. It is tied with thread, and the stump treated with hot tallow. The infant is bathed, and lime juice dropped in the eyes to clean them. The placenta is buried, often under hearth stones; failure to do so endangers both mother and child.

The Xochimilco mother remains in bed from one to nearly three weeks following delivery, and upon arising takes her first bath. Formerly this was done in the sweat house; now this is less common, but the psychological equivalent is the rule, with an improvised indoor vapor bath from water in which various herbs have been placed. Diet for the first three days following delivery is very light; though informants

did not apparently realize it, all foods except for bread fall in the "cold" category. "Hot" foods predominate after the fourth day.

The period of home confinement lasts in all Latin American countries for 40 days, and sexual relations are taboo during this time. In Colombia special emphasis is laid on the importance of burial of the placenta along with hot ashes.

### III. ANALYTICAL DISCUSSION

#### A. Patient's Attitudes Toward Health Centers.

The investigators felt that in general the Centers and Hospitals were doing a good job; in some cases, outstandingly so, in view of the difficulties inherent in working through two governments, with compounded bureaucracy, and in dealing with the esoteric concepts of peoples from low income and educational strata. A high degree of sense of duty was manifest by many doctors and nurses, pride in the physical equipment of Centers and Hospitals was notable, and a desire to make the projects successful apparent. Genuine sympathy for the peoples to be benefited characterizes much of the personnel.

At the same time nearly everyone who has worked in Centers and Hospitals recognizes that there are many opportunities for improvement in services, and in relations with the public. To the anthropologist it looks as if the greatest single problem--and it is generic to technical aid programs in all parts of the world--is that of "communication." In this case it means: how is it possible to get across the idea to the recipient peoples that preventive medicine is a type of personal health insurance that will keep the individual in better health, make him live longer, and make him able to work more efficiently and enjoy life more fully? How can people who consider much of illness to be due to magical causes be made to understand scientific concepts of disease, of germs, and made to act accordingly? How can such people be persuaded to take

elementary precautions to avoid disease, to come to the doctor at the first sign of illness, to follow closely his prescribed treatment, and to avoid the native curandero?

Fundamentally the problem is one of persuading people to drop old habits and ideas and substitute for them new ones which heretofore have formed no part of their conceptual world. The public health specialist is not operating in a vacuum; his subjects do not feel he is bringing light on a problem about which they knew nothing. Rather, he is working in an area in which the subjects already have definite and hard-to-shake beliefs which they are just as sure are correct as he is sure they are mistaken. They are not at all sure the doctor's ideas are better than those of the curandero; in many cases they are convinced they are inferior. To be sure, many of modern medicine's practices are demonstrably sound--the Latin American of low-income strata is often remarkably pragmatic in his observations--but equally demonstrably there are illnesses which the doctor does not understand, whose names he does not even know, and whose treatments he ridicules if called to his attention.

"Communication" therefore has two aspects: the driving out or subordinating of the old, and the bringing in of the new. The survey of Centers and Hospitals has not revealed any single device whereby this goal can be attained, but a number of ideas developed as to how greater progress could be achieved. The ultimate measure of success of a program would seem to be the gradual substitution of modern ideas of

health and disease prevention for folk beliefs, increased desire on the part of people to go to the doctor for treatment, willingness to follow through on his prescribed treatment, all combining to raise basic health standards.

Measured by numbers of patients the Health Centers and Hospitals are doing very well. With one exception all are operating at capacity for present staffs, though in some cases available space would permit increased personnel and corresponding load. The exception to capacity operation is Chiribote, and this presumably is explicable as due to its recent inauguration. In spite of capacity or near-capacity operations, however, there is considerable question as to efficiency as measured in terms of some types of results. For example, in the Alemán Center 43% of registered women drop out during prenatal treatment, many after the first examination. 63% of the Xochimilco venereal patients drop out before completing the treatment. The Alemán Center appears to have lost 84% of its servicio infantil ("infants' service") cases in the course of a year. Equally complete statistics on the other countries are not available, but informants' statements indicate large numbers of former patients who fail to patronize the Centers because of real or imagined slights, or other criticisms.<sup>6/</sup>

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<sup>6/</sup> A survey in the Ricuarte district in Bogotá was made to determine the effectiveness of the Center in reaching and winning the people. One house in each block in a contiguous area--a total of 62 houses--was selected at random. At each stop (there were no refusals to

Field reports all remark on the technical excellence of the services offered. The problem, then, appears to be that of finding the formula which will make it seem worthwhile to an individual who begins treatment to follow through to completion.

It would seem to be false economy to lavish attention on new patients rather than to try to induce old ones to follow through. If a pregnant woman comes for her initial appointment, very considerable time is spent on her. Records are filled out; she is given a complete physical as well as gynecological examination plus assorted tests (for parasites, tuberculosis, etc.) Accordingly, the Center has a real monetary investment in this particular patient. And in order

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6/ admit the investigators) the inhabitants were informed that an inquiry was being made about the Center to find out if its services were known, and if so, what opinion of the Center was held. Of the 62 responses, 13 or 21% were that the services of the Center were excellent and no means for improving on them could be thought of. 17 or 27% said either that they knew nothing (7), that they didn't care to say (5), or that they had just recently moved to the barrio and for this reason knew nothing of the Center (5). Excluding those who either knew nothing of the Center or were unwilling to commit themselves, the information breaks down in the following manner: 13 or 29% said the services were excellent, 19 or 42% complained in some way or another of poor service and attention, 7 or 16% criticized the Center for "economic" reasons, and 6 or 13% criticized the sanitary measures of the Center. Economic reasons included inability to purchase medicines recommended, and the fact that children over 7 were not taken (really a compliment, of course). "Sanitary" criticism sounded more like the outcries of chronic complainers: an open sewer was not repaired, home owners were not required to install sanitary measures, the Center insisted on installation of expensive sanitary measures, and so forth.

to safeguard that investment, some effort is warranted to keep her under control of the Center.

The failure of Centers to keep a higher percentage of patients who have been enrolled is explained to a considerable extent by the three most common--almost universal--criticisms leveled at them by the people who patronize or would like to patronize them: frequent lack of tact and diplomacy on the part of doctors, nurses, and other personnel; time lost in going to the Centers; failure of some Centers to treat sick children if appointments for routine examinations have not been kept. Each justifies additional discussion.

1). Lack of tact and diplomacy. In a great many cases doctors and nurses are at least impersonal to the point of frightening patients, and in some cases they are consciously or unconsciously rude. Part of this stems from ideas of class and status found in Latin America, with rigidly preconceived ideas of the manners and intelligence of persons in all other classes, particularly those below one. In many cases, also, apparent rudeness results from the desire on the part of the nurse to do a good job and is completely unconscious. The following excerpt from field notes illustrates this situation.

"This nurse's major emphasis as soon as she enters a house is on asking why the family has not visited the Center, thus placing the individual on the defensive from the first moment. She never looks closely at any of the children, keeps her face glued to the family record, goes

down the list of names and asks why Fulano has not had his vaccination and why Mengano has not been brought to have his weight checked. The usual reaction of the mother is to say 'I meant to bring him but I have not had time. I actually had been thinking of doing it next week.' All promise to keep the appointments set by the nurse, and perhaps a third do it."

In some cases the constant harping on keeping appointments--efficiency from the standpoint of the trained medical persons--results in irritated townsmen coming to the Center and insisting that their names be stricken from the records so they won't be bothered by visiting nurses. Other informants reported that they had been scolded when they showed up at Centers after having missed an appointment, and as a result had failed to go back.

A masterpiece of poor public relations was reported from a rural Center: a young woman began to experience labor pains, and her mother went for the Center midwife. The girl was unable to climb into her high bed, so lay down on a blanket on the floor, where the child was born before the arrival of the midwife. The latter was very angry, and said that the girl was like a bitch, having her young on the ground. "All you girls are like whores: you don't hesitate to crawl into bed to sleep with a man, but you can't get into bed to have a child."

On the other hand, a number of nurses were mentioned by informants as being understanding and sympathetic; they never scolded, treated patients like friends, went out of their way (occasionally to the point of violating Center regulations on unimportant matters) really to render service. Some of the successful were head nurses, well trained in public health nursing; others were nurse's assistants with little formal training, but a natural bent for getting along with people.

2). Loss of time. This was the single most frequent complaint about Center services. In most Centers appointments are by the day, and the patient must wait until he or she is called. For a busy housewife with many small children, a hungry husband coming home at noon, and morning marketing tasks, the loss of up to half a day is a well-nigh insurmountable difficulty. One informant, a man, stated he came out ahead working and paying a private physician whom he could see after hours, rather than losing pay for the time he would wait at the Center. Admitting the problems in getting people with a poor time sense, probably lacking clocks, to keep appointments by the hour, it is still noteworthy that this system is used in Xochimilco, and criticisms on account of lost time are relatively fewer here than in the other Centers.

3). Failure to treat sick children. This is the most bitter of all criticisms leveled at Centers. It illustrates the failure of the people served to understand the fundamental distinction between

preventive medicine--the basic goal of Health Centers--and routine treatment of the sick and ailing. There is much variation in the amount of medical care given the sick in the several Centers. That of La Dorada, Colombia, and apparently the Brazilian Centers, take all sick persons who present themselves. The Mexico City and Lima Centers are at the other end of the spectrum, and appear simply to refuse all treatment that does not fall within their prescribed range of services. Field notes indicate in many Centers a fairly wide marginal area within which the doctor's or nurse's discretion is what determines rejection or acceptance of a sick child for treatment. Many informants said that a sick child was accepted if he had kept all of his routine appointments, but refused if he were a back-slider. Others complained that they were told their children must first be visited in the home by a nurse to record case histories and vital data. On still other occasions mothers with sick children were told to return on some future date. Unquestionably, whatever the basic philosophy and logic behind Health Center programs may be, parental anger in being refused treatment for sick children has resulted in active antagonism to any and all Center activities on the part of many people.

Of the three basic criticisms of Centers, the first two involve human relations and, perhaps, a shift in some aspects of operating procedure. The third, however, is of a different nature, and involves matters fundamental to the basic philosophy of Health Centers. It

raises the question as to whether Latin America is yet ready for big public health programs in which primary emphasis is laid on preventive medicine of a type which requires a fairly high degree of sophistication and understanding on the part of the recipients. The general failure in Latin America to comprehend that a well person can and should take measures to stay well severely limits the people's understanding of the true purpose of Health Centers. This in turn gives rise to the most common criticism voiced, failure to treat the sick, criticism which is valid from the point of view of the people, but unjust in the light of Health Center goals.

It will be remembered that there is a general belief in all Latin America that a well person is like a smoothly functioning piece of machinery--the mere fact that he is well shows that he needs no attention. There seems to be no stimulus sufficiently strong to keep well people coming to Centers so that a really successful preventive medicine program, unaccompanied by certain concessions toward what the people believe they need, can be worked out at this time. The very strong feeling of fatality that accompanies life in Latin America is also reflected in disease concepts. The "luck" or "destiny" of a person is often given as the real explanation of sickness. "Illness comes when it has to come" is a statement frequently heard. With such a point of view periodic check-ups simply have no logical reason or explanation in the minds of the people to be benefited--they feel they are doing the Center a favor in keeping appointments, rather than that

they are being done a favor. Actually, there is very considerable lethargy in Latin America in seeking medical help until a patient is really ill.

In view of these limiting cultural factors, Institute of Social Anthropology investigators felt that improved health and better living conditions may very well come more rapidly through a process of education and persuasion which frankly recognizes the sick individual as the initial target. Fundamentally, the sympathetic ear of the people is what the preventive medicine specialist must gain. To people who are inherently skeptical of the apparent good intentions of government programs, movies, lectures and demonstrations are going to be treated with suspicion, and attendance will be small. But the mother who has seen a dangerously ill child restored to health is probably going to set more store by the doctor's advice to boil milk than is the mother who has been turned away because the Center does not treat the sick. Except for Simmons in Peru, all investigators felt that if Centers adopted a more liberal attitude with respect to treatment of sick children, regardless of previous registration or failure to keep appointments, the resultant sympathy for the Centers and their long-range programs would eventually result in greater progress than an overly-rigid interpretation of preventive medicine. This conclusion appears to have been reached, informally at least, in some Centers, and the relatively small amounts of time

devoted to purely health education, movies, and the like indicate that the practical facts of the situation are sensed.

Simmons felt that it would be a grave mistake for Centers to institute treatment of sick children or of any other patients as a regular part of their services. This disagreement between investigators is more apparent than real. Simmons felt that medical care must go hand in hand with preventive medicine, but that for practical reasons of budget and administration it should be the responsibility of non-Servicio organizations. Servicio medical care, he contends, can reach relatively small numbers of people, have short term effects, and constitute a serious drain on limited resources, thereby reducing the efficacy of Center efforts in the fields of pure public health. Every effort should be made to afford adequate medical treatment for the sick, but Centers should not dissipate their limited resources by trying to do fundamentally distinct jobs.

It seems to the editor that the decision is not necessarily of the "either-or" variety. In large cities corollary medical services might very well integrate their services with those of Health Centers, thereby relieving the latter of this routine task. On the other hand, in small towns matters of practical economy may very well dictate that the Health Center also offer medical treatment to the sick. Whatever administrative solutions are found to such problems, it seems probable that unless sick people can find adequate low-cost facilities for treatment, and come genuinely to realize that scientific therapeutic

practices are superior to those of the curandero, they will not be very receptive to purely preventive medicine projects which, as has been pointed out, are completely foreign to their fundamental cultural premises.

B. The Anthropological Approach as Applied to Health Center Programs.

A widely-accepted premise of anthropology is that new ideas or techniques are more readily accepted by people if there is already something within their culture which is or appears to be similar to the foreign element. In terms of the present problem this means that if patients find something familiar to their range of experience and belief in the recommendations made by the Centers, and in the understanding of their ideas of disease, they are likely to gain confidence and come to accept new concepts and habits far more rapidly than if their folk practices are simply ignored or uncritically condemned.

This supposition implies that a general knowledge of medical folk belief on the part of Center personnel, and an ability to make use of it critically at certain times and for certain ends, will contribute in a material way to the successful functioning of health and sanitation projects. This contribution should occur in two ways: (1) the confidence which trained personnel will instill in patients if it is apparent that they understand the folk concepts, but simply feel that usually there are scientific ways which are superior; (2) the ability of trained personnel to take advantage of folk concepts to interpret and make intelligible modern medical treatments and preventive measures, and to persuade patients to adopt and follow through with recommended practices.

As has already been emphasized, health education and preventive medicine, as well as remedial medicine, are not simply a matter of instilling new knowledge into the minds of people. The individuals toward whom Servicio projects are directed are adults (assuming that children come because brought by their mothers) who already have very definite ideas on the subject in question, ideas which often run at cross purposes to those of modern science. Weeding out and elimination of many of these ideas, and modification of others is essential. The pervasiveness of popular medicine, and its vitality and self-sufficiency are astonishing. Every individual in all four countries who served as an informant--and the selection was largely random--could describe with little effort a considerable number of household remedies and their uses, and had decided ideas about etiologies and syndromes of a wide variety of illnesses. It is true that there was much disagreement between informants about causes of illnesses, the efficacy of certain treatments, and the utility of curanderos vs. doctors. Nevertheless, folk medicine continues because of its functional value, and not as a curious relic of "old ways." Informants frequently spoke of their children as having been recently ojeado or asustado (attacked by the evil eye, or "frightened"), and cited cases of friends or relatives who had suffered from one or another of the folk illnesses here described. Curanderos do a brisk business in all places studied.

The conflict between folk medicine and scientific medicine is summed up in the persons of the doctor and the curandero. Each represents the highest achievement of his field. The attitudes on the part of the folk to each class, therefore, are pertinent to this study. Unfortunately, the doctor usually comes off second best. This is in part due to the inherent nature of the situation, and in part to native suspicion of individuals in other social classes, particularly those above them. The curandero operates under conditions that are relatively more favorable than those of the doctor from the point of view of impressing the patient with concrete results and apparent success. He treats folk illness the symptoms of which often are so ill-defined that he cannot help but succeed in alleviating them. If the vague physiological symptoms identified with the illness persist or reappear after the cure, the curandero can always say that the case has become complicated and requires another series of cures or a different cure, or that a new and different illness has attacked the patient. Also, most curanderos do not claim to cure all illnesses, and in many cases can recommend that a patient consult a doctor. This establishes them in the minds of the folk as fair, open-minded individuals willing to admit their limitations. Finally, the curandero's diagnostic techniques do not require elaborate and exhaustive questioning of the patient as to symptoms, case history, and the like. He has certain magical or automatic devices which he applies to specific situations, and the answers follow almost like clockwork. Moreover, there are many cases reported by field observers

in which a doctor failed to cure an individual and a curandero had apparent genuine success.

The doctor enjoys few of these advantages. His diagnosis is seldom cut and dried, he cannot guarantee quick results, and he seldom enjoys the faith and confidence accorded the curandero, because he is from a social class instinctively distrusted by the majority of his patients. Moreover, the doctor can never admit that a curandero can cure things which he is incapable of treating, and this is interpreted as meaning that he conceitedly and selfishly believes himself to be the sole repository of medical knowledge--a point of view which, in the light of the discussion on folk medicine, the pueblo is loath to accept.

Criticisms of doctors and their professional methods are rife among their patients of the lower class, and in most cases such criticisms are based on a complete lack of comprehension of medicine, its methods, and its limitations. Several pointed out that doctors asked questions of patients about their symptoms, which showed that they were not as smart as they thought they were. A smart doctor should not have to ask questions. A good curandero doesn't have to ask questions, so why should a man who pretends to know a great deal more? Another patient scornfully pointed out that a president of Colombia died "even though he had 50 doctors at his bedside." The implication was that if 50 doctors could not keep a man from dying, a single doctor in a short interview was almost worse than worthless.

A final handicap of the doctor is that he is victim of the general tendency to exhaust home remedies and the arts of the curandero before appealing to the doctor. He therefore gets many cases which are hopeless because of the time interval, or which are simply incurable. Hence, the failure of folk medicine as well as those of his own profession are heaped upon his shoulders.

In spite of the difficulties under which the doctor labors, a great deal of obvious progress has been made, and this progress is what holds out the hope and expectation that eventually sound sanitary and preventive practices will prevail in the areas in which the Servicios operate. Sulfa, penicillin, and other "wonder" drugs are generally known and clamored for, and analgesics, tonics, laxatives and patent medicines are widely used. Many find their ways into folk prescriptions. Actually, the peoples toward whom these programs are directed are remarkably pragmatic in much of their personal philosophy. They are quite willing to try many new things, if they see no apparent danger, and if new things work, it is taken as evidence that they are good, and worthy of continued use. So in spite of personal feelings about the personality of doctors and nurses, or about the apparent blind sides of modern medicine, the Centers will be patronized for those services which they have proved they can supply better than any folk system. The dichotomy which exists in the minds of patients between those illnesses best treated by the doctor, and those best kept out of his hands, is not inflexible. Little by little those symptoms which

traditionally have been treated by the curandero will be brought to the attention of the doctor, and as he demonstrates his ability to handle them, so will confidence in his methods grow.

Statistical evidence of the progress that is being made in this direction is shown by the questioning of seven informants in the Puente Aranda district of Bogotá as to what diseases they would take to a doctor for treatment, and what diseases they would treat by other means. The list is not complete, in that few diseases of magical or psychological etiologies are included. Nevertheless, it is interesting to note that sickness believed to be produced by witchcraft is the only one for which no one would seek a doctor. On the other hand, all who answered said they would consult a doctor for syphilis, typhoid fever, appendicitis diphtheria and hernia.

	Would Consult a doctor	Would treat by other means
Apendicitis (appendicitis) . . . . .	6 100%	0
Hernia (hernia) . . . . .	6 100%	0
Tifo (typhoid) . . . . .	6 100%	0
Difteria (diphtheria) . . . . .	4 100%	0
Sifilis (syphilis) . . . . .	4 100%	0
Pulmonía (pneumonia) . . . . .	6 86%	1
Tuberculosis (tuberculosis) . . . . .	5 83%	1
Asma (asthma) . . . . .	5 72%	2
Tosferina (whooping cough) . . . . .	5 72%	2
Disentería (dysentery) . . . . .	4 67%	2
Flores blancas (leucorrhoea) . . . . .	3 60%	2
Embarazo (pregnancy) . . . . .	4 57%	3
Reumatismo (rheumatism) . . . . .	3 50%	3
Lombrices (intestinal worms) . . . . .	3 43%	4
Parto (childbirth) . . . . .	3 43%	4
Sarna (mange) . . . . .	3 43%	4
Viruela (smallpox) . . . . .	2 33%	4

		<u>Would Consult a doctor</u>	<u>Would treat by other means</u>
*Mal de Ojo (evil eye) . . .	2	33%	4
*Hielo de Muerto (ice of death) . . . . .	2	33%	4
Sarampión (measles) . . . .	2	29%	5
*Descuajamiento . . . . .	1	25%	3
*Susto (fright) . . . . .	1	25%	3
*Hechizo (witchcraft) . . . .	0	0%	4

\*Diseases with magical or psychological etiologies.

The common tendency on the part of doctors and nurses to ignore, if not to ridicule, folk concepts of illness, probably reduces their effectiveness in that the attitude strengthens the popular belief that certain categories of ills are not understood and cannot be treated by medical men. For this reason, many genuinely sick persons do not receive proper medical treatment until their cases are advanced or hopeless. With the "drowning-man-clutching-at-a-straw" philosophy such cases often are then brought to Hospitals or Centers, but when death follows doctors are still further discredited, and folk beliefs are reinforced.

Occasional instances came to the attention of Institute of Social Anthropology investigators in which nurses or doctors knew certain folk concepts, were tolerant of them, did not discredit them--and, rarely--made use of them. The success of such individuals in gaining popular confidence was in striking contrast to other Center personnel. An interesting case is that of a "private" nurse in the Puente Aranda district of Bogotá. She had worked seven years in the San José

Hospital, according to Center authorities, and had taken courses there. Her specialty is midwifery, but she also treats all kinds of illness brought to her. In view of her special training she is recognized by Center authorities who cooperate with her by sending childbirth cases to her; she corresponds by charging half or less of her usual fee for such cases. She is the daughter of a curandero, and along with her hospital training subscribes to a good deal of folk medical belief. (Though probably little if any more than many Center nurses, if sample questionings are representative). Her great success with people is probably explained by her attitude. She never argues with her patients about the cause of disease "the way doctors do," and simply applies the remedies she thinks appropriate. These are a mixture of herbal lore and penicillin, sulfa, and other standard pharmaceuticals. She tells people how they should apply remedies, but does not try to explain the theory. Significantly, if patients remonstrate, she says she does things in such and such a manner "because that is the way the doctors do it." Apparently the fact that she obviously knows folk medicine, but also has specialized esoteric knowledge (i.e., scientific) works very much in her favor; if she often prescribes treatment from that category less known to patients, it should be followed, because she is a specialist in both. The ambivalent attitude toward doctors is indicated by the fact that appeal to doctors' authority aids her in persuading patients to follow prescribed treatment.

An even more striking example was encountered in Peru. The assistant head nurse of a Center expressed the belief that it was necessary to compromise with the beliefs of the people, that it is not possible always to be a negativista. She recalled a case in which a new mother failed to come to the Center for an appointment. Visiting her in her home, she found the mother in great pain. She was, said the mother, suffering from daño, the result of bewitchment, and was drying up. She seemed unable to move her arms, and had stopped nursing her child for fear the daño would pass through her milk. Physiological evidence indicated that the illness was largely or entirely mental. As an experiment, the nurse decided upon a strategy probably not approved by the Center. She did not deny the witchcraft, asked for other symptoms, and then simply said "parece que le ha hecho daño," "it appears that something has happened to you," thus neither denying nor confirming the woman's opinion as to the cause of her difficulty. When she returned three days later the woman frankly told her a curandero had tried to cure her by rubbing her with a guinea pig, which was then cut open for diagnosis. However, she did not feel much improved. The nurse then said she knew a little about curing daño, and would be glad to try if her services were wanted. The woman asked her where she was born (Cuzco), in what month she was born, and if she knew how to converse with cerros (hills). Apparently the answers pleased her, for the next time the nurse returned the woman informed her she had talked with her curandero, who was also impressed that the nurse knew about and

apparently believed in daño, and was satisfied with her birthplace, month of birth, and the fact that she could talk with the hills. The nurse then had the woman's complete confidence. But instead of beginning her treatment immediately, she waited until the following Tuesday, because she knew Tuesdays and Fridays were days believed to be auspicious for curing practices. On this occasion the nurse spoke to her in a soothing fashion, about anything to obtain her undivided attention. Then she took the patient by the wrist, told her to close her eyes, and began to rub her arm. Suddenly the woman opened her eyes and cried that the arm was cured, that she could move it. The nurse told her to keep moving the arm all day, and that she would return the following Friday to cure the other, which she did in the same way. On this day she told her to prepare her clothes to get up on the following Tuesday, on which occasion she explained to the woman that the cause of her malady was a disturbance in her "soul"--an explanation sympathetic to the woman--brought about by her tendency to think too much about herself. She was now cured, said the nurse, and should not injure herself in the future by thinking about herself.

Such an approach is, of course, extreme, and cannot be recommended for all cases. Nevertheless, it is probable that a patient treated in such an understanding and sympathetic manner will accept other forms of treatment in which suggestion plays no part.

If patients could come to believe that doctors and nurses were familiar with their own ideas of health and sickness, approved of some

of their treatment (e.g., isolation, bathing, specialized diet), but felt that for many things they have even better methods, it is very likely that greater tolerance for modern medicine would be evinced. There must be great numbers of people who would like to follow a doctor's recommendations, but are fearful to do so because of the accumulated repressive weight of folk tradition, and the doubts which arise from feeling that the doctors do not know about the type of sickness which may be afflicting one.

If an obviously sick child suffering from fever, headache, and vomiting were brought to the doctor, and the mother did not hesitate to say "I suspect it is the evil eye," the doctor should lose none of his professional integrity by replying, "Yes, it could be. But there are many illnesses with similar symptoms, and my examination convinces me that in this case it is - - -, and I recommend the following treatment." The doctor is not ridiculing the mother's belief--he is admitting the possibility. But as a specialist he believes it is more apt to be something else, and as a sympathetic specialist, his advice may very well be followed.

Dr. Jean F. Rogier, chief of mission in Bogotá, reported his experience at another post. An herb locally used for diarrhea came to his attention, and after verifying its efficacy he sometimes recommended its use along with his own remedies. The populace was much impressed that he knew and recommended it, and his rapport was correspondingly increased.

Apart from this general suggestion, a number of specific points in folk belief may serve as points of departure for the explanation of modern medical and sanitary practices in terms of folk ideas. The cases are merely illustrative. In each case, precise knowledge of the locality in question would be essential.

MEXICO:

1). There appears to be general recognition that venereal disease, measles, skin diseases, and smallpox are communicable. But the contagious nature of chicken pox, whooping cough, and tuberculosis--to name a few--is not understood. Here the problem is one of simply extending an already existing belief, which is harmonious with medical practice, and persuading the mother to treat the patient accordingly. The nurse or doctor might say, "You are suffering from tuberculosis. This illness is much like measles in that it will pass from one member of the family to another if certain precautions are not taken. Other persons are infected more slowly than in the case of measles, but in much the same way." Further elaboration and explanation, repeated as treatment is continued, might eventually instill the idea that many other illnesses are contagious, and a gain in preventive medicine correspondingly results.

2). Isolation of many patients, complete or relative, is well established in Xochinilco. In most cases isolation is due to the

belief that the patient is in a weakened condition and that visitors knowingly or unknowingly might further injure him. The restrictions on visitors are magical, designed chiefly to protect the patient from the evil influences of aire. (see p. 48 ). Whatever the folk reasoning, the fact remains that an essentially hygienic practice exists, and can be utilized in the treatment of communicable diseases. The nurse need not remark on the potential danger of "aire," but if she says flatly that visitors are undesirable the chances are that the family may respect her recommendation, although she is thinking in terms of contagion and they in terms of magic. Even a well-meaning member of the family may unwittingly introduce aire, so the concept conveniently bars close relatives as well as neighbors.

3). In Xochimilco 3 is the ritual number. To a certain cough medicine, for example, three drops of alcohol or of lime juice are added, and the medicine is taken on 3 successive nights. Certain remedies for dysentery, epilepsy, heart complaints, and stomach ache, are taken 3 mornings in succession before breakfast. Medicines for the national complaint of bilis (a vague, ill-defined malaise) and for tuberculosis are administered 3 times a day, as is an enema to reduce fever.<sup>7/</sup> The ritual value of a magical number is often of a compulsive

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<sup>7/</sup> The number 3 is also ritual in Peru. Three Lord's Prayers are often prayed in curing "fright;" three Creeds for curing the evil eye. Another "fright" cure consists of taking three drops of rooster blood and three drops of agua florida--a patent medicine--in a

character among folk peoples in determining behavior patterns. It is quite possible that medical treatments prescribed in terms of shots or internal medicines on three successive days, or three times a day, or once a week for three weeks, might conform to the deeply engrained folk ideas of therapeutic treatment, and result in more faithful taking of medicine or appearance at the Health Center or Hospital.<sup>8/</sup>

4). Mention has been made of the near-starvation diet imposed upon Xochinilco mothers for three days following delivery, and the fact that except for bread all foods fall into the "cold" category. Attempts to amplify this restricted diet with "hot" foods might meet considerable resistance, whereas if other foods generally considered to be "cold," such as chicken or beef broth, tomato and orange juice, and broiled meat were recommended, there would be no conscious or unconscious conflict with folk ideas as to what is safe and what is unsafe to eat. Similarly, the first foods given to infants are also "cold," and there

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glass of water, and in tying three rooster crests and three cloves of garlic around the neck. Many other examples illustrate the high emotional content of this number in folk medicine.

<sup>8/</sup> Credit for this thought is due to Alexander H. and Dorothea C. Leighton who in their book The Navaho Door (Harvard University Press, 1944, p. 63) point out how the sacred number 4 of the Navahos may be similarly used to fortify and justify treatment.

is considerable resistance to giving solid food at as early an age as doctors recommend. If an amplified diet for children under a year were recommended which stressed foods thought to be "cold," it is probable that greater progress would be made than if "hot" foods were suggested.<sup>9/</sup>

5). The first prenatal examination during pregnancy comes as a great shock to most women. The intimate examination itself is embarrassing, and doubly so the fact that it is made by a man. In Xochimilco the woman is somewhat prepared by the nurse's explanation beforehand, but in the Alemán Center the patient has little idea of what is coming. "Mejor pescarlas por sorpresa" was the unfeeling attitude expressed by the doctor--"It's best just to take them by surprise." Statistics indicate that only 21% of the Xochimilco prenatal patients withdraw before delivery, while 43% of the Alemán patients do so. The latter figure is interesting in view of the statement of the head nurse that almost no women withdraw, that invariably they were interested because the Center could arrange hospitalization.<sup>10/</sup>

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<sup>9/</sup> In La Dorada, Colombia, "cold" foods are prohibited the mother for a time following birth, so the reverse approach to that suggested for Mexico should be tried.

<sup>10/</sup> The doctor in charge of La Dorada Center, Colombia, reported that women simply refused to permit a genital examination during prenatal treatment.

The impersonality of modern medicine here runs into a cultural barrier of considerable importance. It looks as if at the very least a thorough and sympathetic explanation should be made to each woman as to what to expect, and why it is necessary. Ideally, whenever possible women doctors should make these examinations.

COLOMBIA:

1). In La Dorada there is a strong belief that the placenta must be buried with hot ashes to prevent intense abdominal pains to the mother. Some informants said they refused to be delivered in hospitals because no attention was paid to the placenta, that it was flushed down a toilet or thrown out with the garbage. It is popularly believed that many women die in hospitals during childbirth for this reason. The necessity of proper attention to the placenta is one of the most deep-seated of all folk beliefs in Latin America. If a prospective mother were assured that the placenta would be accorded the respect she feels necessary, perhaps by assuring her that a member of her family might watch the disposal, or even make it, increased confidence in hospital deliveries would result.<sup>10a/</sup>

It is also believed in La Dorada (and probably other places as well) that the postparturient woman should eat only those foods she ate during her first confinement. Some women expressed hesitancy in going to hospitals because they feared they would be forced to eat other foods. But if one is lucky enough to have eaten a wide variety of foods during

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<sup>10a/</sup> Laura Thompson reports that many Hopi women hesitate to give birth in hospitals because Indian traditional customs, including disposal of the placenta, are ignored. Culture in Crisis (New York, 1950 p. 104).

the first confinement, there is no great danger. It looks as if persuading first-time mothers to avail themselves of hospitals would be a good practice.

2). Mal olor, bad smells were cited in La Dorada as one of the principal causes of illness. Considerable opposition to privies exists for this reason. At the same time, this belief ought to provide a strong focal point for any genuine sanitation campaign, and particularly modern sewage and garbage disposal plans. Typhoid fever, particularly, is recognized as a disease associated with bad smells.<sup>11/</sup>

3). Belief in body humors is strong in Colombia. Concepts are not crystallized, but there is enough semblance between ideas of humors and the principle of contagion that the latter could be made more intelligible through the former. All persons appear to have humors. Men who have strong humors can make their wives thin and emaciated through intercourse. A plant touched by a person with a strong humor dries up. Food prepared by a woman with a strong humor spoils quickly. Cuts or wounds infect quickly if the person has strong humors. Strong humor is not undesirable in itself if the person can stand it, but it makes one

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<sup>11/</sup> Perhaps popular dislike of privies is not entirely unfounded. It is reported that in rural Panama health authorities have decided that feces in the open are rendered sterile in about 12 hours, and are less a source of contamination than untreated privies.

dangerous because of its effect on other weaker persons. Very strong humor manifests itself in the form of boils or carbuncles. Children should sleep apart from their parents because adults' humors are usually stronger than those of children.

In the popular mind humors are confused with germs and contagion. Several informants criticized the infant scales in Health Centers because a possible mal humor (bad humor) of a child would remain and cause the following infant to fall ill. One informant remarked that humors are the cause of contagion, that typhoid, or tuberculosis, for example, might pass to a well person who stepped barefooted in the spittle of a sick person. The humor of grippe can pass to another through one's breath, or by eating or drinking from the same unwashed vessels. Smallpox was said by an informant to pass its humor to another person who merely entered the room of the patient; other illnesses, the same informant added, including physical defects, can be passed if the sick person merely looks at the well one.

It appears that modern concepts of hygiene already are being bolstered by and integrated with the old Greek idea of humors. Explanations of germs and disease transmission through contagion might very well be made even more obvious to Colombian folk if the doctor or nurse indicated he knew about humors, and merely felt his explanation was a more complete or scientific exposition of the same idea.

PERU:

1). The concept of the "dirty stomach" is so pervasive that it probably can be utilized by the doctor. He would increase the probability of the acceptance of his prescriptions if, in the case of illnesses defined by the people as due to "dirty stomach" he mentioned that the medicine will clean out the stomach. Or, when he wishes to persuade a patient to a healthier diet, a remark to the effect that the prescribed diet is a preventive against "dirty stomach" would probably help to insure its acceptance.

GENERAL:

A majority of investigators felt that certain general gestures toward folk curing practice, if not definitely harmful, would give the patient greater confidence while he is being led away from his old beliefs. If popular belief shows a strong penchant for infusions for certain types of ills, prescribe the medicine to be taken in hot water when possible. If the people believe that baths or poultices or pomades are necessary for curing certain sicknesses, prescribe these as additional remedies even if they are not necessary, provided they do no harm.<sup>12/</sup>

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<sup>12/</sup> The Leightons also came to a similar conclusion in their study of the Navaho. Op, cit., pp. 62-63.

Utilization of folk concepts in modern practice can be easily overdone, of course, and any attempt in this direction should be carefully controlled so that the prestige modern medicine has been able to command is not impaired. It would be ridiculous to have doctors suddenly acknowledge the existence of all the folk ideas and illnesses and proceed to cure the latter on the people's own terms. The most important thing is to break down the dichotomy in the popular mind between folk and modern, or at least soften it up to the point where the doctor will be given the opportunity to demonstrate what he can do under the most favorable possible conditions.

A promising approach would be to make careful concessions in those areas which seem to be the most strategic and pervasive aspects of folk medicine, with the idea that in these areas a little bit will go a long way. For example, in Peru and Colombia (and probably Mexico) the evil eye and "fright" are most often cited as examples of illnesses the doctors do not understand and cannot cure. They also appear to be the most pervasive and all-embracing of folk illnesses, and absorb a wide variety of illnesses which are then, by definition, lost to the doctor's care. If doctors were to concede the existence of ojo and susto as actual illnesses (retaining their professional pride by quietly ignoring folk etiologies) and then went ahead to treat for the actual malady involved, they would be taking a big step toward gaining the confidence of the people. It probably would not be necessary to follow the same procedure with all other folk illnesses because the dichotomy may very

well stand or fall with these two imagined sicknesses. If the people once come to believe that the doctor can cure the illnesses they define as evil eye and "fright," the dichotomy that prevails with regard to other illnesses will probably gradually disappear in the course of time.

It should be noted that evidence suggests folk medicine is to a considerable degree on the defensive, in spite of its ubiquity. Many informants who were well versed in its tenets wanted the investigators to understand that they did not personally subscribe to such nonsense. A great many Latin Americans of the classes reached by Servicio projects unquestionably would like to be led away from folk beliefs to an understanding of modern medicine. A gradual process of education and encouragement, and above all, genuine understanding of and sympathy for the people, will go far in this direction.

### C. Some Wider Implications

Although the survey here reported was limited to a single type of problem, it has certain general implications for all types of technical aid planning. Foremost among these is the question as to how much about a given culture an administrator must know in order to plan and work effectively. Ideally, the more one knows about the cultural milieu in which one operates or proposes to operate the more successful one will be. It is axiomatic to anthropologists that culture is an integrated, functional whole, in which the separate parts continually impinge upon each other, conditioning and governing, and in turn being conditioned and governed. A change in one part of a culture will produce secondary and tertiary disturbances in other parts. Or the primary change may be difficult to induce because of limiting circumstances surrounding adjacent areas of culture.

In the case at hand, the success of health and sanitation programs is to a very considerable extent dependent on corresponding advances and modifications in a number of other aspects of the cultures in question. These advances or modifications embrace technological devices, systems of social and political organization, and attitudes and values. Bodily hygiene, for example, is more than a question of education and persuasion. It implies the presence of pure water in reasonable quantities--a system of piped water in most instances. But a modern water distribution system requires a maintenance organization, the presence of tools and replacement

parts, power for pumps, and a socio-political structure to administer the system, collect bills, and provide personnel. So that improved bodily hygiene requires new mechanical devices, new technical knowledge, new attitudes, and new systems of cooperation. The individual who operates on the assumption that a superior idea or technique alone will attract customers, regardless of the cultural context into which it is introduced, will encounter many frustrating experiences.

Although it is desirable to know as much about an entire culture as possible, there are obviously strict limitations as to what can be known. Social scientists have barely made a beginning in the formidable task of describing the elements of the cultures of the world, and interpreting their significance. It must be assumed that for any given program there are certain categories of information about the culture in which the work is to be carried out which are of primary importance, and others that are of lesser importance. A "trial run" in compiling a list of primary classes of data for health and sanitation programs gives the following picture. The points mentioned are suggestive and illustrative, and do not pretend to be a definitive catalogue.

- 1). Folk medicine and native curing practices. The significance of these data has been discussed.

- 2). Economics, particularly incomes and costs of living. The inability to buy medicine is unquestionably one reason why many persons fail to avail themselves of Center treatment. The possibility of achieving a balanced diet likewise is restricted by inability to pay.

Inadequate housing similarly is a great problem. Since in the final analysis the success of health and sanitation programs rests upon major changes in the habits of people with respect to diet, housing, clothing, agriculture, and the like, knowledge of the economic potential of an area is paramount.

3). Social organization of families. In Xochimilco, for example, a bride often lives in her husband's home, and is under the domination of the mother-in-law. A number of cases were noted in which pregnant women failed or had difficulty in following Center recommendations because these conflicted with what the mother-in-law thought was best.

In many cases, men and women who live together are not legally married. A man is less likely to recognize obligations to his companion and their children under such circumstances, and is persuaded with greater difficulty to come in for venereal or other treatment. Recognition of these, and similar problems, makes more intelligible the responses of patients.

4). Education and literacy. It is difficult to give instructions on a time basis when patients have only a rough idea of what time means. The following illustration is from Xochimilco: "A mother is told to nurse her infant every 3 hours, and not to feed at night. Subsequently she is asked when she was told to nurse, and she replies, 'every three hours. That is, at 6, 7, 8, 9, and 10.'" And she wonders why the child is not in good health, since she carefully followed instructions. Inability to read greatly handicaps patients. All instructions, however complex,

must be oral, with resulting possibilities of error. Propaganda, likewise, must be devised that is not based on the written word if illiterates are to be reached effectively.

5). Political organization. On the administrative level this means the local conditions under which doctors and other staff members will be appointed, bureaucratic rules which govern operations, and the like.

6). Religion. A basic analysis of religious tenets is not essential, but some parts of the religious philosophy of the people should be known. Are there any beliefs which hinder or directly conflict with proposed programs? Is death, for example, at any age considered a welcome relief from a world of suffering? Are there food taboos based on religious sanction which should be taken into consideration in planning diets?

7). Basic value system. What are the goals, aspirations, fundamental values, and major cultural premises consciously and unconsciously accepted which give validity to the lives of the people in question? What is the practical significance, for example, of a fatalistic approach to life and death? What part does prestige play in determining customary behavior patterns of the people. Is male vanity and ego a factor to consider? What are ideas of bodily modesty? What are the types of stimuli and appeal to which people respond most readily?

Apropos of the last question, a Mexican doctor made the astute observation that the American public insists on optimism in its advertising, whereas the Mexican is more receptive to the doloroso, the

heart-rending, the painful and sad. Advertising and propaganda for Health Centers which stress optimism might very well be less successful than those painting pictures of the awful horrors which await the individual who does not take care of himself.

8). The prestige complex. This in a sense might be a sub-heading under "Basic value system." It is set off here because of its tremendous importance, and because it appears to be the key to the understanding of a great many aspects of traditional behavior patterns of Latin Americans. Examples of several types of situations in which the prestige element was paramount came to light:

a) In most of Latin America the squat-type privy has been most successful because it is compatible with traditional defecating postures, as contrasted to the bowl or box seat type. Moreover, it is cheaper to build, and more sanitary. But attempts to popularize its use in Xochimilco have not been too successful. The village is sufficiently close to Mexico City for the inhabitants to realize that the bowl-seat privy is used by gente decente, the upper classes, and that use of the squat privy marks one as a yokel. Hence, in this village success of a privy campaign probably depends on the ability to produce cheap bowl-type equipment.

b) The printed word has much prestige among lower classes in Latin America. This fact can be capitalized on by medical science. In the village of Viru, near Trujillo,

on the north coast of Peru, the Institute of Social Anthropology carried out a research program for a year. Most of the people were illiterate. Yet penicillin quickly became known and in great demand. One of the town's few newspaper subscribers read articles about it, was impressed, and realized its possibilities to increase his own prestige in the community. When talking with less-well informed friends who mentioned sickness in their families, he would grandly ask, "Haven't you tried penicillin?" or advise "You ought to use penicillin for that," and so forth. His position in the village endowed the word penicillin with near-magical virtues, and when it became available there was no problem at all in persuading people that it was desirable, even though it was not included in the curanderos' repertoire.

c) Prestige was reported as a positive factor in Brazil in increasing the popularity of piped water. Its use by the priest, the mayor, school teachers and business establishments give it social value entirely apart from its utility, and other people in town then gradually take up its use.

9). Motor patterns. There is considerable evidence to indicate that knowledge of customary motor patterns of a people will have predictive value as to their willingness to accept certain types of new ideas. The editor has noted, for example, that the acceptance of the potter's

wheel in Mexico is correlated with traditional ways of making pottery by hand. In some villages a circular or giratory motion is imparted to the clay as it gradually takes form and is built up with a series of rolls or rings of clay. In other villages two pancakes of clay are pressed into concave molds consisting of two vertically-divided halves. No important rotary hand motion is used with the latter technique. The potter's wheel is being and has been accepted by those potters whose traditional motor patterns were circulatory; a near-100% resistance has greeted government trade school efforts to introduce the wheel in villages using the mold system.

A number of cases have been reported in which non-American workers have had difficulty in utilizing simple American tools. Handles were too long, or too short, or hand grips seemed awkward, and the like. Modification of such tools, or the utilization of indigenous methods such as moving earth by filling baskets with mattocks and moving the baskets a few feet, rather than heaving it with long-handled shovels, has often resulted in a quicker and more efficient job.

With respect to at least one aspect of health and sanitation programs, knowledge of customary motor patterns is significant. In most of Latin America (and many other places in the world as well) the rural "Chick Sales" type box-seat privy was used as the model. The results generally were disappointing. Indifference if not outright antagonism was the result. Independently in most countries it was recognized that the populations are essentially "squatters," not

"sitters." A box seat seems to cause constipation, psychological or physiological, to squatters. In most cases where a simple hole in the floor has been substituted for the box seat, usage has markedly increased.<sup>13/</sup>

Other types of data which planners and administrators for health and sanitation programs should have at hand include information on credit facilities and money usages, labor division within the family, time utilization, working and eating schedules, cooking and dietary practices, and the importance of alcoholism.

Categories of culture in which precise knowledge would appear to be of lesser importance to health and sanitation programs include agriculture, fishing, and other primary productive occupations, industrial techniques (except as working conditions may affect health), trade and commerce, religious fiestas and church observances, wedding ceremonies, burial customs, music and folk tales.

Some of the suggested areas of culture to be controlled by administrators and operators in the field of public health are of little importance to other programs in, let us say, agricultural improvement, fisheries, and the like. Nevertheless, there is probably a basic core of culture data which should be known for all types of economic and

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<sup>13/</sup> But there is no single simple explanation for most cultural phenomena; prestige elements override motor patterns in Xochinilco.

social improvement programs. Again without attempting a detailed list, the following things come to mind: economic organization, social and political structure, the ruling value system, educational practices, and the like. Basic data in these fields would be of utility to all programs established in a given area, and should be of a generalized rather than specialized nature. Specific programs should be projected against these basic data, and decisions made as to what specialized additional information is needed, and plans made to gather such information.

For some parts of the world considerable quantities of these basic or "core" data are available in greater or lesser amounts. Latin America is one such area. Too much emphasis cannot be laid on the importance of the fact that Institute of Social Anthropology investigators were working in a field in which a great deal of preliminary, pertinent work has been done. Anthropologists, and to a lesser extent sociologists, have for more than 20 years been quietly gathering, analyzing, and publishing data on Latin American cultures. Much of this work was done with no thought of immediate practical application. Nevertheless, it represents a large stock of accumulated scientific "capital," much of the value of which lies in the fact that it is generalized, and not specialized, and therefore affords a workable background or jumping off point for the institution of a wide variety of programs.

Institute of Social Anthropology investigators were able, in less than a month in each case, to gather great quantities of significant data because they were already familiar with the cultures in which they were working. Part of this familiarity came from having lived in the countries in which they worked, and part from being familiar through the literature with the work of others. The investigator in Colombia, for example, had spent only six months in that country, but from previous experience in Mexico, plus his "book learning," he was able to do an outstanding job on a specialized problem.

Health and sanitation programs were selected for this study primarily for reasons of convenience, and because comparability was possible. But the anthropologists could have done an equally sound job on many other types of programs, because the basic or "core" data which they control about the customs and ways of life in Latin America lend themselves equally well to other practical problems.

If cooperative technical aid programs in many parts of the world are to continue to be a long-range aspect of American foreign policy it seems obvious that plans should be made to continue the accumulation of generalized basic cultural data not only in Latin America but also in all places where such programs are foreseen. Administratively such work should not be coupled directly with specific action programs, simply because insofar as the research is directed toward too specific problems, the results will be correspondingly of less utility for other types of programs. The accumulation of scientific "capital," of basic data,

theoretical concepts, and operational procedures is a dynamic enterprise in that a final goal is never achieved. The discovery, classification, and interpretation of new facts merely points the way to continuing research. Simultaneously, however, this process makes possible the solution of technical problems of steadily increasing complexity and variety, and consequently of expanding utility in the practical or applied context.

Therefore, one of the best uses of the social sciences in technical aid programs is the direct assignment to field parties of individuals well versed in the most recent developments in their fields, to gather specialized information (ideally to be pyramided on top of a broad plateau of basic data) to facilitate specific projects. Several types of tasks to which such social scientists might devote themselves may be suggested:

- 1). Intensive examination and analysis of statistical records kept by operating agencies, and interpretation in terms of the cultural context in which the projects function.

- 2). Thorough interviewing of large numbers of people directly affected by programs, to find out their criticisms, approvals, and opinions as to how a program might better serve them. In the case of Health Centers, for example, it would be desirable to determine what percentage of patients follow the instructions given them, and to decide what methods might be instituted in order that directions be more fully complied with. There is considerable recognition of the

fact that instructions often are not followed. Failure to understand them, lack of confidence in them, apathy, and inability to buy medicine are all reasons, but the relative importance of each, and the solutions to all, are not known.

3). The setting up of continuing field experiments to try alternate solutions to problems which arise. For example, in the case of Health Center prenatal physical examinations one Center might assign a woman doctor to the task, and see that thorough explanation was made to each prospective mother of the importance and nature of the examination. The "take them by surprise" policy might be used in a second Center, and a comparison made of percentages of women who follow through with the treatment in each Center. Postparturient diet amplifications designed to harmonize with folk ideas of "hot" and "cold" foods might be tried in one Center, and diets based solely on the best medical knowledge, without making gestures to local beliefs, tried in another. Comparison of results after a short time would indicate whether the "anthropological" approach was worthwhile.

The suggestions made in this report for facilitating the work of Health Centers are not now proven. Their outcome cannot be predicted with anything like absolute certainty. The social anthropologist can only say, "it is highly probable that some of the potential improvements we suggest will be borne out upon trial." And the trials, in most cases, would be relatively simple experiments which could be carried out on a small scale without seriously disrupting normal Health Center routine.

This report will not make it possible for the planners and administrators of health and sanitation programs to ensure 100% success in field projects. No general rules have been formulated, the following of which automatically will lead to specified results in any country in which they are applied. No handy guides to absolute prediction in the field of human behavior have emerged. Nevertheless, the cross-cultural approach appears to justify the hopes of the participating field workers. It is quite apparent that the basic problems which face the programs in one country are essentially the same as those facing the programs in the other countries. A policy that produces results in one produces results in the others. The same general cultural processes, the same dynamic forces, however little they are understood, are at work in the four countries studied. Eventually these processes and forces will be comprehended, they will be harnessed, they will be put to work in the same way the physicist or chemist has discovered and put to work for man the processes and forces which govern the physical world. This prospect is both thrilling and terrifying. The physicist's talents can be bent to destructive or constructive purposes. The same alternatives will be presented to the social scientists. To fall behind in research and progress in the social sciences can be equally as dangerous as to fall behind in any other field.