

The Medical Profession and Technical Assistance to Developing Nations*

by JULIUS S. PRINCE '38

The place in history of a nation or of a civilization is determined by several considerations but mainly by the significance of its contributions to man's quest for a better life.¹

I SHOULD like in this paper to discuss briefly the background and growth of the concept of technical assistance to developing nations, some of the ways in which the concept has been applied, in health and related fields, and finally what the implications may be for continued efforts in this direction.

First of all, let me say that the idea of technical assistance to developing nations in dealing with health and related problems is not new, nor has the United States always been the donor. In fact, a great part of our early existence and development depended to a considerable extent on "technical assistance" from the people of other countries. Be that as it may, such assistance has come from four major sources, namely, religious missions, universities, private voluntary organizations, national and international societies and individual governments or international multilateral agencies.

Medical work by religious missions from many nations dates back over a century and is still one of the mainstays of health service for many people living in rural Africa and, perhaps to a lesser extent, on other continents. A number of missionary physicians have taken advanced training in public health and returned to countries where their missions are located to serve in public health administrative or teaching positions—a most significant and contemporary contribution. Likewise, technical assistance of this type undertaken by private voluntary organizations such as the Near East Foundation, Rockefeller Foundation and many others was of particular importance in the early days of technical assistance and has again become so in recent years.²

Technical assistance by international health organizations began with concern over international epidemic control as far back as 1909 (Office Internationale d'Hygiene Publique). In 1922 The League of Nations Health Section was established, followed in 1945 by the United Nations Relief and Rehabilitation Agency (UNRRA), and in 1947 by the World Health Organization.

U. S. Government involvement, aside from military epidemiologic, medical and health services overseas,**

began with the Marshall Plan and President Truman's enunciation of the "Point Four" program in 1949 (technical vis-a-vis purely economic assistance and expansion of this assistance to nations outside Europe). The growth of the U.S. foreign aid program since then, including the technical assistance component, is a matter of record.

In tracing the growth of the movement for technical assistance in health it is important to know something of the efforts of pioneers like Drs. John B. Grant,³ Andrija Stampar,⁴ John Weir,⁵ Maurice King,⁶ Rex Fendall,⁸ Fred Sai,⁹ David Morley¹⁰ and many others too numerous to mention who have provided the essential underpinning for the body of doctrine upon which physicians, health workers and scholars in the developing nations can base their "designs for living." In fact it is this doctrine and its obvious sensitivity to the health problems of these nations, which I believe has been primarily responsible for the relatively rapid progress which has ensued.

An outstanding example of "advancive thinking"*** in this field can be seen in the writings, in 1940, of Dr. John B. Grant referred to above concerning "the lag between modern knowledge and its use in the setting of a community". He blames the "lag" problem on failure to follow six "postulates". These are:—

1. "The social services are (must be) interdependent.
2. Health maintenance can be achieved only if the consumers of services themselves are technically aware and practice the knowledge which they possess.
3. The administration of special functions should be undertaken only by one governing body.
4. Compromise is necessary in social progress but it should not be allowed to jeopardize the whole design.
5. Administrative procedure must be based upon sound economic consideration and

*Received for publication August 18, 1976. Dr. Prince who was Projects Officer, Health, Population and Nutrition, USAID, GHANA, has since retired. The opinions expressed are not necessarily those of the United States Agency for International Development. Photos courtesy of the author and his colleagues, Dr. D. J. Spruyt and Mr. F. B. Elder.

**A number of U.S. medical schools including P&S staffed virtually entire hospitals overseas in World War 2.

***see Mack, "Planning on Uncertainty" pg. 10

practicable financial budgeting.

6. Personnel must be available who are trained in administrative methods that are scientifically derived."

Dr. Grant concludes this remarkable paper with a statement that I feel all health workers overseas (and perhaps for that matter in many settings in the United States) should take to heart:

Any contact between the doctor or public health nurse and the patient that does not on the one hand increase the health worker's knowledge of cultural attitudes relevant to health and, on the other hand, increase the patient's understanding of health and its relation to different ways of thinking, feeling and behaving, is to that extent a waste of time on both sides.

Technical solutions to health problems should be humanized by an understanding of the existing cultures and sub cultures and the ways these are changing, and, I would add, by an attitude of humility with regard to one's own knowledge and ability and concern for the individual and the family in the society within which one is working.*

When it comes to application of the concepts mentioned above to specific programs, organization of health services, training for these, etc., a number of such applications have of course, been undertaken and described in the literature. However, I shall limit myself primarily to discussing the efforts of the United States Agency for International Development (AID), the World Health Organization (WHO), UNICEF and various other international, bilateral and private voluntary agencies in Africa. The reason for this is that essentially all of my experience in international health has been in Africa or working on African health and population problems from a Washington base. (From 1967-73 I was responsible for the technical direction of much of AID's work in health and population assistance to African countries, as Principal Advisor to the Africa Bureau in these fields.) So I have little first hand knowledge of the field outside the African Continent.

Until rather recently, AID has had few health programs in Africa. In fact, in 1962 there were only two major AID-assisted African country health programs namely those in Ethiopia and Liberia. However, in 1965, a significant effort was begun jointly with WHO, several Regional African health organizations and the twenty countries of West Africa to control/eradicate measles and small-pox. Under the agreement with the U. S. Public Health Service, the operating agency for the AID assistance portion of this project became the Communicable Diseases Center in Atlanta. Technical assistance to the small-pox eradication effort has since been assumed mainly by WHO world-wide and has achieved remarkable success in nearly all countries.

The AID health program in Ethiopia, which I headed from 1958 to 1967 was, of course, a very great challenge to me and also a source of considerable satisfaction in the end. The nature of the program had been established more or less during a series of meetings in 1954 between the Imperial Ethiopian Government (I.E.G.) Ministry of Health, the

World Health Organization, the then U. S. Foreign Operations, Administration** Public Health Division and UNICEF. A consensus was reached that the only sensible approach in trying to help Ethiopia solve its health problems was to train large numbers of rather well-qualified paramedical workers who would deliver decentralized generalized health services to the rural areas of the country.

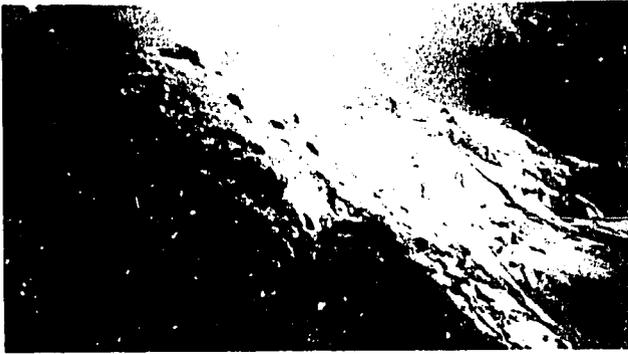
In order to accomplish this a training center was created by remodeling an ex-Italian military hospital in Gondar, the capital of Begemeder Province in Northern Ethiopia, about 350 miles north of Addis Ababa. The establishment of that institution, the Gondar Public Health College and Training Center and its curriculum¹¹ was a major responsibility of my predecessor, Dr. A. C. Curtis, and subsequently of the various Directors of the School who also played a most significant role in maintaining the close and effective collaboration, between the IEG Ministry of Health, WHO, UNICEF, and other donors, which became a "trademark" of external assistance to the over-all IEG health program.

My job soon centered on utilization of the Gondar graduates, construction of health centers and two rural hospitals around the countryside, and provision of advisory services to the Ministry of Health. For this purpose I had a staff of about 25 American professionals covering a wide range of disciplines in the areas of public health, training, and disease control including a major malaria eradication effort. Of course we worked closely with the Ministry of Health staff as well as with our colleagues in the WHO, UNICEF and other assisting organizations such as the U.S. Peace Corps, the Swedish and Dutch Foreign aid groups, medical mission programs and various private voluntary organizations such as the Red Cross, World Neighbours Inc. (which established Ethiopia's first health center), etc.

To make matters still more interesting, we were able to follow Dr. Grant's dictum to develop "methodology inductively through controlled experimental communities." This resulted in a study known as the "Demonstration and Evaluation Project," the purpose of which was to determine the effect of the work of the Gondar graduates on the levels of health in three typical health center communities, as compared with three control communities which had no health centers but which were matched as nearly as possible with the three "experimental communities." The results, published in the Ethiopian Medical Journal,¹² were promising but mostly inconclusive due to various problems, not the least of which was the relatively short time during which the health center communities were studied (26 months). Experience with this methodology was utilized, however, when, a few years later (1969), it became possible, following meetings with the AID/Ghana Mission Director and his staff, Dr. Fred Sai, then Head of the University of Ghana Medical School Department of Social and Preventive Medicine and his staff, and others, to develop a similar approach in studying the effectiveness of health and family planning services in Ghana. This resulted by 1970, in a project known as the "Danfa/Ghana Comprehensive Rural Health and Family

*All of the "postulates" and much of the rest of Dr. Grant's ideas in this field have been echoed, elaborated on and strengthened by other scholars in more recent times e.g. especially King in "Medical Care in Developing Countries"⁸ and Morley in "Pediatric Priorities in Developing Nations."¹⁰ both op. cit.

**AID has had many names in its 27 year life and numerous changes in program emphasis based on changing Congressional mandates.



Logistic problems in Ethiopia. Dwellings and cultivated areas in rugged country at about 13,600 feet elevation. Photo from Cessna 180 on flight to Makelle.



Logistics—isolated extended family grouping on a "mesa" in Wollo Province.



Not the safest bridge! Typical of the off-road hazards in Ethiopia's back country.



Dr. Prince showing movies on a cold night in the Ethiopian Highlands with Walt Disney on the screen.



Arrangement of public latrine, Quorem, Ethiopia.



New science building at H.S. I Public Health College and Training Center, Gondar. Group in right foreground from left to right: Dr. Aseffa Tekle, Ethiopian Co-Director of College, Dr. F.B. Hylander, Principal Advisor to the Ministry of Health, and Dr. Dennis Carlson, recently arrived U.S. Co-Director.



Group of faculty, community nurse and sanitarian students at Ambaghiorgis, near Gondar.



Community nurse demonstrating hand washing to mother who will then be taught how to prepare teff porridge.



Waiting room at Asfaw Wossen Hospital, Dessie, crowded with patients. It was not uncommon for 100 patients to pass through the health center (which serves as the hospital out-patient department) in the course of a day.



Ato Keterew, senior health officer of the Dessie health center, addressing Dessie Municipal Health Council. Members of the Peace Corps and hospital staff are on the left.

Planning Project" which, profiting from our lessons in Ethiopia, is not scheduled for completion until February 1979. It is a joint undertaking of the University of Ghana Medical School, the University of California at Los Angeles School of Public Health, Division of International Health and the U.S. AID/Ghana Mission and is jointly financed by the Government of Ghana (Ghana Medical School) and the Agency for International Development.¹³⁻¹⁶

During the six years I was in Washington, in the capacity mentioned above, and in the last three years or so that I have been stationed in Ghana, I have had a chance to work in some 18 or 19 other African countries, mostly in the field of maternal and child health and family planning, but also in demography, vital statistics, etc. As a result, I think I have had an opportunity to identify some of the basic requirements of AID-sponsored technical assistance. As will be seen, much of this description is generic in that it applies to the whole area of technical assistance to developing nations, although some requirements are dictated by the fact that AID is a U.S. Government Agency financed by the U.S. Congress. These requirements, as I see them, may be summarized as follows:

1. It is essential for us to be as responsive and sensitive as we can, given financial and other constraints, to desires and felt needs *expressed by the aid-receiving countries*. But at the same time, we are required to follow whatever U. S. Congressional mandates may be laid down. For the past two years, more or less, the mandate has been very clear. We *must* work in alleviating the problems of the rural poor insofar as possible. Such a constraint seems reasonable and logical, since it appears most African countries need help of this type if their development potential is to be realized. For example, in Ghana, "less than 30-40% of the population have access to reasonably adequate curative services and a still smaller percentage of the population to preventive health services. Despite continued growth and expansion of the health care system the rural poor suffer a disproportionate burden of disease from preventable causes."* However, Ghana is far from unique in this respect in Africa. In fact, basically the same situation applies to the developing countries in the rest of the Continent, south of the Sahara and, since rural agricultural production is still a mainstay of these countries' economics, the "connection" to economic and social development is obvious. Short of a petroleum "deus ex machina" (such as that which has taken place in Nigeria) the only solution is the long hard one!

2. We ought to and we do follow an inter-disciplinary approach in helping host governments find solutions to these problems. We try to tie our thinking in all fields to the countries' needs in social and economic development. This leads, for example, to consideration of the ways in which our assistance in health and fertility reduction can relate to the development process. AID has, therefore, assisted and is continuing to work with many African countries in developing and implementing population programs ranging from country-wide family planning programs, as in Tunisia and Ghana, to demographic, statistical and related activities alone in countries where family planning is still not accept-

able, even as a normal component of maternal and child health services (very few countries remain in this category). This inter-disciplinary thinking, is well-illustrated by AID's assistance to the Government of Ghana in the population field. Such assistance includes a "population dynamics" teaching and research program at the University of Ghana, a combined maternal and child health/family planning and non-clinical contraceptive commercial distribution and marketing approach, to the delivery of family planning services by the Ghana National Family Planning Program Secretariat, in the Ministry of Economic Planning, and operational research in the MCH/family planning field at the Danfa project mentioned above. Finally, we are assisting the Ghana Government Ministry of Health thru a contract with Kaiser Foundation International in the establishment of a Planning Unit, training Ministry personnel to staff the Unit and training health personnel throughout the country in the skills needed for improved management of rural health services.

In all of the above-mentioned activities we have been or will be working very closely with several different institutions in the government, with public, private U.S. contractors and with other assisting agencies such as the World Health Organization, UNICEF, the Canadian International Development Agency, the Swedish International Development Agency, "Entwicklungshilfe" of the Federal Republic of Germany, the West African Health Secretariat and several private voluntary organizations.

I think that all our colleagues in this effort agree with the concept that everything we do must be seen in the context of its potential or actual contribution to Ghana's efforts to achieve self sufficiency in the social and economic development process as rapidly as possible. This is so even though some of the basic issues that involve the relationship between health and economic development are still unresolved, as pointed out by Dr. James Lee in his brief but comprehensive and brilliant discussion of this problem, in the Proceedings of the 1974 International Health Conference. Dr. Lee concludes with the poignant and all too true remark that "For while, increasingly, the fate and future of suffering millions is to be decided in the laying on of money, it is in the laying on of hands is their pain and suffering eased, their grief comforted and their hope for a future, any future, sustained."¹⁷

3. Obviously, as has been pointed out by literally dozens of writers on the subject, (notably Blase in his rather complex "Source Book" on Institution Building,¹⁸ and Bryant more directly with respect to universities¹⁹) if our assistance is not institutionalized within various organizations of the government of the host countries we attempt to assist, it doesn't mean very much. So our efforts in the health field should always center around training personnel not only to staff the health service facilities but to staff the health service *training institutions* in the host countries as well. In this way, slowly but nonetheless definitely a certain degree of depth in training staff and teaching personnel is developed.

4. I have mentioned the importance of the inter-disciplinary approach to all of this but I think it should be emphasized again. One might ask what disciplines not normally in the health field should be included in this approach? Obviously, the social sciences and economics rate very high

* AID Development Assistance Program for Ghana Fiscal Years 1976-1980.

on the list. Reasons for this are obvious but it is also clear that if one really believes that the establishment of a system for delivering health and family planning services has to be part of the total development picture (and I am myself firmly convinced that this is so), then it is obvious that political science, management, psychology, education, agriculture and statistics will need to be brought into the host country planning process at some point (the list is not meant to be exhaustive either!)

5. I remember participating in a seminar on "The Planning Process and Communications" at the then Littauer Foundation School of Public Administration at Harvard in 1953. One of the emphases was on the importance of "decision-makers" getting in on the planning of any activity in which they might be concerned, at a very early stage. The idea proved helpful with respect to efforts to assist The Board of Supervisors, not to mention the County Medical Society, in deciding whether or not a County Health Department would be a good thing for Chautauqua County, New York, where I was a State District Health Officer at the time. I have not, therefore, found it strange that precisely the same caveat applies to work in developing countries. In brief, constant, free and frank communication with Government and non-Government decision-makers at all levels, and their participation and *leadership* in the planning and implementation of development assistance, including of course, health, population/nutrition programs is a sine qua non for any real progress even if the *rate* of progress is sometimes slower than one would like!

If most of what I have said above about technical assistance in health is true, it has obvious implications for the preparation of doctors who wish to work overseas or, at least, prepare themselves for that possibility.

I think first of all, one has to consider the background of the student who comes to medical school with an interest perhaps in international health or some aspect thereof. It would appear to me that one of the things to look for in his/her training would be a liberal arts education including at least introductory courses in some of the following: contemporary political history, cultural anthropology, management and public administration, development economics and planning²⁰ etc, along with the usual "humanities."

Concerning the need for "a liberal education" for our hypothetical medical student interested in international health work, as Dr. Gilbert White said at the Second Buckhill Falls Conference in 1953,²¹ "The basic challenge of our time is one of building a world society through the wise exercise of good will and human understanding." Dr. White went on to make a plea for liberal education for medical students in the hope that this would "produce trained and active minds, rooted in conviction stretched by a world view and animated by mature social concern."

I suppose that advocating this sort of thing now, twenty years later, not only dates me but puts me right in the middle of what I understand is an ongoing and at times lively discussion about what we need to train our doctors for. Obviously I

have a biased point of view in that I think some of us at least ought to be in the business of trying to help developing nations around the world, in improving the health and, thereby, the quality of life of their citizens. I also feel that this need will exist for a long time to come.* Consequently I believe there will be a constant if not increasing need for a certain small percentage of medical graduates who are oriented in this direction and have the kind of high quality and broad-based training and experience I have mentioned. One hopes this can be accommodated to the increasing requirements for a greater capacity in the clinical specialties, etc.

As the Association of American Medical Colleges reported to AID in 1965,¹ "In the long run one of the most creative and significant contributions the United States can make (in the struggle against disease) is to assist the developing nations to build effective systems of medical education so they may acquire the means to solve their own problems. The United States is the first nation in history to possess the instruments for *large-scale technical assistance in medicine* which, if aggressively and prudently applied for a generation, can effect worldwide improvements in human welfare of unprecedented significance." I believe this is still true if one accepts the notion that "technical assistance in medicine" includes the broad connotation of assistance in health and its multiple relationships to institution building and the development process, and the concept of liberal education for the medical student, to which I have just referred.

Since, during my period of service with A.I.D. I have had occasion to recruit professional people in the health service areas on a number of occasions, I have noted a few "facts of life" that could perhaps be useful for those who may be asked to help medical students and/or physicians choose the kind of preparation that would suit them best for overseas service or for teaching students from overseas in the U.S. These "facts of life" can be summarized as follows:

1. The physician coming to work in a developing nation, in whatever field, is quite correctly expected, by the officials of the Ministry of Health (or other Ministry) responsible for his approval and/or his assignment, to have qualifications which exceed those of host country personnel already available. Furthermore, generally speaking, the quality of preparation and experience—particularly experience—of the supposed nominee is of the utmost importance and must fit the job which he is to fill. For example, if he is going to be responsible for administration of a generalized health program or assist a Ministry of Health in developing such a program he should, in addition to his M.D., have at least a Master's Degree in Public Health or equivalent and prior experience in running a health program (see also under 4 below).

2. I have noticed expatriate physicians arriving in countries where I was working who did not have any training, to speak of, in tropical medicine and/or epidemiology even though they were supposed to work in rural hospitals. This, of course, doesn't make much sense, since most of the developing nations are in tropical or at least semitropical areas of the world, lack good sanitary facilities, etc. Obviously, the physician planning to work in those countries must have some special knowledge or training to suit the local conditions. This is true even if the physician is going to be a

*I could be more certain in this conviction if the International Education and Health Acts of 1966 establishing a *career service* in international health had been passed. As it is now, the position and future of the physician specialist, in A.I.D. at least, is uncertain. See also¹ Hyde Op. Cit. pg. 54.

staff surgeon because oftentimes the degree of specialization which holds in the United States does not hold in a developing nation and a surgeon may, and usually does, have a lot of other things to do, including serving as a Hospital Director, Medical Officer of Health for a governmental jurisdiction, etc. Also, tropical differential diagnosis may have to, and usually must, consider multiple infections or infestations in the same patient—something we have been told to eschew as a rule in the U.S. I can recall, well, that the Chief Surgeon at the American University of Beirut Hospital in 1959, was, perhaps for these reasons, the faculty's foremost advocate of training in tropical public health for *all* of the medical students at that institution.

3. Physicians who are planning to work overseas should as I have already indicated have a broad background at least, in subjects like management and administration, the social sciences, statistics, economics, etc. The management part is important, in my opinion, for the following reasons:

- (a) management weakness in the affairs of developing nations is being recognized, more and more by leaders of these nations as a major problem. As William Foster wrote, in Harland Cleveland's classic,²² "Many of the rising nations of this under-developed third of the world have the resources, they have the people, and they are imbued with the idea of national liberation. But they lack one thing without which they are unable to make much forward progress. As so many of them have taken their ideas of a national destiny from us, so they need our knowledge of how to manage the workaday business of their own governments and their own productive enterprises. They need what we have learned so well—the technology of public administration; how to write a proper tax law and how to administer it in such a way that the taxes specified in that law are actually collected; how to set up a school in such a way that all of the children in the age group required to attend, actually go to school and receive there the education which it is intended to give them.... They are like people going into business for themselves and what they need most from us is some of our skills in administration."
- (b) new ideas about how to improve management, especially the human and psychological aspects, are constantly being brought forth in the U.S. and elsewhere; and some of these new approaches may have real value for adaptation (not necessarily adoption) in the developing world.
- (c) if a physician takes a top staff job in an expatriate organization assisting developing nations the organization will, like any other, demand of the incumbent in that position high standards of management and administration. This is especially and increasingly true of AID and of contractors working for AID.

4. I think it can be stated as a general axiom that physicians who have been responsible for the day-to-day operation of local health departments in rural parts of the United States, or some components of these health departments, are "a few jumps ahead" in terms of being able to deal with the sort of problems they may have overseas in convincing, for example, a village chief, or Council of Elders, or District Council, or a local Burial Society* about the importance of providing health personnel, protecting a water supply etc. In fact I have found that the groups with which one has to work overseas are not altogether different from those with which one must work in rural parts of the United States.²³ Consequently I consider experience in rural America potentially, at least, of great benefit for a physician planning to assist in some area of public health practice overseas.

5. If a physician has also had previous *overseas* experience, either as a "clinical clerk" or in some position similar to that for which he is being considered, it will certainly help him to do a better job, other things being equal. However, "clinical clerkships," of this type, for medical students, for one reason or another, seem to have become a rarity. Perhaps a substitute can be found—but that question I leave with the medical school administrators.

6. Regardless or perhaps in support of the concerns I have expressed previously in this paper about the lack of a legislated U.S. Government Career service for health personnel engaged in providing technical assistance to developing nations, I believe that, as Egger says²⁴ "we are in the world for good", and "overseas service must be established in the minds of those who prepare themselves for it as a permanent career; it must be undertaken in the realization that it means a life spent mostly abroad. At the present time our overseas operations are gravely burdened by the necessity of coping with ten and twenty-year problems with four- or five-year projects manned by one- or two-year personnel. Part of this difficulty derives from our unwillingness to admit, even to ourselves, that we are in the business of overseas operations for a long, long time. But even if policy and appropriation problems were solved, turnover would not be. We cannot keep repeating the first year of our programs; sometime we have to get on to the second and third and tenth and twentieth year. This can only be achieved if a substantial central core of the overseas labor force thinks and acts like a permanent professional organization."

If, as I conclude, the basic thrust of Egger's views is still applicable 20 years later, it seems to me this gives added weight to the need for the kind of career service I've just mentioned. Some may agree that U.S. Government use of contractors, especially universities, will provide the continuity, experience, and background which would otherwise have to be met by a Government career service. But with all due credit to the high technical quality of the work turned out by our (AID) contractors in the health and population field in African countries, there has seldom been a time when considerable AID professional staff time was not also needed to pave the way for and do a considerable portion of the design work related to the project under which the contract was negotiated. Once this step was accomplished much work of a

*Burial Societies in African villages often occupy positions of high status in local decision-making hierarchies.

professional type, involving contracts with host country professionals and serving as liaison for contractors, staffs and host country Ministries was required. Finally, technical monitoring of highly technical projects was necessary in order to meet AID's needs for evaluation of contractors' performance and of progress towards project goals and purposes.

Under the circumstances, derived from first hand long-term experience with this "system", I feel more than ever certain that AID should indeed be provided at least with a small career staff of physicians and other health personnel who are not only fully qualified from a professional-technical point of view but also sufficiently well trained in the "ins and outs" of AID's bureaucratic processes so that they can plunge into the work, both in Washington and overseas, with minimal wastage of time and effort.

AID is providing itself with a staff corps in areas of programming/development economics etc. and for this purpose, has established a system of International Development Internships. I believe this is an excellent plan but that it should also include training of the health professional career staff already referred to, pending perhaps, legislative reconsideration at some date of the health career service proposals previously turned down in Congress.

Obviously, none of us can speak for Congress in matters like this but the medical profession might well take some leadership in reopening discussion on the subject in its own "chambers". This could, in fact, if it led to further and wider discussions turn out to be a major contribution towards improving the quality and *continuity* of U.S. technical assistance, in the health field, to the developing nations.

7. In discussing the training of health personnel for developing countries I have dwelt mostly on training provided overseas, with AID and other agency assistance. Important as this is one should not lose sight of the significance, of the institution-to-institution relationship and substantively invaluable training, which has been and is being provided to developing country health professionals by American and other industrialized nation institutions of higher education.

My experience in this area is limited almost entirely to assisting host governments in the choice of appropriate and qualified students, "participant trainees" as we call them in AID lingo, in making arrangements for the host country-regulated training from the AID Mission end, and in working with these participants after they return. I believe, as a result of this experience, that this type of activity must be one of the most useful to the institution-building capacity of the developing nations and to their acquisition of the necessary skills to get on with the job of improving health. I can only congratulate my colleagues in the U.S. institutions who have made such progress possible. They are indeed dedicated to the value of the concept "each one teach one;" and then some!

Finally, there is one vital consideration which I haven't said much about so far. What I refer to is the fact that when we talk about the medical profession and technical assistance to the developing nations, we have to realize that the developing nations themselves can provide a great deal of this kind of assistance, not only in terms of the medical profession in a given country promoting improved and more up-to-date methods of delivering health services in *that* country; but also in terms of what one developing nation can provide in the

way of technical assistance to another and what developing nations have taught *us* ("reverse foreign aid"). There are so many examples of this that I cannot possibly include all of them in the discussion here. However, a few might be worthy of mention by way of indicating the extraordinary spread of modern concepts of public health practice in the developing nations of Africa and the way in which the medical profession in these countries has gone about promoting these newer concepts:

1. Certainly the idea proposed by Dr. Grant in his "sixth postulate" has been emulated all over Africa; but nowhere more enthusiastically than in Ghana where the Danfa Project provides a required community health six weeks' clerkship for all medical students. In addition, all students, must take a number of courses in the Department of Community Health.

Likewise at the 17th Annual Conference of the Ghana Medical Association in March 1975, the theme chosen was "Toward Better Health Care." During this meeting, the then Commissioner of Health, and many others dwelt on the need for concentrating on "preventive promotive health services, the vital subject of training in management responsibilities for medical and paramedical personnel," etc. This emphasis has increased in the Ghana Government Ministry of Health in recent months and has always been strongly supported by the Ministry of Economic Planning as well. Thus it is clear that the medical profession in Ghana is indeed aware of its leadership position in promoting better health care for the people of the country and influencing decisions by governmental authorities which will lead to this desired goal. In fact, the present organization of the country's health services seems now to be moving rapidly ahead of where it was several years ago. The medical profession and, I believe, the University of Ghana Medical School can take much of the credit for this development!

2. Another example of this kind can be seen in the concepts put forth in an article which appeared in the Ethiopian Medical Journal in 1972 entitled, "Government Health Services in Ethiopia and the Role of Medical Graduates in It."²⁵ In the mentioned article, the authors quote Maurice King²⁶ "Fragmentation and delegation of the traditional task of a doctor is sometimes said to lower his standards, but the answer to this criticism is that the choice is either fragmentation and delegation or the job can't be done at all." They go on to say however, "delegating responsibilities to train paramedical health workers alone is not enough; for the key to successful and efficient delivery of medical care is *proper and continued supervision* by professional health personnel. *Physicians therefore have to play a more responsible and different role acting as teachers, organizers, supervisors and consultants to a team of paramedical health workers.*"

3. Projects for training medical students to assume the kinds of responsibilities described above are going on in Nigeria, Ghana, Cameroon, Kenya and Ethiopia, to mention a few of the many such activities in Africa today. The project in Yaounde, Cameroon at the University Center for Health Sciences, is particularly significant in that besides providing training for Cameroonian doctors it is also training other members of the health team such as nurses*, sanitarians etc., and also invites students from other Francophone African countries.

* This concept is similar to the one which governed the setting up of the Godar program in Ethiopia.

4. The World Health Organization employs a number of African physicians who work in many high level capacities from Geneva, to Brazzaville African Regional H.Q., to the various country offices and programs in African countries. Other U.N. agencies and private voluntary agencies also follow this custom. My own observations of the work of these African physicians, leads me to the belief that their influence in improving health care in Africa can hardly be over-emphasized. It may be a case of "robbing Peter to pay Paul;" but since their work is mostly in Africa one can hardly quarrel with the concept!

5. The concept of the training and use of certain types of paramedical personnel—a concept well accepted now in the U.S.—may have originated and certainly received great impetus from our experiences overseas e.g. the Gondar program in Ethiopia.

Thus, we see that the medical profession can exert a profoundly beneficial effect through technical assistance, generated not only by members of the profession living in the industrialized countries of the world but also by those who live and work in developing nations themselves. But the training of physicians with this orientation demands curricula which take into consideration the fundamental character of health problems that must be faced, the setting within which the people live in these countries, especially in the most rural and least privileged areas, and the need for the kind of background that will stimulate the "budding" physician to take count of his obligation to the community in its broadest sense, to know something of its historical and political basis and, above all, as Peabody said so many years ago, to care for the patient.²⁷ In the end, the concept of emphasis on preventive and promotive services, as a necessary and desirable "partner" to purely curative care, the genuine acceptance and understanding of the collaborative style in working with their colleagues, and the inter-disciplinary approach required for the solution of health and population problems, must be a part of the thinking of all doctors engaged in this challenging and, I feel, personally rewarding effort.

"No Man is an Island"

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