International Medical Education

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I am very grateful for the opportunity to visit Korea. In reading about your country, I have become deeply interested in its history which spans four millennia, and the strength, determination and perseverance of its people through the centuries of subjugation and bondage they endured.

I am pleased and deeply honored by the opportunity given me to join in the observance and celebration of the centennial of Yonsei University, whose origins go back to the Sévérance Medical School founded in 1885 and the Chosen Christian College founded 30 years later. As the first medical school and the first private college, these two institutions pioneered in the development of higher education in Korea. They are a tribute to the important contributions that have been made by Christian missionaries to all levels of education throughout the world. I am proud of the important role that the United States played in the establishment of this impressive institution.

I have been asked to speak on international medical education. The phrase “international medical education” can have many meanings. I have interpreted the term to mean medical education from a world perspective and cooperation between medical schools across the boundaries of countries to strengthen the education and training of physicians and other health professionals with the ultimate aim of improving the well being and happiness of all people. However, one cannot discuss medical education without considering medical care, for the two are inextricably intertwined.

In my talk I will also make some observations about the past and present role of the United States in international health, and the principal conclusions and recommendations in the report of a recent study by the Association of American Medical Colleges, *Physicians for the 21st Century.*

Medicine and medical education are at once international in scope and yet heavily influenced by the traditions, mores and resources of the cultures in which they exist. They are based on universal themes but within each country there are variations that adapt the themes to the particular setting.

One of the universal themes that runs through medicine and medical education of the post-industrial era in both the developed and developing countries, is the continuing expansion of our understanding of living systems and the effects of diseases on them which we have gained through biomedical research. A second theme follows from this understanding—the development of more effective measures for the prevention, diagnosis, and treatment of illness—measures that extend and expand medicine’s ability to improve the quality of human life by reducing suffering, premature disability and untimely death.

The variations developed on these themes arise from the different ways nations extend and transmit biomedical knowledge and apply it within their systems of medical care. For in each country these activities must be integrated with other needs, objectives and programs for educational, social and economic development.

Universities and their medical schools are involved in many ways in these decisions. As social institu-
tions they are influenced by the preoccupations and values of the people of their country. However, they must not merely react and accommodate passively to changes occurring in the society of which they are an integral part, for they have a responsibility to use their special resources to help define and implement new efforts that will strengthen and improve that society. Unfortunately, in many countries, but particularly in the developing countries that need the contributions of the universities most, they too often remain distant and aloof from national problems. In adopting this attitude, they fail to fulfill one of their important obligations as social institutions.

For their efforts to be of maximal value to the country, there must be a close articulation between the university and the culture as a whole. The ways in which this articulation can best be achieved vary from country to country. Although approaches that have been successful in one country may be instructive for another, they cannot be mindlessly transferred. Often the most valuable assistance from the experience of others comes from adapting the processes that they have found effective in identifying goals and planning ways to achieve them, rather than trying to adopt the goals and approaches themselves which are likely to be inappropriate in another setting.

Unfortunately, these fundamental concepts are not always applied by those drawn from developed countries to give counsel and advice in developing countries. Often they are not even recognized by those who seek the counsel and advice.

The mistaken belief that a system appropriate for one setting can be transported with little modification to a different environment often prevents effective and beneficial interactions between advisor and advisee, creates unreal expectations, and leads to frustration and confusion for those who seek assistance. The result is delay in the development of rational and useful accommodation to the changing world panorama of medicine and medical education by those better able within the country to identify opportunities and impediments for modifying their current systems.

For example, it would be difficult to transfer many important concepts and approaches for health care and medical education from the United States, where there is less direct involvement of the central government in the organization of medical care and medical education, to a country in which these activities were highly controlled. Things simply work differently in countries where there is a considerable freedom for individuals and institutions than in those with more centralized control and direction.

However, the central government in the United States is now becoming more involved in these activities as it bears a larger fraction of their costs, particularly for medical care of the poor and the elderly. There is more effort by the Congress and the Administration to find ways to influence the system of medical care, the kind of care given, the number and types of health professionals educated and trained, and the priorities for areas of biomedical research. I think it is clear that past freedoms available in these areas will continue to be circumscribed and result in a more monolithic system. Unfortunately, as a result of moves in this direction we may well lose some of the strengths that have made medical care, medical education and biomedical research great in the United States.

Theoretically, any country could use its available resources more effectively and efficiently if medical educators and those responsible for health care services could consider them as an integrated system of demands, supply, processes, results and impacts. At least in theory they could then work together to quantitate health care requirements from the perspectives of medical and public health professionals, from the perspectives of those who need care, and from consideration of the economic resources of the country. This information could be valuable in evaluating the effectiveness of the current health care system and
the programs for education and training of health professionals in meeting agreed upon national goals.

The health professionals can base their estimates on the demography, the epidemiological profile of diseases in the country and the availability of methods to prevent, diagnose and treat these diseases in the population. This data can be translated into estimates of the human and other resources ideally needed by the medical care system.

The perceptions of the users about the appropriate design of the system will depend strongly on their level of education, the sophistication of their understanding of medicine and public health and their experience with medical care. Generally, the people of a developing country may express fewer demands than those of developed countries when in fact they have greater needs. It is very likely that the desires of the users will not be completely congruent with the needs identified by health professionals. Often the users of the system want more of the personal, caring and shaman aspects of medical services than are derived from strict biomedical and public health considerations.

In most cases, economic considerations dictate a medical care system far less extensive and comprehensive than the one envisioned by either health professionals or users of the system. Economic considerations also result in restraints on biomedical research programs carried out in the medical schools and the level of support of medical education programs. The ultimate decisions on levels of medical care and the support of research and medical education are made not only on the basis of the country’s economy, but also on the judgments of policy makers about the proportion of the available resources that should be devoted to the maintenance of health and related programs of biomedical research and medical education in contrast to other programs.

For example, there are rising complaints in the United States about the increasing costs of these programs. They now require almost 11 percent of the Gross National Product of the country. As a result, efforts are being made to contain the costs of medical care, and funding for biomedical research has reached a plateau. There are not similar complaints about the rate of growth in expenditures for the military build-up of the defense effort. Judgments on which programs a country will spend its wealth are subjective and often politically based. Economists have no valid calculus that will give an objective answer to the proper distribution of resources among competing programs.

Changing national goals and objectives are affecting medical education in the United States. Support for medical schools is not keeping pace with program requirements. Class sizes are being reduced in response to the claims that we have too many physicians and to concerns about their contributions to medical care costs.

Questions are being raised about our ability to provide high technology medicine to all of our citizens and whether our need is for more highly trained physicians or more generalists to be educated and trained. Economic triage is being employed more stringently to decide on the amount and kind of medical care provided for the poor and the elderly. These two groups of patients now have less freedom in choosing how their medical care will be provided than they did in the past.

Biomedical research is also suffering. President Reagan has called for a cut back in the budget of the National Institutes of Health, the primary source of support for basic biomedical research and clinical investigations. As a result smaller and smaller percentages of approved research proposals submitted by the medical school faculties are being supported. In this era of the almost unbelievable contributions made by advances in biomedical knowledge, highly meritorious research now goes undone.

The unsettled world economic conditions have also had their effect on the medical care and medical
education programs of the developing countries. There has been a slowing in the strengthening and extension of health services, in spite of the widely heralded goal of the WHO for access to primary care for all by the year 2000. Overpopulation, inadequate nutrition, poor housing and limits on preventative and curative medical care are making this a less healthy world.

This is unfortunate because a healthy population is the sine qua non for economic development which depends on the well-being of those who invest the capital of their own energy and productivity in strengthening their country. Providing the means for promoting health should not be considered only in terms of the consumption of resources but in the development of human capital.

The uncertainties about the future directions of medical care creates difficulties for the medical schools in all countries. As we are now finding out in the United States, changes in medical education cannot be brought about as rapidly as changes can be introduced in the medical care system. Because of the length of our educational programs, we are a lot like the huge oil supertankers that require great distances to change their course in response to a new setting of the rudder.

In the United States, changes in the medical care system have a direct effect on the medical schools. For today, on the average more than one third of their revenue is derived from the income generated by the medical practice of the full-time clinical faculty. The fraction is even higher for private medical schools. If there is less income from this source because of a national reduction in expenditures for medical care, particularly the more complex, high technology care, the medical schools and their teaching hospitals will face a reduction in the size and breadth of their programs. Among other things, it will be more difficult for them to continue their present level of activity in international medical education.

For example, a reduction in the payment for medical care may result in a decreased number of residency positions since the costs of this training are covered from this source of income. As a consequence there may be a further reduction in the number of students from other countries who can be accommodated in residency programs. The number of foreign medical graduates entering the United States on exchange student visas for residency training has already fallen from about 9500 in 1972 to 600 in 1982; a drop of almost 94% in a decade. The number of places for those from other countries may drop even further because of the rapidly growing number of Americans enrolled in proprietary medical schools in the Caribbean area and Mexico who are now seeking residency training in the United States. There are also serious implications for the number of fellowships which support clinical subspecialty training. The funds for these programs also come largely from hospital or clinical faculty income derived from patient care.

Unfortunately, there are no other sources of substantial support for residency or fellowship training. Private sector foundations have little interest in funding these programs. There are essentially no government programs directed towards providing financial assistance for this kind of training. I am very disturbed by the growing lack of interest of the United States government and private sector institutions in assisting our medical schools in working with other countries, to strengthen their medical education, biomedical research, and medical care programs. In order to use the resources we have more effectively, we will have to find ways to work more closely with medical schools in other countries to establish priorities for the education and training of their faculty members in United States programs. There will soon be few if any residency positions for those from other countries only desiring to prepare themselves for medical practice when they return home.

In the midst of this somewhat depressing environment, the Association of American Medical Colleges has carried out an extensive three year study of the general professional education of the physician that
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I would like to tell you about. The general professional education is that segment of the total education and training of physicians which prepares them with a common foundation of knowledge, skills, values and attitudes considered necessary for any career in medicine. In the United States this would encompass the general college education that precedes their entrance to medical school and the four years of medical education leading to the M.D. degree.

The project had a very distinguished advisory panel of 19 members drawn from universities, liberal arts colleges, deans and faculties of medical schools, administrators of teaching hospitals, students and a practicing physician. It was chaired by Dr. Steven Muller, a political scientist and president of the Johns Hopkins University, an institution that pioneered in the development of scientifically based medical education in the United States during the late 19th century.

The panel appointed three working groups to focus on the essential knowledge, fundamental skills and personal qualities, and values and attitudes that comprise the general professional education of the physician and college preparation for medicine. It has been called by the acronym for the general professional education of the physician, GPEP. The faculties of 82 medical schools, 24 colleges and universities and 21 professorial and professional societies engaged in parallel studies with the working groups. The findings and recommendations from all of these groups were amazingly consistent.

The Panel found that the quality of American medical education to be generally high, however it concluded that changes were needed to respond to the rapid advances in biomedical knowledge, medical technology and medical practice. Although some of the conclusions and recommendations in the report are directed primarily at colleges and medical schools in the United States, I believe many have universal application. My convictions are strengthened by the congruence between the Panel's views and many of those expressed by participants at the International Symposium in Higher Education held here at Yonsei University in October 1972.

The Panel recommended that medical faculties should:

1. Select students who have achieved a college education before entering medical school that encompasses broad study in the natural and social sciences and in the humanities, pursuit of scholarly endeavors, and the development of effective writing and communication skills.

2. Offer educational experiences that require students to be active, independent learners and problem solvers rather than passive recipients of information.

3. Limit the amount of factual information that students are expected to memorize, reduce the number of lectures, and increase faculty-student interactions through small group discussions.

4. Emphasize the acquisition of skills, values and attitudes by students at least to the same extent as the acquisition of knowledge.

A general concurrence is being developed with the observations of John Gardner, a distinguished American scholar who was president of the Carnegie Foundation and Secretary of the Department of Education and Welfare of the Federal government, that "if we indoctrinate the young person in an elaborate set of fixed beliefs, we are ensuring his early obsolescence. The alternative is to develop skills, attitudes, habits of mind and the kinds of knowledge and understanding that will be the instruments of continuous change and growth on the part of the young person. Then we will have fashioned a system that provides for its own continuous renewal." This concurrence was evident in the almost unanimous consensus among the members of the Panel and the medical school faculties reviewing their educational programs that our present approach to medical education may indeed give undue stress the learning of fixed beliefs.
was also the view that this may not be the optimal way to prepare students for the self renewal required 
by the ever increasing rate at which new information is flowing from biomedical research and displacing 
old knowledge. As a part of this concern, questions were raised about the appropriateness of the high 
degree of emphasis given to passive learning by the extensive use of lectures and the substitution of faculty-
centered instruction for student-centered learning.

Additional questions were raised about the content of the lectures and the kind of information students 
are required to learn in the basic sciences. It is felt that faculty members often treat the subject matter 
of their lectures at a level of detail more appropriate for graduate students in the discipline than medical 
students most of whose primary goals are to become physicians not experts in a basic science. This 
emphasis on detail confuses and disheartens students and makes it more difficult for them to synthesize impor-
tant information into a meaningful understanding of the discipline and to relate it to other areas of the 
basic sciences and clinical medicine.

The study also concluded that the time devoted to lectures leaves little for students to develop, under 
faculty supervision, an interest in and the skills to learn independently. This attitude and ability are assuming 
greater importance for physicians if they are to remain current in their knowledge and practice modern 
medicine throughout their professional careers.

If the faculties want to convince students that they value independent learning and the ability to con-
ceptualize and solve problems, they must change their evaluation systems. The ability to recall unrelated 
bits of knowledge for objective, multiple-choice examinations must be replaced by evaluation methods 
that measure students' abilities to organize their store of information logically in confronting a problem 
and developing an approach to arrive at an answer. Students are smart and one shouldn't expect them 
to devote their efforts to independent, scholarly pursuits if they know that they will be evaluated on their 
ability to memorize facts and regurgitate them on a multiple choice examination.

The criticisms of the general professional education of the physician were not limited to the preclinical 
years of medical school. They also were directed at the clinical years. In contrast to the rigidity in organiza-
tion and the overcrowding of the curriculum in the first two basic science years, the clinical experiences 
were viewed as often too permissive, poorly integrated, and inadequately supervised by the faculty. There 
was also a feeling that the knowledge and skills in clinical medicine that the students were expected to 
acquire were poorly defined and the strengths and weaknesses of the students were inadequately evaluated. 
In particular, there was concern that students were infrequently observed and monitored by the faculty 
in their performance of the basic elements of the case-method used as the basis of their clinical education 
and training.

It was also concluded that the modern teaching hospital in the United States is becoming a less suitable 
setting for the introduction of medical students to clinical medicine. The high degree of specialization in the 
clinical services and among clinical faculties, and the increasing use of high technology diagnostic and treat-
ment procedures diverts the student's attention from the acquisition of basic skills in interviewing patients, 
carrying out physical examinations, and constructing a differential diagnosis. Ways must be found to over-
come these disadvantages of the tertiary care teaching hospital or to use other health care facilities for 
medical education.

A large number of medical school faculties have responded vigorously to the GPEP report. They are 
evaluating their own educational programs in relation to the recommendations of the report. I am confident that we will see real changes, not in the sequence of courses, nor in the number of hours for a course,
but in fundamental changes in the educational process—giving the students more responsibility for their own education and reducing the emphasis on passive learning in the lecture hall.

Although there are differences between the medical schools in Korea and the United States, I hope that some of our studies on medical education like those on the general professional education of physicians will be of some value to you. In both countries, we need to find the resources that will permit us to keep the education and training of our physicians appropriate for the rapid changes occurring in biomedical knowledge and the practice of medicine.

There are many areas in medical education in which American medical schools may not be able to be of great assistance to those in other countries. Because of the differences in our societies, there are also areas in which your experiences and plans may not be useful to us. However, there are so many ways in which we can profit by exchange of ideas and people that we must continue to work for closer cooperation between our two countries.

I am honored by the invitation to participate in this great celebration and conference on medical education. Thank you for having me.

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Dr. John A.D. Cooper PRESIDENT OF THE ASSOCIATION OF AMERICAN MEDICAL COLLEGES, joined the 109-year-old organization as the first full-time President in February 1969 after 30 years as a member of the faculty and Dean of Sciences at Northwestern University. His undergraduate work was completed at New Mexico State University, and his M.D. and Ph.D. degrees were obtained from Northwestern University. Dr. Cooper holds honorary degrees from 12 universities.

Dr. Cooper is a member of the Institute of Medicine of the National Academy of Sciences. He has served in a number of advisory capacities to the National Institutes of Health; the National Science Foundation; U.S. Atomic Energy Commission; Department of State; Agency for International Development; Food and Drug Administration; the Veterans Administration, and the Department of Medicine and Surgery of the United States Navy.

For more than 20 years, he has been involved in international medical education. He has been Treasurer of the Panamerican Federation of Associations of Medical Schools and has served as Treasurer of the World Federation for Medical Education. He has been a member of missions to the U.S.S.R., Poland, and Egypt for the Department of Health, Education, and Welfare, and has participated in numerous conferences on world health problems. Dr. Cooper has also served as a member of the World Health Organization's Research Strengthening Group for the Special Program for Research and Training in Tropical Diseases.

Dr. Cooper is a professorial Lecturer in Community Medicine and International Health at the Georgetown University School of Medicine, and has served as a Professor of the Practice of Health Policy in the Institute of Policy Sciences and Public Affairs at Duke University. He is President of the National Resident Matching Program, a member of the Special Medical Advisory Group of the Veterans Administration, and serves on the boards of the Educational Commission for Foreign Medical Graduates and the National Board of Medical Examiners.

He has published over 250 articles in professional journals. For five consecutive years, Dr. Cooper was selected by the editors of U.S. News & World Report as one of the five "most influential leaders in the field of health."
Vice-President Hong, Professor Soh, Honored Guests, Alumni and Friends of Yonsei;

It is a real joy and privilege to be present here for the long awaited centennial celebration. I am grateful too for the presentations of these two international leaders in medical education. The China Medical Board made possible the construction of the medical school at this site. It also has provided much research equipment and supported many innovative medical projects. However, one of its greatest contributions has been the provision of post-graduate educational opportunities for numerous young faculty members of the health sciences schools. It has invested in people. It has planned for future faculty leaders. Today Yonsei is grateful to the China Medical Board and proud of the CMB fellows with their contributions to Yonsei Through Faculty Research and Medical Education. Thank you, Dr. Patrick Ongley, for your support of Yonsei. We look to mutual planning, assistance with faculty development, and educational development as Yonsei enters its second century.

Dr. Cooper, it is a personal joy and real privilege to know that you have been able to take time from a tremendously busy schedule to participate in this symposium on international medical education. Each week for many years I have received a weekly letter from you in which the activities and concerns of the association of American Medical Colleges have been addressed.

Since the early 1960s, when we organized the 1st symposium on medical education as a project of the association of Korean Medical Colleges, we have found the journal of medical education a source of ideas. Yonsei Medical Center looked to the carroll report as we studied the development of a geographic full-time faculty.

Last September as I was preparing for this trip to seoul the GPEP report was published as a project of the association of American Medical Colleges. Yes, Each culture has its own methods of educating doctors, and its own system of medical practice. Methods and systems must respond to changes in social and economic priorities.

Constant revaluation of performance is essential. Constant re-identification of the goals of medical education and of the medical system is essential.

Only by so doing can we meet the challenges of Yonsei's next 100 years.

Three suggestions:
1. That Yonsei give leadership in the association of Korean Medical Colleges in a study of the Korean premedical program, and the general professional education of the Korean physician.
2. That Yonsei, as an international medical center, become a member of the W.H.O. sponsored network of community oriented educational institutions for health sciences. This is coordinated by Jacobus M. Greep, Dean of the Medical Faculty at Maastricht, Netherlands. The network gives emphasis to the priority of health problems in curriculum development, to community-oriented education, to innovative instructional methods and to program evaluation.
This is one way by which in the next century Yonsei can give leadership and direction. One hand will be reaching in to Korea while the other is reaching out to the world around us.

3. The China Medical Board helped make possible the surveys of medical education done under the direction of dean N.L. gault in 1960 and 1970. Has such a comprehensive survey been made since the many new schools have been developed? Perhaps a current survey might provide a firm basis and new direction for the 21st century of medical education and medical care in Korea.

None of us will live to see the celebration of the 200th anniversary of Yonsei's founding, but what we do now will determine and affect much of the 21st century. Thank you, Dr. Cooper, for giving guidance in Yonsei's challenge to direct our available resources to the goal of health for everyone by the year 2,000. Our sincere best wishes and prayers are with those responsible for all of the health care services in Korea.

Thank you.