The current policy of cultural exchange between the People's Republic of China and the United States began in 1973. As a result of this policy, seven American cardiologists and I were invited to enter China on April 22, 1973, for a two-week professional visit. Our primary mission called for teaching and exchange of professional ideas in related fields of cardiology and cardiovascular surgery. During this time we were given an excellent opportunity to observe medical facilities in China and to discuss a variety of subjects with doctors and political figures in that country. This report reflects my own observations and impressions; it is not to be construed as an official report of the American delegation's combined experience.

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Weeds choke hundreds of villages, men wasted away; Thousands of households dwindled, phantoms sang with glee.  

Mao Tse-tung

This excerpt from a poem by Chairman Mao describes the miserable conditions that existed in China at the time of the National Liberation in 1949. As would be expected of any new government, the first major efforts were to consolidate political domain and come to grips with major problems that resulted from social neglect and internal strife. The health care of the Chinese people was generally poor and in some areas virtually nonexistent. This was particularly true in the country, where sixty per cent of the total population live and work in an agrarian economy.

For centuries the Chinese peasant expected and received precious little medical care from either private sources or governmental agencies. The Communist government of Chairman Mao was probably the first in China's history to direct health care toward those who fulfilled China's incessant demands for food; as this health care system developed, provisions were made to include the needs of factory workers, miners,
and all citizens of this vast society. Appreciation of contemporary Chinese medicine requires a basic understanding of the problems that confronted the Maoist government in 1949 and the impact of the Marxist ideology upon China's medical reorganization. Chairman Mao achieved total power in a country that had been ravaged by both military invasion and civil war. When the Japanese invaders were repelled and Chiang Kai-shek's Nationalist Party departed for Taiwan, the affairs of China were at low ebb. Needless to say, Mao's government did not qualify for our Marshall Plan, and its major ally, Russia, could offer little in the way of foreign aid. China's medicine was totally disorganized, medical schools were nonfunctioning, and a large segment of Chinese doctors had departed for more attractive climates.

From its inception, Mao's government assumed total responsibility for every aspect of China's new society as rigid priorities were established to help China play catch-up with the outside world. To accomplish this the government became totalitarian in the strictest sense of the word, and every citizen's thought process was coordinated with that of the Leader. Even members of the medical profession were not exempt from this philosophy. Whereas the American doctor may opt to be politically active or not, this is not true for his Chinese colleague; in the People's Republic of China every citizen is subject to political indoctrination for his lifetime. The practice of medicine does not excuse an individual for being indifferent to established thought. Every citizen lives "to serve the people," and this can be accomplished only by living within the revolutionary spirit of Chairman Mao. The almost universal thought control that has welded this population of over 700 million people is not only a political reality, it is a simple fact of life in today's China. The effect of Marxism upon Chinese medicine goes beyond the health care delivery system and basic medical education as it exists today. Scientific publications in all fields of medicine and surgery feature Mao's name in the title, in the text, and most certainly in the list of references. Constant reference to China's Head of State in medical writings would seem to be a bit out of place, but Chinese authors do not distinguish between medical science and Communist dogma. This political overtone might be understandable in papers that deal with organization and public health, but for me it was hard to believe that the treatment of peritonitis or reports on cancer therapy, burn treatment, traumatic amputation, and treatment of congenital heart disease had been enhanced appreciably "by applying Mao Tse-tung thought in medical practice." Perhaps unrelenting governmental intrusion accounts for the presence of repetitive quotes such as "The more prominence we give to politics and the higher we hold the Red banner of Chairman Mao's thoughts, the more fully does the superiority of the socialist system show itself" in medical writings. It is difficult to believe that the Chairman's thoughts will have much effect upon the treatment of specific pathological entities, even though they may have a stimulant effect upon the authors themselves. Nevertheless, the sociopolitical solidarity created by Mao's government has influenced favorably some aspects of Chinese medicine, particularly in public health and the delivery of primary health care. The Western doctor who may pride himself upon independence of thought and individuality must realize that these personality traits are not to be found among his Chinese colleagues.

China's medicine

My own observations fall into three categories: (1) medical practice, (2) health care delivery, and (3) medical education. As stated before, Mao's newly formed Communist government had many problems unrelated to medicine. Limited financial resources and lack of foreign aid forced a priority rating system in each problem category; it was clearly understood that any forward leaps in China's medical system would be accomplished by total dedication and by utilization of human resources.
Medical practice. China's medicine blends the Traditional with the Western methods of diagnosis and therapy. Traditional medicine is an integral part of Chinese culture and therapy is based primarily upon acupuncture and herbal materia medica. Western medicine was introduced much later by medical missionaries, by foreign medical literature, and by those Chinese who had received their medical training abroad. After the National Liberation, the discouraging shortage of trained medical personnel forced the Communist government to adopt a policy that would utilize all resources. It soon became apparent that this could be accomplished only by eliminating any competitive attitudes or emotional barriers that might exist between Traditional and Western doctors. China's Traditional medicine was kept very much alive when Chairman Mao stated that "Chinese medicine and pharmacology are a great treasure house and efforts should be made to explore them and raise them to a higher level." Perhaps I am taking liberties of interpretation, but it would seem that Mao's decision to combine the two forms of medical art is based upon both culture and expediency.

My harping on the political domination of Chinese medicine is not the overreaction of a conservative American surgeon. When we visited hospitals in major cities or rural medical facilities in communes, our delegation was always cordially received by host physicians and surgeons, as well as by the Responsible Member who represents the local Communist party. The Responsible Member is ubiquitous and may be of either sex. This political appointment represents the top rank of a given medical district, and it is not necessary that he or she be a doctor. From the beginning I was impressed by the apparent unanimity of thinking of our host physicians. At no time did there appear to be conflict either in concept or in medical politics. (This could not be said for the eight members of the American delegation whose political and medical opinions covered a broad spectrum.) As impressive were the cordial relationships that existed between the Traditional and the Western doctors; I do not think that this would be possible in our own society. Memories of the cultural revolution of the mid-1960's may contribute to the harmonious professional relationships between doctors whose basic backgrounds are centuries apart. It was during the cultural revolution that Mao indicated his dissatisfaction with China's medical establishment. At that time numerous leaders of academic medicine and surgery were denounced by their own students and by members of the Red Guard. Temporarily defrocked, they were sent to the country for periods of self-criticism, and each was given the opportunity to divest himself of any thoughts of personal superiority or "elitism." At this time, Mao expressed his disgust with the snail-like progress of Chinese medicine, and he announced his intention to reorganize and to reconstruct a system that would eventually meet the medical needs of the entire Chinese population. The chastened leaders of Chinese medicine, fresh from their rural experiences, were advised that Traditional and modern doctors had better work together and in harmony! I met a number of surgeons who had spent periods of time in rural or factory areas during and immediately after the cultural revolution. I did not hear any indicate a desire to repeat this experience. This must have been a humbling experience and one that virtually erased any outward signs of independent thinking so far as medical philosophy in China is concerned. In a totalitarian government there are interesting ways of getting messages to the rank and file; this particular method provides an effective means to guarantee professional conduct and professional thought at all levels.

Most of the hospital facilities are left over from days gone by. Nevertheless, all that we visited were being used to maximum capacity. As is true in America, the number of doctors, nurses, and ancillary hospital personnel totals more than the patient volume. The surgical facilities, the intensive care units, and the burn units were of particular
interest to me. Most of these that I inspected would have difficulty with underwriters’ inspection as we know it in the United States. However, it does not hurt an American surgeon to be reminded that much can be accomplished without sophisticated equipment and dependence upon electronic devices or computerized systems. Disposable needles, syringes, and fluid delivery systems have not arrived in China, and I was reminded of the frugality that was characteristic of our own community hospitals prior to World War II.

Open-heart surgery is by no means uncommon, but it is usually restricted to congenital heart disease and to treatment of both mitral stenosis and mitral incompetence. I had an opportunity to examine a number of patients who had undergone annuloplasty for mitral insufficiency, and every patient had a residual systolic murmur. This brought to mind my own experience before the days of prosthetic mitral valves. All of the hospitals utilized a standardized type of disc oxygenator that was basically simple. I was informed that this workable unit was designed after careful research of Western literature, and when the first workable prototype was assembled the oxygenator was standardized and subsequently distributed to all hospitals that would require extracorporeal circulation as an adjunct to cardiac surgery. The overwhelming majority of operations for pulmonary or congenital heart disease were performed under endotracheal anesthesia with gas, oxygen, and ether. The much publicized acupuncture anesthesia was actually employed in a very few of the hospitals that I visited and in carefully selected cases (see Editorial, page 328). The postoperative management of patients who had undergone open-heart surgery impressed me favorably, and it is obvious that the surgical team has acquired considerable expertise. At this writing, revascularization surgery has not been utilized at all.

Since our delegation was oriented primarily toward heart disease, we saw no facilities restricted to pulmonary or esophageal surgery alone. I did see a few patients who had undergone pulmonary resection for carcinoma of the lung; coincidence or not, all had presented with peripheral lesions and had been treated by lobectomy. Only one patient had undergone esophageal surgery and this was for a leiomyoma of the esophagus; I understand that this is a common lesion among the Chinese.

The most impressive feature of hospital rounds was the Chinese patient. Regardless of age, all patients seemed to enjoy the hospital confinement periods, even the miserable unfortunates who occupied the burn units. There was a remarkable sense of discipline in patients of all ages. During rounds each would remain at his bedside until the doctors had left the floor or the ward. I do not recall seeing one patient who appeared to be unhappy or withdrawn, and all were intensely interested in the visit by the American delegation. In the children’s wards there was a singular absence of supervisory play ladies, recreational areas, or toys of any kind. All patients seemed to be at ease in their hospital environment, and I was told that the patient was not discharged from the hospital until he was physically able to return to full duty and assume his place in society. The discipline and the conformity of the Chinese patient were most impressive, and I suspect that these are reflections of cultural and social backgrounds.

Health care delivery. The initial efforts of the Maoist government to provide health care for the Chinese people ended in failure. The conventional programs directed by Liu Shao-chi, then Commissioner of Health, were later classified as counterrevolutionary revisionism and were cast out during the cultural revolution in 1965. Chairman Mao then issued the call, “in medical and health work put the stress on the rural areas.” This attitude was realistic, since sixty per cent of the population lived in rural and outpost areas. However, the limited number of doctors in China lived in urban areas, and even though many were transported to the countryside for periods of time, there were too few to do the job.

The problem of providing health care for this enormous rural population was solved
by a new medical labor force of young people who were affectionately dubbed the "barefoot doctors." By our standards, the barefoot doctors are paramedics. They are young men and women who have undergone brief but intensive training that encompasses both Traditional and Western medicine. What these young people lack in formal medical education is in part compensated for by dedication, energy, and physical presence. By Western standards, the barefoot doctors are grossly unqualified to assume the professional responsibilities that they are called upon to handle. As stated before, the peasants and the bulk of the labor class never had much in the way of medical care and expected little. Since this program was undertaken with the revolutionary spirit of Mao, it was eminently successful. It is obvious that the incumbent Maoist government is not hampered by bureaucratic boards of licensure, nor is this society accountable to third-party payors or to plaintiff lawyers.

Approximately 300,000 medical workers have gone to the rural or frontier areas. They are young people, always single, and totally dedicated to their profession. In many areas the barefoot doctors offer not only primary delivery of health care but perhaps the only care that will be required until the patient recovers. They have been taught principles of wound care, simple operative procedures, and a limited pharmacopia that includes antibiotics, stimulants, and some herbal medicines. In addition, they function as local public health officials and supervise water purification, disposal of human waste, and pest control. More recently, the barefoot doctors have been assigned a vital role in population control and are responsible for dissemination of current birth control methods.

The success of the barefoot doctor is attested to by the widespread popularity that these young paramedics enjoy. They are depicted in many of the propaganda posters and in various manuals that are published by the government. Many of these dedicated young people come from better-than-average circumstances, and most are from urban areas. By performing effectively, the barefoot doctor may use this phase of his life as a steppingstone to higher medical education. However, to progress from a practicing barefoot doctor to the status of medical student requires the complete endorsement of the people who have been served over the past few years. If the job has been done effectively, this will be a factor in his favor when his application for medical school is considered. If the opposite is true, higher medical education is unlikely. The success of this program and the creation of this effective medical work force is testament of what can be accomplished in a totalitarian government that has fixity of purpose and total control of its population.

The greatest advances in Chinese medicine have been in health care delivery and in the field of public health. In this latter regard, communicable diseases have been curtailed; venereal disease and drug addiction have been eliminated. Again, mass educational programs were undertaken along with utilization of the enormous reservoir of manpower that was available for all-out efforts against any common enemy of the people. The total effort included drainage of swamps, collection of refuse, and a physical attack upon the pests of China, namely, rats, flies, mosquitoes, and even English sparrows. The mass kinetic effort that was undertaken to physically eliminate the pests must have been impressive, as literally thousands of determinedly aggressive Chinese went into the fray armed with swatters, bats, and whatever it took to win the battle—all of this coordinated by the central government.

The control of venereal disease is described in detail by an American-born dermatologist, George Hatem, M.D., who states that the mission was accomplished in 15 years. Hatem's report is liberally sprinkled with tributes to Chairman Mao and with a personal condemnation of the capitalist world which is credited with introducing, if not inventing, venereal disease. Again, the advantages of a totalitarian government are readily apparent. All houses of
prostitution were closed and the property was confiscated; the landlords and other ancillary personnel required by a white slave syndicate were eliminated in one way or another, and all prostitutes were re-educated or reoriented into other professions. With this, there was an aggressive program of case reporting and follow-up of patients who needed active medical treatment. Essentially the same approach was utilized to eliminate drug addiction, which had plagued China for centuries. This enormous country was sealed off from the outside world, drug sources were cut off, and confirmed addicts were treated within a specific time period. What happened to those who failed to cooperate or to those who reverted to their old ways against the stern admonitions of Chairman Mao can be left to the imagination. The fact remains that the missions were accomplished so far as communicable, venereal, and addiction diseases are concerned, and China is better for it.

Any qualified observer must be impressed by a government that, in two decades, has eliminated venereal disease and drug addiction and brought communicable disease under reasonable control. In contrast to our own public health programs, there was relatively little expenditure of money; what has been accomplished is directly attributable to dedication, direction, and utilization of unlimited human resources. It would seem that, so far as public health measures are concerned, a totalitarian government has this distinct advantage over a democracy for the simple reason that it has total control over those people who are directly involved and who will benefit most by eradication of certain diseases and hard drugs.

Medical education. From the beginning the Maoist regime has been handicapped by a shortage of qualified physicians. This professional deficit was compounded when China's medical schools closed for about two years during the cultural revolution. Since that time the government has taken an aggressive attitude toward medical education and has imposed new policies based on political and realistic appraisal of its medical deficiency. First of all, it takes full advantage of the fact that the young people coming into the medical profession are totally dedicated to Marxism and thoroughly indoctrinated with their desire to serve the people. In the People's Republic of China it is firmly held that total dedication and a spirit of selflessness make it possible to get much more done in much less time. This may be true. In any event, this philosophy is being put to the test with a crash program in medical education.

The original medical curriculum, before 1966, required six years including the pre-medical period. These six years of medical education have been arbitrarily reduced to three years, and one year of the three is devoted primarily to political indoctrination! To the Western observer, it can only mean that the need for quantity of doctors puts a lower priority on quality of the ultimate product. In our meetings with representative Chinese educators, the subject of the shortened curriculum and its inherent dangers so far as quality was concerned was discussed freely. It was obvious that our Chinese colleagues had accepted the concept of the shortened curriculum. Also, it was apparent that they had anticipated our concern over the type of doctor that would be produced. The educators stated repeatedly that this shortened medical curriculum was experimental and that it might be revised if the newly graduated physicians of China were less able to serve the needs of the people. My own reservations took on weight when we were informed that the student failure rate is a fraction of one per cent! The student who does badly during examination is given every opportunity to repeat, and is given special tutoring. It is almost a foregone certainty that he will graduate sooner or later. With my own Teutonic ideas of medical education, it would seem that a shortened curriculum would place a greater demand for excellence on the students; if this were the case, one would expect a sharp escalation in the educational mortality rate. Regardless, the People's Republic of China is going to get more doctors and get them soon.
Conclusions

Much has to be done if China’s standards of medical care are to equal those of Canada, the United States, and most of the Western European nations. Westerners have a common failing in that they emphasize the importance of physical facilities as a first essential in any improvement program. The fact remains that China’s hospitals are generally obsolete by any standards. However, the basic physical needs are not so much for improved patient bed facilities as they are for clinical laboratories, radiology departments, pharmacies, surgical suites, and research areas. I think we saw the best that China has, and, if I am correct in that assumption, there is little likelihood that the quality of graduate training can improve appreciably until most of these physical facilities are modernized. The current situation, as I see it, is analogous to training modern fighter pilots with World War I equipment.

Speaking only for myself, it seems unlikely that the crash training program to relieve the doctor shortage will prove to be a boon. Mass production of doctors who look alike and think alike may have immediate benefits, but I have serious misgivings for the long-term effects this policy will have upon the future quality of Chinese medicine. In this regard, my reactionary background suspects any form of medical education that must share equal billing with political orientation. The People’s Republic of China must acknowledge the need for well-trained doctors rather than medically oriented public servants.

The decision to blend Traditional Chinese medicine with Western medicine was based upon expediency. This decision would not have the remotest chance for implementation except under the aegis of the totalitarian government. Many of the Chinese doctors I met had received foreign training, and I was impressed by their professional background and expertise. I have often wondered what they really thought about acupuncture and herbal medicine. It is difficult for me to believe that these capable Chinese physicians really are convinced that congenitally deaf and mute patients will be cured when a single needle is inserted deeply into the Ya Men Point* because these unfortunate youngsters are desperate to hear the voice of Chairman Mao and to sing his praises. I wonder how many general surgeons in Shanghai, Peking, or Canton would advise acupuncture as primary treatment for inter-abdominal catastrophes or would sprinkle the abdomen of a peritonitis victim with anti-inflammatory herbal powder. I found the visit to Shanghai Third Municipal Hospital’s burn center most interesting—reminiscent of similar units I had seen in this country. If acupuncture and herbal medicine are used to treat burn patients it was not in evidence on that particular day. Impressive claims for medical advances appear regularly in the government-printed periodicals that are ubiquitous in the People’s Republic of China. A medical college in Kwei Chow Province now treats cholelithiasis successfully with a “stone-removing mixture”; another Chinese medical center is said to rehabilitate polio victims with great regularity because the medical staff now heeds the thoughtful statement of Mao: “In a given condition the principle and the non-principle aspects of a contradiction transform themselves into each other.” On a number of occasions I was sorely tempted to ask for the private opinions of my colleagues who practice thoracic and cardiovascular surgery in China. However, under the circumstances, searching questions of this nature would have been both impolite and impolitic. The fact remains that the overwhelming majority of claims made for Chinese medicine come from governmental propaganda centers and not from published scientific reports. Most of the physicians and surgeons who met with the American delegation seemed to be more interested in seeking their own information than in touting scientific exploits of their own country.

There is more to be said, and much of it

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*This point is located midline in the nuchal ligament (according to the Ancient Acupuncture Chart).
extremely favorable, in regard to medicine of the People’s Republic of China. Sometimes it is difficult to be objective without appearing to be condescending, even sarcastic. The fact does remain that an enormous homogeneous population is receiving much better medical care than it ever did before. There is little doubt that Mao’s government has restored a national pride and that this allows all citizens to respect all aspects of Chinese medicine whether ancient or modern. The complete confidence of the Chinese citizen in his government seems to be transferred to the patient during times of illness. Apparently it matters little to the individual whether his medical care is supplied by a barefoot doctor, a doctor of Traditional medicine, or a doctor of Western medicine. The patient knows that it is his duty to cooperate and to do his very best to get well, in order that he may get back to active duty and, in so doing, serve the people. The basic motivation of the patient to recover plus his total confidence in the medical care that is available to him are factors one must consider when appraising medicine in China today.

REFERENCES
2. Scaling Peaks in Medical Science, Peking, 1972, Foreign Language Press.