

MARCH 24, 1969RICHARD W. VILTER, M. D.

As the out-board motor pattered along at trolling pace pointing my boat into the setting sun, I wondered where the trout were. I had not seen one all afternoon; in fact, I had not seen one all week. The sky was changing from gold to lavender streaked with pink and gray. Only a thin fiery rim of sun was visible above the distant line of trees. In a minute, it was gone. The pink wisps across the sky deepened to lavender, the lavender to violet, the violet to gray as the wind died, leaving the lake becalmed. At such a moment it mattered little whether the trout were interested in my spinner and minnow or were admiring the sunset. "The gentleness of heaven broods o'er the sea." As this thought crossed my mind, another contrasting one followed in quick succession. "Listen! The mighty being is awake, and doth with his eternal motions make a sound like thunder everlastingly."

The peacefulness and beauty of nature all around me contrasted vividly with the uncertainties, unrest, and turbulence of the cities, the universities, and the medical schools. Avondale, Harlem, Watts, and Hough erupt in summer violence with fire bombs, looting, and sniping as negroes strive for social equality and a bigger piece of the economic pie. Hundreds of years of prejudice cannot be overcome in a day, a year or even a decade any more than one can build overnight a flourishing, responsible, self-sufficient society in the developing countries of Africa. Unrest, uncertainties and violence around us lead to a rash of political assassinations in avain attempt to settle scores by obliteration. In reaction, the public and the press wallow in mass self-condemnation and reproach, perhaps to counteract mass depression, and then look to political demagogues for quick and easy solutions, inviting dictatorship.

The poor are marching on Washington to demand of Congress a greater share in the country's prosperity and material wealth. Having been born seems to be the major justification for these demands, rather than having made significant con-

tributions to the country's prosperity. Two hundred wild-eyed, long haired Columbia University students, after careful preparation at a meeting of the "Students for a Democratic Society" at the University of Maryland, occupy Columbia's main administration building and the President's office. Their complaint involves a gymnasium, which, without voiced objection, has been planned for months to occupy part of a tract of land used by underprivileged children from Harlem. Because they can think of no other issue, they demand that the University give up these plans and refuse to heed the order to leave the buildings which they have occupied unlawfully. Even when the University accedes to their demands, they still refuse to move, the issue now being amnesty for the law breakers. During the first day of the sit in, civil rights organizations are invited to the campus by the students, but sensing the confrontation with the law which is the real goal of the sit ins, these organizations refuse to become involved, and do not return. Unfortunately, the University administration has poor lines of communication with faculty or students, and when the police are called in after five days of lawlessness, the two hundred have the issue which will solidify 20,000 previously uncommitted students and faculty behind them, for these students feel an unrest and an uncertainty that they cannot explain.

Columbia isn't alone in the upheaval even though it was selected for the major confrontation due to its location, its size, and its medieval organization. Down State University Medical Students strike against final examinations. Sorbonne students strike against the authoritarian system of the French universities and almost bring down the French Government with the help of the Communists, organized labor, and the French politicians, but the greatest politician of them all, Charles De Gaulle, presents the country with the most difficult choice, De Gaulle or Communism, and turns the tables on them. Berlin students revolt against authority. Even Russia and Poland have their student riots. Czechoslovakia is the latest national casualty of a student upheaval, but there the conservative establishment is communistic, and the students struggle for liberal ideals which in the West might

be classified as conservative. They certainly are not nihilistic like our radical fringe. The movement is world wide. It is at the root of the hippy protest and the free and easy use of drugs. It is protest without clear objectives and with adolescent fears of instantaneous destruction by the atomic bomb, the Viet Nam War, the threat of World wide conflagration, and the responsibility for occupying the Universe. An affluent society unfortunately relieves the students of the need for personal struggle to survive. They have no Spanish Civil War, Nazi atrocities, or Pearl Harbor upon which to unite in anger but as a group they face destruction which they cannot control and so they lash out destructively at their elders, the symbols of authority, whom they blame for the disarray in which they find their World. Though bright, they are naive. They meditate with gurus and marijuana and vegetate in Cretian Caves, but seemingly have no urge for personal achievement or success. Their goals are vague. Decoursey Squires, our Cincinnati hunger striker, began by protesting the Viet Nam War, then, when she was convicted of contempt of court, she protested court procedure, and finally when she was sent to the workhouse, she protested the entire judicial system. Though they were highly intelligent, neither she nor the group that supported her had any constructive positive ideas. They were simply against "the establishment", upon which they heaped the blame for the troubles of the World and which they accused of trying to mold them in its own likeness. Czechoslovakian students are different. They have a cause around which to unite, the freedom of their country, and yet they are restrained and self-disciplined when compared to ours. Clearly the Russian bear is more awesome than the American eagle.

The medical world, though scarcely adolescent, is plagued by the same unrest. Since Flexner changed the course of medical education in the first decade of this century, there have never been so many major unsolved problems and uncertainties. Curricula in medical schools become more and more permissive as a necessary consequence of the explosion of medical knowledge, much of which will be obsolete before the neophytes enter practice.

Habits of self education must be stamped upon every medical student and this cannot be done in an authoritarian, highly regulated system such as pertained in the past. Furthermore, the escalating costs of medical care and the ever increasing need for more and more physicians create a demand that medical educators shorten the time it takes to become a physician, allow early specialization, and abbreviate the core of medical knowledge demanded of every medical student. It is of little use to teach this year what may be obsolete next year and it is wasteful to demand the same background of the future psychiatrist, the future surgeon, or the future investigator in medical genetics. It is much better to try to teach the student to think, and to force him to become involved as an active participant in his own education. The mere process of thinking, however, generates unrest and freedom to shape ones course of study may be misinterpreted as license to do nothing at all but protest.

Students demand better educational methods, individualized attention and more clinical responsibility. Interns and residents demand a "living wage", roughly equivalent to what an Associate Professor received 10 years ago, as well as more responsibility, more individualized attention, and more free time. The faculty demand salaries competitive with private practice, support for research, and in some instances, clinical responsibility limited to a narrow specialty. Patients demand the facilities and the personalized attention of "The Private Service", and no longer accept the mores of the charity ward which unfortunately were rather uncouth. Most are legitimate demands and must be heeded, even though as a result the costs of medical care mount by geometrical progression.

For the past 20 years, research grants from the National Institutes of Health have been supporting the burgeoning medical faculties. The research budget of this one Federal Agency exceeded one billion dollars last year and seventy per cent of the budget of our local Department of Medicine came from grant sources, not from local funds. There was tacit agreement, that since Congress would not support medical education in its own right,

education must be supported thru research funds. Therefore, the medical educator was forced into research; academic promotions depended in large measure on the number of papers published and upon the number of grants obtained. The fit of the glove was good. The academic way of life was strengthened. Though some poor research was done, and occasionally the interests of the patients were forgotten in the press for new knowledge, the result has been a tremendous advance in medical knowledge and technique, the kidney and heart transplants, the new antibiotics, hormones and tranquilizers which we now take for granted, but which also increase the cost of medical care, and create new medically induced diseases. The development of clinical skills and aptitude for teaching has been de-emphasized, since success in research carries the greatest reward.

Within the last year, the scene has suddenly changed. Emphasis through Federal money is being placed on patient care programs. The right of every American citizen to good health is receiving dollar support, while the costs of the Viet Nam War pinch the research budget. In some ways this may be good since development of broad clinical skills may once again receive fitting reward, but still there is little money for education, the prime function of the medical school. It is a question how well and how rapidly a University based Medical School can change its stance to meet the challenges of these rapidly changing times and it is a certainty that if research is not liberally supported, there will be no new fruits for the clinician to bring to the bedside of the sick patient. The research training lavished on many imaginative young physicians during the last decade may be wasted because of a scarcity of research positions and opportunities. Why cannot all three functions of a medical school, education, research, and patient care, receive equal recognition and support?

Another challenge to the schools and the universities may offer the possibility of a partial financial solution, but the dangers involved are numerous and there is no established path to follow.

The great municipal charity hospitals, the backbone of the teaching services of the past, find that their clientele is disappearing and will completely disappear as the new society eliminates poverty, at least medical poverty. Federal money will be available to support the costs of hospitalization and professional services for these erstwhile charity patients. They will no longer be second class citizens and will demand the care previously allotted to private patients. Much good can come from this change. Though they always received excellent medical care, they were often forgotten as people, and the new arrangement will emphasize their personalities as well as their sick hearts, sick lungs, or sick kidneys. The major problem is to organize a teaching service in this new milieu, maintaining the good attributes of the past but using the new found wealth derived from fees for professional services to plug the holes left by the dwindling research funds. Arrangements to collect these fees to strengthen the educational, patient care and research programs of the Medical Center will be difficult to accomplish. Inevitably jealousies and economic concerns, which are never far beneath the surface in the Medical Community, will be exposed and seemingly inherent matricidal tendencies against Alma Mater will flare. Perhaps one might call this a reverse oedipus complex. It is difficult to understand, but it seems to be based on a physicians' need to develop ego strength thru the belief that he knows as much or more than any other physician, particularly the ivory tower doctor in the University. There are economic fears, as well, and an overriding concern that the Medical Center will take over everything if the Government doesn't get there first. The physician is an individualist. "That man is- my patient" has tremendous emotional significance for him. Therefore, whatever arrangements are made, must take these factors into account and must not pose a threat to the private and individualistic practice of medicine, even though the medicine of the future is bound to become a group or collaborative effort.

One can conceive of a number of possible solutions to the problem of how to revamp the municipal charity hospitals, staffed since their founding

by students, interns, and residents under the supervision of assigned attending physicians. For many years, "The Attendings" received no personal compensation for patient care except the right to teach and study disease. Recently, full time faculty on salary from the University have filled the role, though volunteers still contribute much to the teaching program. As one solution, the City Hospital can become a private community hospital, with the professional staff restricted to the faculty of the medical school. It is possible to teach in the milieu of a private hospital, but it is very difficult to give the graded responsibility for patient care from the level of the medical student thru the various echelons of internship and residency that has made American Medical men great and which has been highly cherished as the best possible learning experience for undergraduate students and graduate physicians. Under this proposal, in our school, there could be a potential list of 800 attending physicians, and though students, interns, and residents would see a wide spectrum of acute and chronic diseases, they could not keep abreast of the myriad of physicians visiting their patients and writing orders daily. Of necessity, they would learn from a preceptor assigned to lead them around, to explain inconsistencies in management, and to try to arrange, probably with variable success, that they receive responsibility for patient care commensurate with their developing talents. The members of the full time staff, paid by the University to teach and carry on research, would be relegated to the research laboratory and to the role of consultants in highly specialized fields. They would lose their skills in the general field of medicine or to preserve these, they could engage in competitive practice with the volunteer faculty to the detriment or even extinction of their research efforts. Students and full time staff alike would see only one segment of a patient's illness, that which led to his admission to the hospital. The fore and the aft of the illness, and the community relationships would be lost in the attending physician's private office. So would the proceeds for the professional care of these patients. Of course one might modify the system by establishing a highly selected group of private

physicians in offices attached to the hospital to which students and housestaff might go as they now go to their follow up clinics, but even the mention of such a proposal by a medical school at this time would tear a medical, community to shreds.

As an alternative, the municipal charity hospital might become a University referral hospital dealing solely in esoteric disease referred to it from a wide geographic area. In this way it could maintain its autonomy and its table of organization. It could retain the proceeds from the professional care of these patients by its full time staff, but it could not present to its students the realities of every day medical practice, for the common illnesses would not be referred, and follow up information would be missing. Even more than now, emphasis would be placed on the training of specialists, not on the training of general physicians to care for the health problems of the Nation.

As a third possibility, the municipal hospital could continue to accept the same group of patients that has come to its doors for many years, offering better facilities and more personalized care supported by the ability of these patients to pay the University for this care rendered by the full time faculty. The same student, housestaff and attending physician organization and responsibility could be maintained with emergency room and follow up clinics as organized today. Into this atmosphere a referral practice could be introduced, which would meet the needs of specialists and research oriented members of the faculty. An entire private wing for the "private patients" of all active members of the faculty would provide even a broader spectrum of illness for the students to study and would provide volunteer members of the faculty a place to admit a limited number of patients with financial reward to themselves. Affiliation with several large community hospitals might accomplish the same objectives. For a time, this plan may function effectively, but eventually all patients will demand private physicians, and will not be satisfied with the attending, staff physician and his cadre of students, interns, and

residents assigned to care for them only while they are in the hospital. Students will still see only a segment of disease, larger perhaps than under other systems, but still just a segment. Pressures will mount from patients, government, and those interested in community medicine for the Universities to assume total care of its clientele. To do this, a very much larger clinical faculty will be required than exists today, but the ability of the University to give the student the broadest possible view of medicine will be enhanced and the training of nurses, physicians' aids, social service workers, and other paramedical personnel will be strengthened. As these horizons expand, more and more medical students can be educated, and the individualistic aspects of medicine, the doctor-patient relationship, can be maintained. Universities must be careful that the attraction of millions of dollars that Government will pay for this service does not lead them to sell their birthright. They can, however, develop teaching services modeled after the best of private care facilities, with real faculty responsibility for patient care, with patient care programs second to none, with demonstration of the highest quality of medicine to all of the students, with the dignity of the patient preserved, and with clinical research fostered. Federal largess will make the added functions possible but the Universities must preserve the medical schools as scholarly institutions, not the purveyors of services in return for millions of dollars. They must insist that their existing programs reach excellence before they add new and demanding responsibilities, or the educational and investigative functions of the Medical Schools will be squeezed into nothingness as by an encircling boa constrictor.

There is no doubt that a University can provide the highest quality of medical care thru its faculty, housestaff, and students, but there is considerable question whether it can operate and manage a large municipal hospital or a Medical Center any better than the City has in the past. The suggestion has been made that this responsibility should be delegated to a third party, a quasi-governmental hospital authority or to a charitable corporation under a Board of Trustees, with wide

community representation. In this way, the University can maintain, undiluted its role as a scholarly institution and the hospital can be run as an efficient Corporation that must satisfy its clientele in order to prosper.

The clinical investigator also faces major problems. No longer does he have access to an apparently inexhaustible Federal purse, and in addition, his clinical subjects are much more difficult to obtain. In Cincinnati there is an old aphorism called Stead's Third Law. It states, "When a dog isn't available, get a medical student." It is valid no longer. Measures of control began to evolve when the World became aware of the horrors perpetuated by the Nazi's in the name of Science in some of their concentration camps. In reaction, a philosophy of human rights was enunciated at the Nuremberg Trials and in the Helsinki Convention which has been implemented throughout the Scientific Institutions of this country. A medical experiment cannot be performed on a human being unless he has been informed of all the dangers and risks involved and gives his written consent. Furthermore each investigative procedure must be judged to be reasonably safe by a committee of the Investigator's peers and this same committee must agree that significant information of value to human health may accrue as a result of the investigation. But can informed consent be given freely by prisoners, soldiers, or medical students? Whether it is stated or not, there is implied coercion. Can the guardian of a mentally defective child give informed consent? Will anyone in his right mind, if really informed, give consent unless he is the host to some lethal disease that may be controlled by the clinical trial? Surprisingly, patients and inmates of County Homes and General Hospitals still sign their names to the consent forms some of which state, "Whereas, in recognition of the dire consequences and personal discomfort that may result from this investigation, I absolve the investigator, his peers and assignees forever from blame". Clinical investigation proceeds, hobbled only to a minor degree, exemplifying the great trust patients place in their physicians. On their part, investigators must remember to follow

the golden rule, that the end never justifies the means if human life is endangered, and that a study involving human beings must have real significance beyond satisfying the inquisitiveness of the investigators.

Very properly the question may be asked, why not use rats, dogs, and cats, for all scientific experimentation? The answer is simple. A result obtained in an animal cannot be accepted as valid in human physiology unless it has been confirmed by a test in human beings. Furthermore, Federal regulations governing the care of laboratory animals have increased the costs of animal investigations to such proportions that the number of experiments that can be performed is severely limited. A medical student may be cheaper than a dog and much more reliable. Human research will always be necessary but safeguards, protecting human rights must apply, such as limit, under the law, the activities of the constabulary in the investigation of a crime. The lives and privacy of innocent persons must be protected even though, for a time, the criminal escapes. It makes no difference whether this criminal is a lethal disease or a murderous human being.

The challenge of research is to answer questions and to solve problems, but. in so doing research creates more difficult ones for scientist and philosopher. The artificial kidney can maintain life almost indefinitely in patients with chronic renal disease at great cost to Society. Shall the criminal, the mentally incompetent person, the psychopath, the drunkard be accorded the same scarce and costly benefits as the scholar, the banker, or the engineer? Who is to get a kidney, heart, or lung transplant and who is to be admitted to a chronic renal dialysis program, the only logical conclusion of which is a kidney transplant? Fortunately for any committee of experts appointed to make these decisions, a high degree of motivation and cooperation is necessary on the part of the patient for this treatment to be successful. Therefore, the decision can be based not only on whether the potential recipient is a productive member of society, but also whether he has the motivation to

cooperate completely and intelligently in the treatment. A second issue, particularly in heart transplantation cases, is whether the recipient is strategically situated in time and location to a potential donor. This is a difficult issue, and, in the future can be solved only by developing methods for organ preservation, probably by cooling, organ transportation to potential recipients, and rapid organ typing for donor - recipient compatibility by lymphocyte culture techniques in much the same fashion that blood is typed prior to its use in transfusions. These advances are on the way, as the result of painstaking work by many anonymous investigators whose efforts in the past have made possible the highly advertised surgical successes and whose present efforts will make organ transplantation really practical. They are heroes generally unsung by the Public Press.

An even more difficult medical, philosophical and ethical problem evolves when one considers who should donate an organ. Persons donating one of two organs, such as a kidney, are endangered only by the risk of the operation. Nonetheless, the pressures on the families of patients requiring kidney transplants may be tremendous and the guilt felt by a relative who refuses to donate a kidney may have serious future psychological consequences. The physical risks to the donor who accedes to the pressures to give are also very real. All of these issues will be resolved when organs obtained from cadavers can be typed and as successfully transplanted as from living relatives. This is not the case now, but the methodology is available. It need only be perfected.

The moral and ethical problems are even more difficult in the case of a potential donor of a heart, a liver, or a lung. Such a donor is usually an unfortunate person who has had a lethal injury or a massive brain hemorrhage. The patient who dies of a cancer or of an infection is not suitable, since if the transplant is successful, one lethal disease may be substituted for another. It is important to obtain the organ from a suitable donor as quickly after death has occurred as possible. But when does death occur and what of the Soul?

In the past, death has been said to occur when the heart ceased to beat and the Soul has been located variously in all of the organs we are now transplanting. However, with modern techniques the heart can be stimulated electrically and the respirations can be maintained by mechanical devices. These maneuvers are necessary to keep the transplantable organ viable. So death is said to occur when the brain ceases to function for at least one hour as measured electro-encephalographically. However, there are several reports of successful resuscitations of human beings even after this sign of death has occurred. In the biological sense, death does not occur -until every cell in the body ceases to function but this is too late for successful organ transplantation. What happens to the Soul under these various circumstances? Since the brain probably will be the last organ to be transplanted successfully, it will be most comforting for the literal to locate the Soul in the brain.

To safeguard the potential donor's life, the American Medical Association has ruled that the moment of death must be determined by one or more physicians who are not responsible for the waiting recipient of the organ. Even this is fraught with hazards and one can imagine a black market in transplantable organs and even murder for organ procurement. Organ banks will obviate these problems also.

The beginning of human life also is difficult to define. Is it at the time of conception or of birth? Is cognitive function the essence of human life? What makes the fertilized ovum different from the unfertilized one? Biologically life is the same in both. What gives the embryo prior to formation of its brain any special prerogatives? Is the essence of human life is cognitive brain function, when does this begin? Is it ethical to tamper with the genes of the developing embryo if it is not ethical to destroy that embryo except to preserve the health of the mother? None of these questions can be answered with assurance. They are pertinent however not only to the problem of the millions of illegal abortions

that are done yearly in the United States but also to discussions that have been going on for some-time among Geneticists concerning the possibilities of altering genes prior to and even after conception. Geneticists have this potential power. In the future it may be possible to eliminate faulty genes and thereby correct hereditary defects. It may also be possible to shape the physical and mental destinies of mankind through genetic manipulation. This is tampering with the human race. Who will we select to decide what is good or bad? Over millions of years nature has done this through survival of the fittest, but mankind is in a hurry, for biological change is lagging far behind social change. Obviously a committee of learned men will be appointed to take over for nature since a committee so effectively dilutes the responsibility for mediocrity and miscalculation. I prefer to limit tampering with the human race to marriage counselling in an attempt to eliminate undesirable genes, but human nature being what it is, I seriously doubt that parents or grandparents will have heeded genetic advice in the manner the progeny may have wished. These human failings will strengthen the urge for the geneticists to create a superior race or races thru manipulation, and, without question, this point of view will triumph, but who will select the most desirable characteristics. Perhaps another committee will be appointed, and the outcome may be disaster. A race bred for mental prowess may be too weak to man its machines, or if it is bred for strength and virility it may have no imagination or inventiveness.

Even now, physicians are accused of creating a population of malfunctioning, maladjusted persons by keeping alive for an indefinite time the genetically unfit. This is probably not much of a danger, however; in fact, in my opinion, it is a minor danger, compared to that of trying to manipulate the human genetic apparatus in sperm, ovum, or fertilized egg. Most misfits kept alive beyond their day do not propagate their kind because of lack of fertility or motivation. On the other hand, the world population is full of undesirable recessive genes, two of which are required to produce the defect, and the prevention of the junction

of two of these genes is a much more laudable endeavor. Good and desirable genes also may be recessive and who can tell how the proper junction will occur that will create another Einstein.

If we cannot create mental giants genetically or if it seems unwise to try to do this, there is the very distinct possibility that chemicals may increase our capacity to learn, may convert morons into average men and women, and may even change the average person into a genius. Drugs can help rats learn more rapidly than otherwise how to wind in and out of a maze toward a cheezy reward; chemicals like tryptophane have been reported to improve the mental capacity of mongolian idiots, and drugs related to adrenaline have produced spectacular results in patients with paralysis agitans (Parkinsonism). The age of neurochemistry has just begun and one wonders where it will lead us.

It appears also that the chemistry of the nervous system can be altered for better or worse by the psychological millieu in which a rodent is placed. Research work in a Berkley, California, laboratory has demonstrated that an environment enriched by toys, noise, activity around the cage, and rewards of goodies for small jobs well done results in larger brains, better supplied with blood, with neuroeffector chemicals and with whatever increases ability to learn, than develop in rats kept constantly alone in a dark quiet environment. If one links improvement in environmental setting with chemical manipulation, great intellectual advances should be possible. Are rodents psychologically and biologically more adaptable than human beings? Probably not, for has it not been said for many years that an Assistant Dean is a mouse trying his best to grow up to be a rat?

What kind of a world will this be when it is flooded with geniuses? Who shall dictate how many mathematical wizards there shall be as compared with literary giants? Clearly another committee will have to be formed and the Literary Club must demand membership to protect its rights.

Once again the World can be undone by the planners. What makes a rodent learn rapidly will not necessarily create a desirable human being.

We have at our command the means to control the population explosion through family planning based on education and contraception. Medical advances which have created this explosion may be freely disseminated but the medical means to control it have been taboo in many quarters. If we do not use this knowledge wisely and immediately, we will neglect a problem that will surely undo us, even though we conquer all the other dilemmas. Though experiments on animals indicate that squalor and high population density decrease fertility, application to the human race would result in an intolerable situation, for the degree of filth and crowding necessary to control the population in this way could never be accepted by any society. On the other hand, an improved standard of living among human beings reduces size of families through psycho-social forces, but these forces are probably not strong enough to control the population explosion. We lack sufficient resources to elevate the standard of living throughout the world or even in this country to the degree that would be necessary for this mechanism to save us. The means to control family size must be made available first or the standard of living will fall rather than rise and wars will continue to eat into our substance.

Space exploration poses many intriguing problems also. Weightlessness may lead to decalcification of bones and calcification of non-bone tissue. Something, possibly excessive oxygen supply, induces destruction of red blood cells and causes anemia. Concentrated foods for long space trips can be quite nutritious but boring, and malnutrition may result from disinterest in eating. A much greater concern and one that cannot be anticipated in detail arises from the premise that life of some kind may exist on planets and may be in the form of viruses or bacteria against which earth man has developed no protective mechanism. On the other hand, space explorers could colonize planets with our micro-organisms if proper precautions are

not taken. One need only remember what happened to the American Indian because of measles and small pox when the Americas were invaded from Europe, to understand the concerns of Scientists and Physicians on this point. Careful plans for decontamination are being made for Astronauts both going and coming but it remains to be seen whether these will be effective. These are but a few of the space problems that trouble physicians and which are being investigated by the Space Agency.

The explosion of Medical knowledge in the last 20 years has never been duplicated in World History. Each advance has created new problems and new pressures. Let us hope that physicians do not behave as gases do as stated in that well known law of physics called Boyles Law, "When the pressures become greater and greater, they become denser and denser." It will take clear, logical, and unimpassioned thinking to extract ourselves from this morass of dilemmas. Physicians on the whole react as any other human group, clinging to the old, fearing the new, wary of the innovator, jealous of the professions' prerogatives, resistant to change. But change must occur in practice, in education, and in research. This change must be guided and shaped by Medicine's leaders if the objective of all of our struggles, a world as free as possible of physical and mental illness is to be attained.

I can barely see the lake shore in the twilight but the white dock stands out clearly in the beam of my flashlight. I dock the boat and pull it up on its rollers on the shore. Waves from the last spin of the motor follow and lap against the pebbles of the cove. The World is at peace again, but only for the moment; lightning flashes in the West. "The World is too much with us, late and soon, getting and spending, we lay waste our powers, little we see in nature that is ours."

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