Match Day! That's the day when fourth-year students, and their families in some cases, learn the next step on the road to the future. The list of results for the Class of '82 begins on page 18.
<table>
<thead>
<tr>
<th>Topic</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Prayer of Maimonides</td>
<td>2</td>
</tr>
<tr>
<td>Graduation</td>
<td>8</td>
</tr>
<tr>
<td>Match Day</td>
<td>18</td>
</tr>
<tr>
<td>Sentimental Journey</td>
<td>20</td>
</tr>
<tr>
<td>New Endowed Chair</td>
<td>24</td>
</tr>
<tr>
<td>Newsbriefs</td>
<td>26</td>
</tr>
<tr>
<td>The Alumni Report</td>
<td>29</td>
</tr>
</tbody>
</table>

On the cover: Photo montage of graduation in May. The speaker’s address and more pictures begin on page 18.
Let me begin by congratulating the new initiates. You have done well in a school that demands a great deal even when compared with other top medical schools. I wish you well in the future. More than that, I expect you to fulfill completely your early promise. Thinking about the service you will render and the great things you will accomplish is what keeps many of us hard at work, passing the hat and doing the administrative chores to help the university function. I know you will not disappoint us.

Medicine is a great profession. The privilege of bringing your intelligence to bear in making life better or sometimes more bearable for your fellow humans is a great one. If I were young again, I should certainly want to do what you are doing even though I remember vividly the hard work of medical school. Probably it is even harder and more demanding today. Probably you sometimes wonder as I did if you will even ever make it.

It is popular to be pessimistic, but I am not. You are entering medicine at a great time. The opportunities and challenges seem to me to be unlimited. Let me take a moment to look ahead. Your careers will go on until at least the second quarter of the 21st Century. After I have lived out my life, you will be active in situations in which techniques that I can hardly imagine will be used. You and the profession will face challenges that cannot now be foreseen.

There is one challenge that I can foresee, however, and wish...
to discuss today because it is a challenge physicians are facing today as they always have and always will. That challenge is to bring into your life the highest traditions of the profession. These traditions continue only as they exist and are reinforced in the life and practice of each physician. The challenge is to live in the mainstream of this professional history as well as the mainstream of the modern world.

My favorite codification of the great traditions of our profession is the prayer attributed to Maimonides. This prayer may actually be an interpretation by a later author; but let us assume that, whoever wrote it, it reflects the teachings of the great physician and philosopher of the 12th Century.

Maimonides was born in Spain and emigrated to Egypt where he served as physician to the Sultan. He practiced the busy life of physician and teacher. We remember him today for his un-usually clear head and unusually warm heart, a great combination of attributes.

Let me read excerpts from the prayer of Maimonides.

"The Eternal Providence has appointed me to watch over the life and health of Thy creatures. May the love of my art actuate me at all times; may neither avarice, nor miserliness, nor the thirst for glory or a great reputation engage my mind; for, enemies of truth and philanthropy, they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children. Endow me with strength of heart and mind so that both may be always ready to serve the rich and the poor, the good and the wicked, friend and enemy, and that I may never see in the patient anything else but a fellow-creature in pain.

"If physicians more learned than I wish to guilde and counsel me, inspire me with obedience toward the recognition of them, for the study of science is great. It is not given to one alone to see all that others see. May I be moderate in everything except in the knowledge of this science; as far as it is concerned may I be insatiable; grant me strength and opportunity to always extend its domain; for knowledge is immense and the spirit of man can also extend infinitely, to daily enrich itself with new acquirements. Today he can discover his errors of yesterday, and tomorrow he may obtain new light on what he thinks himself sure of today. O, God, Thou has appointed me to watch over the life and death of Thy creatures; here am I, ready for my vocation."

One could do much worse than to spend 10 minutes a day meditating on these words. Let me just think with you a little bit about some of the major points. I shall not try to do a scholarly exegesis, but rather a personal expression of what the words imply to me, a man who grew up in the second quarter of the 20th Century and is now living in the last quarter of that period.

"The Eternal Providence has appointed me to watch over the life and health of Thy creatures."

Medicine is not just another profession. Rather it is a mission. The expression, "a calling," might be meaningful to some. A physician is doing more than earning a living. A physician is watching over the life and health of creatures of "Eternal Providence."

The demands have an absolute quality. Because one is appointed, we cannot escape the claims whether we are faithful to them or unfaithful.

Today it is fashionable to speak of cost benefit analyses, or to express life and health in quantitative and financial terms. These concepts may be helpful or even necessary for a better understanding; but when an individual physician acts, the mission, the life and death of the particular patient, takes precedence over personal comfort or legalities or cost or even the general demands of society. That relationship, once joined, cannot be easily abrogated. A special responsibility is recognized in our modern laws.

A recent visitor to Washington University pointed out that our modern view of our fellow human beings, and even of ourselves, is very much structured by the social sciences, especially economic models that place heavy emphasis on personal self-interest. Thus we tend to interpret our own behavior and that of others within that framework. This kind of model is very useful but may tend to crowd out some older ideas that served many useful social purposes and are still valid today, although perhaps, temporarily at least, out of fashion. I am speaking of such ideas as personal responsibility for the welfare of others or, in older language, being my brother's keeper.

Maimonides goes on to say: "May the love of my art actuate me at all times, may neither avarice nor miserliness nor the thirst for glory or great reputation engage my mind."

Medicine is a moral calling. Its practice requires not skills alone but a "love of the art." Enemies of the love of the art are character flaws — avarice and miserliness.

Let's think about those two words for a moment. Many graduating physicians are in debt and many have, or will soon have, families. All will want a decent income in order to share in the benefits of our wealthy society. Most in medical school could be making a very excellent income by now had they pursued other professions. The normal desire for a good living can become a passion; it can consume one. Then perhaps the terms "avarice" in the getting, or "miserliness" in the holding, are appropriate. I spend a fair amount of my time with physicians and also, now, a fair amount with businessmen. Physicians talk as much or more about the getting and holding as do businessmen. I hear businessmen talk about the United Way, civic contributions, hospital drives, and so on. On the other hand, I hear physicians talking about tax shelters and personal investments, sometimes sounding like a parody of the acquisitive society.

One should not be surprised. Human beings have strengths and weaknesses no matter what their line of work. More important for now, however, money and medicine are more intertwined than ever before. The sums are
Prayer of Maimonides

"The privilege of bringing your intelligence to bear in making life better or sometimes more bearable . . ."

much greater, both absolutely and relatively. In addition, as economic issues have become so important, they have perforce become part of the political process.

To understand these things, even at the most elementary level, one needs to take a long look. When the founding fathers of our country wrote the U.S. Constitution, they recognized that they were not creating Utopia. They knew that human nature would not change, that power could corrupt and would be misused. They enacted those understandings of their fellow humans into the basic structure of American society. Power was diffused, checks and balances created. Proportion and harmony necessary to any society were not decreed or expected to flow automatically but rather, like our freedoms, were protected by preventing any one individual or group from having too much power.

Adam Smith, of course, provided a framework by which goods and services could be allocated usefully without reference to a ruler or powerful decision-making body.

If one looks at modern medicine from these perspectives, one can see that the scientific advances have made the profession more and more effective and, hence, more powerful. Since 1965, with the passage of the first Medicare and Medicaid legislation, federal money has flowed to physicians and to hospitals in increasing amounts; health care has consumed an ever greater part of the gross national product.

Thus, the economic restraints of Adam Smith have been lifted. Moreover, America was not constituted to restrain health costs by application of political or governmental power. Such action was not in our tradition.

By and large, individual physicians have profited professionally and personally from the dual expansion of technology and money available for health care. New surgical procedures have commanded large fees. Even internists have added to their repertory procedures which strengthen the armamentarium against disease but also add to income. Hospitals have improved the physical plants, bought more expensive equipment, raised salaries and, in general, prospered.

All of this is not surprising because physicians and hospital administrators are sons of Adam and daughters of Eve. Self-restraint has not always been a human, or an American, tradition.

Nor is it surprising that, as more and more money has flowed into health care, the federal and, in some cases, state governments have become more and more involved trying to create new checks and balances. Basically, the ideas about how to do so fall into two categories.

First to bring to bear Adam Smith: to create more automatic economic restraints by fostering a competitive environment and by changing the financial incentives to make medicine more like business. Patients would then go to the less costly, more efficient operations. The second set of ideas for solving these problems involves returning to a more ancient system—control by legislation and regulation, by giving power to certain individuals or groups to solve problems. Some pessimists feel that we may get the worst of both, competition and regulation. As usual, either solution can be expected to bring more problems.

Meanwhile, there are exhortations from within and without the profession to:

- Think about costs.
- Hold down fees.
- Become more efficient.
- Work through physicians' extenders.
- Have better technology.
- Have less expensive and simpler technology.
- Etc.

Maimonides suggests a third course for individuals, self-restraint, a love of the art rather than of the rewards of the art.

As the public becomes more aware of the close interrelationship between money and medicine, there is a feeling of discomfort among many, including medical students and physicians, who want to feel that the profession is actuated by the love of the art and that physicians are educated to care for the sick, to relieve suffering, to comfort the afflicted. They want to believe that compassion is as much a part of the physician's armamentarium as a CAT scanner and as much a part of the hospital as is the budget. These responses are appropriate and proper but, of course, do not exhaust the sub-
Orthopedic treatment depicted in the 15th Century Turkish book Cerrahiye İlhaniye, which is in the Bibliothèque Nationale in Paris, France.

"The practice of medicine requires not skills alone but a 'love of the art'..."
scientific advances have made the profession more and more effective and, hence, more powerful.

Treatment of leprosy as shown in the Cerrahiye Ihaniye, Turkey, 15th Century.

ject. The CAT scanner and the hospital budget are necessary tools through which the compassion of the physician is translated into effective action. They must be understood and dealt with effectively.

Maimonides goes on to add to his list of character faults:

"The thirst for glory or a great reputation... For they could easily deceive me and make me forgetful of my lofty aim of doing good to Thy children."

These words carry meaning today with the ever-present possibility that if claims are just a little bit inflated, one might see oneself on television. Fame can come to physicians, as to a reporter for the Washington Post, by slanting the truth. Some medical scientists have been known to falsify data. Physicians are afraid to say to their patients, "I do not know. Your case requires other skills beyond mine." Reputations are protected when they should not be, especially one's own.

One concludes that character is as important as professional skills. Character affects the way in which we use skills and whether we use them with the "lofty aim of doing good to Thy children." It follows that we should give attention to our character. This true insight seems a bit strange to modern ears. We are more likely to explain our character than to exert will to improve it. Here is something we can learn from the ancients. Maimonides goes on:

"Endow me with strength of heart and mind so that both may be always ready to serve the rich and the poor, the good and the wicked, friend and enemy and that I may never see in a patient anything else but a fellow creature in pain."

Note that that sentence begins with a request for strength of heart and mind. Maimonides does not say that what comes next is easy or fun or personally rewarding. I am sure that it took as much or more strength of both heart and mind in the 12th Century as it does today to serve the poor, the wicked and the enemy. No one promised Maimonides a rose garden, no one said that the high calling is easy. These words have a special meaning in pluralistic, multi-ethnic America facing cutbacks in federal funds for care of the poor. They have special meaning in our diverse world with its millions of desperately poor. That we in medicine need this admonition can be argued merely from looking at the distribution of hospitals in the St. Louis area or, more broadly, distribution of medical care throughout the world.

"If physicians more learned than I wish to guide and counsel me, inspire me with obedience toward the recognition of them."

Again, Maimonides is not expecting something easy but is seeking inspiration to do something difficult — to accept advice and counsel. Today we might say to accept criticism, to go on learning. It was, of course, impossible for Maimonides to imagine how the scientific explosion and the great increase in knowledge and in specialization would make all physicians forever learners surrounded by people who know more than they. No one can master modern medicine the way Maimonides could master medicine in his day. We, even more than Maimonides, need modesty. We need a willingness to call for help. Especially we need the humility to learn from others, even from those who may not have our intellectual gifts or our high status as professionals. We have much to learn from our patients, from nurses, from technicians, from friends and families of our patients.

Perhaps I do Maimonides an injustice by limiting his imagination in saying he could not know about the scientific explosion and the great increase of knowledge to come. Perhaps he did have some glimpse of what lay ahead, for he goes on to say:

"It is not given to one alone to see all that others see."

Medicine is a social undertaking. No matter how individualistic one may be, bringing health is a group effort, a team effort and increasingly so.

Then he goes on with a mar-
velous statement:

"May I be moderate in every­
thing except in the knowledge of
this science; as far as it is
concerned, may I be insatiable."

How much more true that
must be today! If one stops learn­
ing for a year, five years, one
might as well turn in the diploma.

Medicine changes so rapidly that
the knowledge that was good
yesterday is marginal today and
obsolete tomorrow.

For those of us who love
research, the prayer reads:

"Grant me strength and
opportunity to always extend
the domain of knowledge; for
knowledge is immense and the
spirit of man can also extend infi­
nitely to daily enrich itself with
new requirements. Today he can
discover his errors of yesterday
and tomorrow he may obtain new
light on what he thinks himself
sure of today."

The words to me are as
exciting today as when I first read
them, maybe more so. Anyone
who is old enough to have seen a
polio epidemic, or known friends
who died of meningococcal men­
ingitis, can hope for much more.

Today few physicians can man­
age both a busy practice and a
career in research. Except for
the most gifted, these endeavors
are done separately by different
people; but, as noted above,
medicine is a group effort. The
need for mutual understanding
and appreciation exists as never
before. There is the tendency for
tension between the scientists
who take the long view and prac­
titioners who have to tend to the
crises of the day, between the
individual who tends to abstract
and generalize and the one who
deals with the concrete, with the
individual who has a name and a
family and who needs immediate
care. But we need both and both
must be well supported, for we
can afford the luxury of having
some to do the basic learning
necessary to solve tomorrow's
problems while others are deal­
ing with the affairs of the moment.

It is all very well to talk in
the abstract, to meditate on
ideas. But how do they
affect one's life? We have some
indication from a letter Maimoni­
des wrote to a friend. If it does not
evoke recognition, you have
never practiced medicine.

"I live in Fostat and the
Sultan resides at Cairo. My duties
to the Sultan are very heavy. I am
obliged to visit him every day,
early in the morning, and when
he or any of his children or any of
the inmates of his Harem, are
indisposed, I dare not leave
Cairo, but must stay during the
greater part of the day in the
palace . . . When I return to Fostat
in the afternoon I am almost dying
of hunger. I find the ante­
chambers filled with people, both
Jews and Gentiles, nobles and
common people, judges and bail­
liffs, friends and foes — a mixed
multitude, who await my return.
I dismount, wash my hands, go
forth to my patients, and entreat
them to bear with me while I par­
take of some slight refreshments,
the only meal I take in the twenty­
hour days. Then I attend to my
patients, and write prescriptions
and directions for their several
ailments. Patients go in and out
until nightfall, and sometimes
I solemnly assure you, until
two or more hours in the night.
I converse with and prescribe for
them while lying down from sheer
fatigue, and when night falls I
am so exhausted that I can
scarcely speak."

How fortunate we are today
to have knowledge and tech­
niques that give us such a great
power over illness and suffering
and anxiety. Yet the human side
of medicine has changed very lit­
tle since the 12th Century; and in
a basic sense the effort to palli­
ate, to make life more bearable,
less painful and happier remains
today. Even when we feel we
have saved a life, we know it is
only temporary. Illness will come
again and eventually death. To
quote Gautama Buddha:

"Disease is not the cause
of death. Birth is."

But that knowledge does not
lessen a physician's responsibil­
ity nor the challenges of watch­ing
over the life and health of fellow
creatures. Maimonides closes
his prayer with the words:

"O, God, Thou has appoint­
ed me to watch o'er the life and
death of Thy creatures; here am
I, ready for my vocation."
Graduation Address:  
"The Medical Consequences of Nuclear War"

by Helen Caldicott, M.B.B.S.

"I'm afraid my speech today won't be pleasant, but I think it is vitally important that we all think about the medical consequences of nuclear war, particularly the graduating class now entering the world of medicine. Let us think about the long-term implications of nuclear war on medical care.

I'm going to describe the world now in terms of a patient, make a diagnosis, talk about the history, the physical examination, the prognosis for this patient, the terminal event, the etiology or cause of the illness, and what I prescribe as therapy.

The diagnosis is that we have a terminally ill planet which is infected with lethal "macrobes" metastasizing rapidly. The lethal "macrobes" are nuclear weapons, and they are moving rapidly around the world. The history of this illness began during or just before the Manhattan Project, when Einstein became convinced that Hitler was developing nuclear weapons. Einstein and Leo Szilard, a very famous physicist, wrote to President Roosevelt saying they thought the U.S.A. should become involved in making nuclear weapons. Thus, the Manhattan Project began — the largest, most creative scientific project ever to have taken place.

They spent three years working very hard together to construct three nuclear weapons. But just before they were completed, Hitler was defeated and the 'raison d'etre' for these weapons disap-
appeared. Then the scientists called an emergency meeting to figure out what to do. They said they were fascinated by what they were doing; they called the problems they were approaching ‘technically sweet’; they really couldn’t stop. They decided to proceed, to build the weapons so that the world would know how awful these weapons were, hoping that they would never be built or used again.

The first bomb was code-named Trinity and was exploded in July 1945 in the desert of New Mexico. The scientists who watched it were amazed at what happened. In fact, before it was exploded, there was a mathematical possibility that the whole atmosphere of the world could have been rendered critical, and the world could have been enveloped in one great nuclear explosion. Concerned about this possibility, they recalculated but found that the probability, although small, remained. They decided to go ahead anyway and test the bomb. It was exploded at night during an electrical storm, and they said they’d never seen anything like it. The desert suddenly seemed minute as it filled with a violent blue light. A huge clap of thunder came and the thunder went on and on. Then a huge radioactive cloud appeared overhead and it hovered. It hovered until it was blown away. And that night they had a party to celebrate.

The next bomb, code-named Little Boy, was exploded at 8:15 AM on August 6, 1945, and it killed up to 200,000 people in Japan. Hundreds of thousands of people were killed with one bomb! There are clinical descriptions of the survivors of that bomb. Actually, many people were vaporized because, you know, these bombs explode with the heat of the sun. We have captured the energy of the stars in the equation E=mc². People were vaporized and all that remained was a stain on some concrete steps. The reason they were vaporized is that most of our body is composed of water, and when we are exposed to the heat of the sun, we just turn into gas. Children were seen running along the streets with the skin tearing off of their bodies. A man was standing, acutely shocked, holding his eye in the palm of his hand. There were many other such descriptions with which we really should be familiar.

This country made atomic bombs, and four years later,
Russia did the same. This country then developed an even more powerful bomb, the hydrogen bomb, which uses an atomic bomb as a trigger mechanism.

The largest bomb ever exploded was a 58-megaton bomb, or equivalent to 58 million tons of TNT. All of the bombs used in World War II came to only four million tons. During the 1960s, Secretary of Defense McNamara estimated that if America had 400 one-megaton bombs it would be sufficient to kill one third of the Russian population and destroy two thirds of their industry. This was considered to be an adequate deterrent, having the ability to kill nearly 100 million human beings — sons and daughters of God. That theory was enunciated just 20 years after Hitler died.

At that time, however, the Air Force had all the bombs, and the Army and the Navy wanted some, too. They decided to diversify and develop a triad of nuclear weapons so they could be in the air in the B-52s, on the ground in intercontinental ballistic missile silos, and under the water in submarines. They also nuclearized all forms of conventional weapons. There are now small nuclear weapons in torpedoes and in land mines. If a man were to trip over a land mine in Europe, he could trigger a nuclear explosion. There are 6,000 nuclear weapons stored on the front lines between East and West Germany now. NATO military doctrine states that if Russia invades West Germany, those weapons will be used to prevent a Russian victory — "use 'em or lose 'em." That could initiate a thermonuclear war. On physical examination, then, the world is in a very serious plight.

Of course, the Russians have been copying and following, copying and following most of the time, occasionally inventing new situations of their own. Today, the world has some 50,000 nuclear weapons. To think what that means: there are only about 1,000 worthwhile targets in the Soviet Union, and about 1,000 worthwhile targets in the United States of America. America has some 30,000 nuclear warheads. Of those, 9,000 are strategic. Strategic weapons are those capable of destroying the political, economic and military structures of an opponent. They are primarily based on intercontinental rockets which are fired into space with the press of a button. The rockets re-enter the earth's atmosphere at 20 times the speed of sound, and land on their targets in 30 minutes. Meanwhile, the other country's satellite would see the rockets coming. Buttons are pressed and in half an hour, the weapons will cross mid-space, most probably, and the whole thing could be over within an hour or two. Such are strategic weapons. America has 9,000, plus its tactical nuclear weapons, or the ones used in land mines, torpedoes, on the front lines in Europe.

The Soviet Union has 20,000 nuclear weapons. Of those, 7,000 are strategic. Those 7,000 are enough to kill every American human being 20 times. The 9,000 that America has are enough to kill every Russian human being 40 times. We know that people can die only once.

There are also about 35 countries in the world now with the capability to make their own nuclear weapons because they have so-called peaceful nuclear reactors which manufacture plutonium needed to make nuclear weapons. This is called lateral proliferation of nuclear weapons, and it de-stabilizes the balance of terror built up between the Soviet Union and the United States. Argentina is about to build its own nuclear weapon; England has many; you know that France has nuclear weapons, and China does, too.

The world spends $550 billion a year on weapons. Yet two-thirds of the world's children are malnourished and starving. One third of the cost of one Trident submarine could eradicate malaria in the world. There are enough weapons on one Trident sub to eradicate every major city in the northern hemisphere.

There are plans to build 29 of those submarines in the next 10 years. Eighty percent of the world's illness is caused by dirty water, which could be cleaned up with the cost of only two weeks of the world's arms race.

Now, what is the prognosis for this terminally ill patient? It is grim. Some of the most famous scientists and statesmen in this country are now saying that if we all continue practicing psychic numbing (a form of denial), a nuclear war by the year 1990 is possible.

In fact, the government is preparing us for nuclear war. They have plans, so-called Crisis Relocation Plans, for evacuating us from major cities to so-called host areas or safe areas. It takes about eight days to evacuate a large city. You will have to take your credit cards, bank books, insurance policies, wills, along with you. You must have a full tank of gas. You will not be allowed to take drugs or alcohol, although one of our physicians said recently that those are exactly what he really would like to take. Do you really believe that there will be a warning, and eight days to evacuate the cities?

Another plan for civil defense calls for putting little warning signals on radio and TV sets that would turn on automatically when the satellites detect missiles coming in from the Soviet Union. These alarms will tell you that you have about 15 minutes to say good-bye.

In addition, there is the danger of accidental nuclear war. Every year, 5,000 soldiers who handle nuclear weapons are discharged from the military because they have been taking drugs or have been certified as...
mentally unstable. Another form of accidental peril lies with the computer. The Pentagon's fail-safe computers failed 149 times in an 18-month period, reporting detections of missiles coming from the Soviet Union. The most serious error was in November 1979, when someone plugged a war-games tape into the computer which mistakenly detected missiles coming from Russia. The whole world went on nuclear alert for six minutes. You have only 20-minutes lead time before the launch button is pressed, if they decide to press it. At the seventh minute, the president was to be officially notified, but they couldn't find him. Three squadrons of planes took off, armed with nuclear weapons, and we were 14 minutes from annihilation. It was headlined in the London Guardian, and headlined in the Canadian papers. In the U.S., there was a tiny column in the New York Times, near the obituaries, reporting the incident.

There are new weapon systems soon to be built which are not covered in the new strategic arms reduction talks. These weapons are very destabilizing and very serious. Let me just cover a few of them. The ground-launch cruise missiles (you've heard about cruise missiles being deployed in Europe) are strategic weapons—they would go from Western Europe into Russia. They very accurately home in on their targets; they are so tiny that they can't be detected by satellites; they cannot be verified. Once those cruise missiles are deployed in Europe, that may be the end of any form of strategic arms limitation talks because there is no verifiability at all. Plans are to deploy about 3,000 or 4,000 in
planes, and in submarines and ships. And they are all unverifiable! That is a very de-stabilizing element in the arms race. The Pershing II missiles to be deployed in Europe will reach Moscow in about five minutes after launching. That means that Russia will have to go to a system called launch-on-warning because they won't have time to think or work anything out. Russian launch-on-warning computers will virtually be able to launch nuclear war. Soon, within a few years, our world may be controlled by computer technology and the computers will be able to decide whether we live or die.

The MX missiles and the Trident II are first-strike weapons which can be launched from thousands of miles away and land accurately on missile silos in Russia to “kill” the missile silos and destroy the Russian missile force. That is very destabilizing because it will make the Russians nervous wondering when the button will be pressed on this side; they may press their button in a crisis situation.

The neutron bomb is being built to replace nuclear weapons and missiles in Europe. You know that the neutron bomb destroys only people and leaves property undamaged, except for some blast effect. However, the property remaining will be rendered radioactive for some years. So, the prognosis is, indeed, grim. There has been talk recently that it will be possible to fight a limited nuclear war in Europe without pressing a button and firing warning shots across the face of the Soviet Union. People are becoming worried and frightened for good cause.

The terminal event I will now describe in medical terms. I have told you that it would be over in an hour or two, most probably. There are enough weapons in the Soviet arsenal to target every town and city in this country with a population as low as only 10,000. So, almost everybody is targeted.

I will drop, now, a 20-megaton bomb right here on this hotel — 20 megatons, four times the size of the total of all the bombs dropped during the Second World War. If exploded at ground level on a clear day, the bomb will do this: it will dig a hole three-quarters of a mile wide by 800 feet deep, converting this building and all others nearby, the people in here, and the earth below, to radioactive fall-out molecules which will be injected into the stratosphere in the mushroom-shaped cloud. It will kill everybody out to a radius of six miles from the impact center, vaporizing many and destroying all buildings. Out to a radius of 20 miles from the center, every person will be killed or injured so seriously so that they will later die. The overpressures are very severe, creating winds of 500 miles per hour which literally suck human beings out of buildings and convert them into missiles traveling about 100 miles per hour until they hit the nearest hard object. Bricks and pieces of mortar are converted into missiles which hit human beings. The overpressures rupture the lung, producing acute pneumothoraces and acute death. They rupture ear drums, producing deafness. They pop all the windows, shattering them into thousands of shards of flying glass traveling 100 miles an hour until they penetrate human flesh, producing dreadful lacerations and hemorrhage.

Then there are the burns.
Physicians know that it takes from six months to a year to treat a very severely burned patient; and often patients will die even after months of intensive, 24-hour medical care, drugs, blood, plasma, etc. There are only 1,000 acute burn beds in this whole country, yet we’re talking about tens of thousands, perhaps hundreds of thousands of very severely burned people in major cities. These people, as they die, will never see a doctor, will never receive analgesia for their pain, won’t have family and friends around because most of the family and friends and physicians will be dead or injured, will be trapped under the rubble and debris of buildings. And their deaths will be hastened by the effects of lethal radiation which they can’t see or feel. Most of the doctors will be dead, and most of the hospitals will be destroyed because we are usually in metropolitan areas; therefore, we are in target areas.

If you are out in the suburbs, walking along 26 miles away, the heat from the bomb is so intense that your clothes will spontaneously ignite. You’ll burst into flames and become a walking torch. If you look at the bomb blast from 40 or 50 miles away, the flash is so intense that you will get retinal burns and be rendered blind.

There will be a fire storm covering 1,500 to 3,000 square miles which will burn intensively and suck the oxygen out of fall-out shelters. People in fall-out shelters will be asphyxiated, and the blast and heat will literally convert fall-out shelters into crematoria.

So, to talk about Crisis Relocation Plans and hospital contingency systems, evacuation of cities, construction of fall-out shelters and similar civil defense schemes is really to offer a placebo.

Now, let’s look at the scenario for someone living in a rural area that is not targeted. They would have to know that the bombs were coming. Then, they would have to run very fast when they hear the signal over the radio or TV. When they get down to their shelter, if there is one, they probably wouldn’t have had time to collect their children from school or to warn the husbands working in the fields. Alone in the shelter, they could not re-emerge for from two to six weeks because the radiation would be so intense that they would die of acute radiation illness with aplasia, from thrombocytopenia besides aperia of bleeding and septicemia. So, they would have to exist alone in the shelter, if they have enough food and water to survive, for at least a month. And if they didn’t die of contagious disease which people can get living close together in relatively restricted, confined areas, they will come out months later into a world that is a very different place.

Everything that we love and value and nurture and respect on this planet, in this country, in the Soviet Union and much of China, in Europe and England, will be destroyed. All the music — no more Bach and Beethoven and Handel. All the architecture — Europe decimated. No more literature, no scientific literature, no art. But, beyond that — millions of corpses.

As the corpses decay, bacteria multiply, tainting the radioactive environment to become yet more lethal. In addition to the bacteria, consider the insects, which are very resistant to radiation, particularly cockroaches and flies. They are the vectors of disease, transmitting diseases from the dead to the living.

Birds, which eat the insects, will have been killed by the fallout; they’re very sensitive to radiation. Insects, with no natural controls, will multiply rapidly and transmit disease to the few survivors in this country and the targeted countries, and to people in non-targeted countries, the survivors whose immune mechanisms are already compromised by the fallout. So there will be epidemics of Black Plague as in the 13th Century, and tuberculosis, typhoid, shigellosis, poliomyelitis, hepatitis and encephalitis.

The National Academy of Sciences thinks that much of the ozone layer, which protects us from the ultraviolet light of the sun, could be destroyed by the massive quantities of nitrous oxides induced by the explosions. Without the protection of the ozone layer, people who stay out in the sunlight for even an hour could develop third-degree sunburns, with skin blistering which could be lethal. Also, it is possible that every human being on the planet could be rendered blind by the ultraviolet radiation from the sun. It is possible that every organism, including the insects, could be blinded. If the bees are blinded, they can’t fertilize the crops, and that, quite simply, is the death of the Earth. Without the ozone layer, the ultraviolet radiation in the southern hemisphere could induce vitamin D toxicity, and an increase in skin cancer for those who had survived up to this point. It could also destroy the very base of the pyramid of life — the microorganisms. We know very little about microorganisms, but they are very sensitive to ultraviolet radiation. Man, of course, is at the pinnacle of the pyramid of life.
We depend on those microorganisms.

In addition to the loss of the ozone layer, an ice age could come about due to so much material being injected into the stratosphere where it reflects the sun's heat back into the universe. As the ice accumulates on the earth, it will reflect more heat back into the universe and the earth will cool, affecting the growth of all plants. (There is only a 30-day supply of food in the whole world.) Third World countries would not survive the aftermath, even if they survived the nuclear war. Third World countries depend on transportation and fuel for their very survival. There will be massive starvation in those countries. There is some thought that we could, in fact, destroy most of the life on our planet if the superpowers use only ten percent of their 1985 arsenals of nuclear weapons.

The new first-strike weapons which I described are the worst—Trident II cruise missiles and MX's. They must land on the ground to kill the Russian missiles. Physicists who have studied the question say that if there is a first-strike nuclear war when they have built these weapons (within the next ten years or so), so much lethal fallout will be created around the globe that we will have an On-The-Beach syndrome within weeks—that is, death to every human being on Earth, within weeks, of radiation sickness.

The etiology of this illness is, of course, people, not bombs. Let me just briefly mention the psychiatry behind this. The leaders of the world are practicing old modes of thinking. Einstein said: "The splitting of the atom changed everything save man's mode of thinking. Thus, we drift towards unparalleled catastrophe."

How many leaders of the world have actually ever seen a hydrogen bomb explode? And felt the blast and the heat? And seen battleships rise up like splinters in the water and just disappear? How many leaders in the world, in fact, have ever seen a baby being born—the miracle of a birth? How many leaders of the world have ever watched a child die, and tried to support the parents in their grief?

The leaders of the world are practicing psychic numbing, as do we all. They're playing political power games as they have always done, in the old ways of thinking. And the public? Since 1962, the underground test ban treaty, we've been indulging in psychic numbing because to contemplate the end of all life, not just our own and our future generations, but the destruction of all past generations, is more than we can bear.

It means the end of our immortality for we will not only kill our children, we will also kill the very way we think we live on. And so we don't think about it. We prefer to forget about it. We practice displacement activity, which is what caged rats do when confronting a life-threatening situation. They run away and do something totally irrelevant. That is psychic numbing. We do it everyday, in some ways practicing manic denial. Some of us are into hot tubs and whirlpool baths or gourmet food or intensive pursuit of pastimes. When you think about it, nothing else matters, really, if in fact we may destroy God's creation within the next ten years. The bomb makers may be practicing counterphobic mechanisms. They're frightened of death, but maybe by playing with it, by making bombs and working with it, they think that they can control death and bombs.
If it is not we, or the leaders of the world, or the bomb makers, who are aware of the 10-year future, who is? The children! The American Psychiatric Association recently studied 1,000 adolescents in Boston and L.A. and found, to their horror, that almost all of those children believe that there is no use planning for the future; that they will never get married and have children; that they will never have jobs because almost certainly they’re going to be killed in a nuclear war. The psychiatrists think this may be one of the main reasons these children are taking drugs and drinking alcohol — they see no escape, no future.

The treatment for this patient, the Earth? As physicians, we think the treatment is to shatter the psychic numbing and help people enter the stages of grief, as if the people would feel that they, themselves, personally, have a terminal disease, just as this planet, in fact, does. The four stages of grief are shock and disbelief, profound depression, anger and finally acceptance.

That little gland above the kidney, the adrenal gland, produces adrenaline when we’re frightened. This adrenaline turns on the brain and makes us think and react. It is a survival mechanism. The strongest instinct we have is for survival. It is therapeutic to be active, to do something to prevent nuclear war. No other issue really matters. This is the ultimate form of preventive medicine — to save the planet. And the ultimate question to ask now is not ‘will I survive,’ but ‘will we be survived.’
CLASS OF '82 SENIOR AWARDS

Alpha Omega Alpha Book Prize .................. David Mark Hockenbery
American Medical Women's Association Inc., Scholarship Achievement Citations .................. Ann Tien-Ling Chao
Barbra Adrian Horn
Linda Marian Olson
Karen Hoxworth Rice
Susan Feldman Townsend

Alexander Berg Prize in Microbiology and Immunology .................. Ronald Lyne Gibson, Jr.
Richard S. Brookings Medical School Award .................. Andrew Jess Dannenberg
Robert Carter Medical School Award .................. Paul Bennett Donzis
George F. Gill Prize in Pediatrics .................. Susan Feldman Townsend
Alfred Goldman Book Prize in Diseases of the Chest .................. John Hart Niemeyer

Henry J. Kaiser Family Foundation/National Medical Fellowships Merit Award .................. Paul Gerard Organ
John E. Kirk Scholastic Award .................. Barbra Adrian Horn
Louis and Dorothy Kowitz Senior Award in Surgery .................. John Walter Bellatti

Irwin Levy Prize in Neurology and Neurological Surgery .................. Tamzin Amadeus Rosenwasser
Edward Massie Prize for Excellence in Cardiology .................. Terence Lee Mealman
Medical Fund Society Prize in Medicine .................. Barbara Adrian Horn
Medical Fund Society Prize in Surgery .................. Susan Feldman Townsend

Merck Manual Awards .................. Akemi Chu-Shih Chang
Ann Tien-Ling Chao
Raymond Howard Curry

Missouri State Medical Association Award .................. William Dean Ashworth, Jr.
C. V. Mosby Book Awards .................. Fallon Hudgins Maylack
Walter Russell Peters, Jr.
Glenn Albert Tung

St. Louis Internists' Club Award .................. William Harrison Kane
Barbara Louise Hempstead

St. Louis Pediatric Society Prize .................. Mark John Manary
Sandoz Award in Psychiatry .................. Lawrence Edward Cormier
Sidney I. Schwab Prize in Psychiatry .................. Solomon Kamson
John R. Smith Memorial Fund Award .................. Jeremy Bennett Rubin

Samuel D. Soule Award in Obstetrics and Gynecology .................. Nicolette Horbach Erickson
Upjohn Achievement Award .................. Andrew Jess Dannenberg
Samson F. Wenneman Prize in Surgery .................. Suzanne Michelle Kerley
Hugh M. Wilson Award in Radiology .................. Jeremy Bennett Rubin
James Henry Yalem Prize in Dermatology .................. Tamzin Amadeus Rosenwasser

Scott M. Nordlicht, M.D., clinical professor of medicine, received the Sydney S. Perlman, M.D. '32, Award for Inspirational Teaching, which also includes a cash award to his department. Philip Needleman, Ph.D., professor and head of the Edward Mallinckrodt Department of Pharmacology was named Preclinical Faculty Teacher of the Year. Hyman R. Senturia, M.D., clinical professor emeritus in radiology, received a special award from the Class of '82. Neither Needleman nor Senturia were able to attend commencement ceremonies.
Twenty-three members of the Class of '82 were elected to the honorary Alpha Omega Alpha; 21 were present for the photograph.

**ALPHA OMEGA ALPHA INITIATES**

John Walter Bellatti
Ann Tien-Ling Chao
Andrew Jess Dannenberg
Eric DeWitt Duncan
Ronald Lyne Gibson, Jr.
Barbara Louise Hempstead
David Mark Hockenbery
Barbra Adrian Horn
Stephen G. Keim
Keith Ralph Kuhlengel
Fallon Hudgins Maylack
Richard Bruce Mink
Linda Marian Olson
Walter Russell Peters, Jr.
Daniel William Ray
Karen Sue Hoxworth Rice
Ross Henry Ronish
Albert Kwok-Choy Szeto
Ronald Ross Townsend
Susan Feldman Townsend
Glenn Albert Tung
Mark Charles Udey
Horatio Him-Tai Yeung

Twenty-eight students (25 shown) received senior awards in 1982.
Match Day 1982

The penultimate highlight of the fourth year is Match Day, when graduating students learn where they will continue studying medicine as interns and residents.

Of the 130 fourth-year students at WUMS, 115 participated in the nationwide computerized match. Eighty-seven percent matched with one of their first three choices. A total of 68, or 59.1 percent, matched with their first choice.

The Class of '82 will go on in the following specialties:

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The Class of '82 will go on in the following specialties:

- Medicine: 58
- Surgery: 18
- Pediatrics: 12
- Obstetrics/Gynecology: 8
- Family Practice: 8
- Pathology: 6
- Psychiatry: 4
- Anesthesiology: 2
- Otolaryngology: 1
- Flexible: 6
Kansas City
St. Luke’s Hospital
Robert Neihart, Internal Medicine
Terence Mealman, Internal Medicine
St. Louis Hospital
Robert Barnett, Obstetrics/Gynecology
William Black, Internal Medicine
Akemi Chang, Diagnostic Radiology
David Goldmeier, Psychiatry
Barbra Horn, Internal Medicine
William Kane, Internal Medicine
Stephen Keim, Internal Medicine
Suzanne Kerley, Preliminary Surgery
Douglas Killion, Obstetrics/Gynecology
Keith Kuhlengel, Internal Medicine
Tamzin Lauer, Internal Medicine
Mark Manary, Pediatrics
Mary Murphy, Pediatrics
Denise Pace, Pediatrics
St. Louis University Hospital
Jeffrey Thomasson, Radiology
St. Luke’s Hospital
Clifford Morio, Internal Medicine
Beverly Morrison, Internal Medicine
NEBRASKA
Omaha
University of Nebraska Affiliated Hospitals
Michael Arnall, Diagnostic Radiology
NEW MEXICO
Albuquerque
University of New Mexico Hospitals
Suzanne Koziol, Obstetrics/Gynecology
Ralph Gutierrez, Diagnostic Radiology
NEW YORK
Bronx
Bronx Municipal Hospital Center
Eliot Danziger, Otolaryngology
Brooklyn
State University — Kings County Medical Center
R. J. Tesi, General Surgery
New York
Mount Sinai Hospital
Jeffrey Stein, General Surgery
The New York Hospital
Andrew Dannenberg, Internal Medicine
Barbara Hempstead, Internal Medicine
NORTH CAROLINA
Chapel Hill
North Carolina Memorial Hospital
Robert Benson, Internal Medicine
Charlotte
Charlotte Memorial Hospital
Linda Olson, Family Practice
NORTH DAKOTA
Grand Forks
University of North Dakota
Ross Ronish, Family Practice
OHIO
Cincinnati
Cincinnati General Hospital
Marc Weiner, Flexible
Cleveland
Case Western Reserve University Hospital
Albert Szeto, Neurological Surgery
Columbus
Ohio State University Hospitals
Steven Becker, Obstetrics/Gynecology
OREGON
Portland
Providence Hospital
Charles Parker, Internal Medicine
PENDUGANIA
Philadelphia
Hospital of the University of Pennsylvania
James England, Pathology
Lynne Kaminer, Internal Medicine
Temple University Hospitals
Paul Alfino, Internal Medicine
Pittsburgh
Hospital University Health Center
Stuart Sherman, Internal Medicine
SOUTH CAROLINA
Charleston
Medical Center Hospitals
Janet Walker, Family Practice
COLUMBIA
Columbia
Richmond County Hospital
Bryan Hoynak, General Surgery
TENNESSEE
Memphis
University of Tennessee College of Medicine
Melrose Blackett, Obstetrics/Gynecology
Frederick Shaw, Pediatrics
Nashville
Vanderbilt University Affiliated Hospitals
Daniel Ray, Internal Medicine
Dennis Whaley, Diagnostic Radiology
TEXAS
Dallas
University of Texas Southwest Affiliated Hospitals
James Park, Anesthesiology
Houston
Baylor College Affiliated Hospitals
Patricia Eby, General Surgery
Jose Jimenez, Internal Medicine
University of Texas Affiliated Hospitals
Mary Olsen, Internal Medicine
University of Texas Health Science Center
Christopher Loar, Internal Medicine
UTAH
Salt Lake City
University of Utah Affiliated Hospitals
Debra Beeson, Family Practice
VIRGINIA
Richmond
Medical College of Virginia
Mary McLean, Internal Medicine
WASHINGTON
Seattle
University of Washington Affiliated Hospitals
Ann Chao, Anesthesiology
Ronald Gibson, Pediatrics
WASHINGTON, D.C.
Children’s Hospital
Richard Mink, Pediatrics
Bonnie Word, Pediatrics
George Washington University Hospital
Karen Goodlett, Primary Medicine
Fallon Maylack, General Surgery
WISCONSIN
Madison
St. Mary’s Hospital
Lisa Mink, Family Practice
University Hospitals
Paul Segal, Internal Medicine
LaCrosse
LaCrosse Lutheran Hospital
Steven Pollei, Flexible

Students, spouses, offspring and friends crowded into Cori Auditorium to hear the results of the national match day.
William Dock, M.D., (center) is the son of Dr. George Dock, Dean of Washington University School of Medicine from 1910-1912. He returned last fall bringing gifts of rare books for Olin Library and the Archives of the School of Medicine Library. At left is Christopher Hoolihan, rare book cataloguer; at right is Paul Anderson, Ph.D., Archivist.
William Dock’s Return to Washington University

When William Dock, M.D., returned to Washington University earlier this year, it was, indeed, a sentimental journey — back to the hometown and schools of his youth, nearly 70 years ago. He first arrived in St. Louis as a boy of 12 when his father, George Dock, M.D., joined the newly reorganized WUMS faculty as the first Dean and head of the Department of Medicine. The year was 1910, a heady period for medical education, especially in St. Louis. William Dock remembers Robert Brookings as a frequent dinner guest; the occasions were not purely social, since Brookings and his father had much to plan for the new medical school buildings near Forest Park.

In the fall of 1981, Dr. Dock returned to Washington University with gifts from his personal library for the Special Collection of Olin Library and for the Medical School Archives. This generous gesture was in keeping with a tradition begun over sixty years earlier by his father. In 1914 the senior Dock presented a valuable edition of Conrad Gesner’s folio Historiae Animalium (1551-58), summarizing European knowledge of animals from quadrupeds to serpents. The gift still has special meaning for lovers of medical history. Gesner, himself a physician, was the outstanding naturalist of his day; he is thought to have died during an epidemic of plague in his native Zurich. He refused to save his life by leaving the city; instead he stayed to treat the sick and perished. This folio had been given to George Dock in 1909 when he visited his teacher, Sir William Osler, at Oxford. Osler signed it simply “To George Dock from his friend, William Osler.” He added in his own hand a long contemporary quotation on Gesner’s life and work to which Dock added a subsequent reference. He chose a special occasion for this gift as he wrote, “To Washington University Medical School on moving into the new buildings, 1914.”

On his recent return to St. Louis, William Dock brought two gift books, each of special interest. To Olin Library’s Special Collection, he gave a copy of Gesner’s book On the Admiration of Mountains, reprinted in the 20th Century by the well-known Grabhorn Press. According to Holly Hall, Head of Special Collections, “this book was one of only 325 copies. Dr. Dock was instrumental in seeing the work published, and laid into this copy are photographs of the original 16th Century texts of Gesner’s manuscript from which the translations for this modern edition were made. This feature considerably enhances our interest in the book and its usefulness for scholars of fine printing.”

To the Medical School Archives Dock brought a Russian translation of his own 1953 book on ballistocardiography. Though of less aesthetic or historical interest, the book has an interesting inscription from a prominent physician. When Dock could not obtain a copy of his own book from the Soviet Union, he asked his friend Dr. Paul Dudley White (then physician to President Eisenhower) to obtain one on his next visit. White obliged and inscribed the copy, “To young Bill Dock, who couldn’t get a copy.”

William Dock inherited from his father a love of fine books and a keen sense of medical history’s importance to the knowledgeable physician. When the senior Dock published his classic 1896 account of coronary thrombosis (the first such description of a living patient in this country), his grasp of medical history was as striking as his clinical observations. The article contained references to Corvisart, Auenbruger, Hunter, Laennec, and Harvey. This was no mere parading of names for their own sake, but a careful reconstruction of contributions to the understanding of the heart. William Dock remembers growing up in a home where fine books were a natural element and recalls that his father believed that the library was “the heart of any educational enterprise.”

Visiting the medical library and archives this fall was a special pleasure for William Dock. Rare Book Librarian Christopher Hoolihan showed him the special 1914 gift of Gesner’s folio; George Dock’s generosity obviously moved his son. While the senior Dock was well-known for his clinical acumen, Osler wrote glowingly of his laboratory skills, calling him “a man who knows more about clinical laboratory procedures than anyone in the United States.” According to his son, the senior Dock “attached himself” to Osler as soon as they met and proved himself an invaluable aid to his clinical work. His competence was such that Osler recommended him for every position he subsequently held, including the one at Washington University. William Dock remembers his father’s trips abroad nearly every summer to such cities as Berlin, Vienna, Leipzig, and Budapest. These were not recreational journeys, but visits to laboratories and hospitals — to catch up on the most important new advances in medicine, then more likely to be made abroad. When his father was professor of medicine at the University of Michigan from 1891 to 1908 young William observed his father in his home laboratory measuring patients’ urinary sugars. Not until later were clinical laboratories always an integral element in patient care.

One observer has written that George Dock’s “greatest work was in the training of other doctors; his great product was professors.” However, the young William Dock showed no early sign of being such a product. As he recalls, “Like any sensible teenager, I wanted to be a poet.” Between his junior and senior years at Smith Academy (a boy’s preparatory school, then a sub-department of Washington University), he decided to study medicine, entering Washington University as a freshman in 1916.

However, William Dock’s college career was interrupted by the outbreak of the First World War; he volunteered as an ambulance driver in France. He was awarded the Croix de Guerre — which he says was “always given to foreign volunteers.” On his return in 1918, he attended summer school and was able to obtain the B.S. in 1920.

At that time, two full years of college were considered enough to gain entrance to medical school. When Dock applied to Washington University School of Medicine, his father was still professor of medicine there, so “they leaned over backwards to treat me right.” The entering class of 1918 was a small one; there were still many young men at war. Indeed, enrollment was so small that women were admitted for the first time — and even allowed to serve as house officers at St. Louis Children’s Hospital.

Dr. Dock remembers excellent instruction during his pre-clinical years and recalls his teachers in vivid detail. “Philip Shaffer, Professor of Biochemistry, taught me to work and study on my own. Joseph Erlanger in physiology was a wonderful person; he put on class demonstrations of everything from the removal of dust in the trachea and bronchi to the way voluntary muscle contracts when you stimulate it in frogs. Dr. Terry of anatomy gave us a minimum number of lectures, and we worked hard on our own.” His growing interest in clinical medicine, especially pathology, led him to transfer to Rush Medical College in Chicago for his last two years of study. He mentions favorable impressions of the new young professor of surgery, Evarts...
By 1922, the year he finished his studies at Rush, Dr. Dock's father had moved to California where he remained active in private practice into his late 60s. While the elder Dock went West, his son went East and served as a house officer at the new Peter Bent Brigham Hospital. It was during this time that he met his lifelong St. Louis friends Samuel Grant, M.D. '20, and his wife, Natalie. On his visit this fall their son, Neville Grant, M.D., arranged for him to give Saturday morning rounds at St. Luke's Hospital. It was a memorable occasion. Although some years had passed since he'd examined a patient, Dr. Dock handled the stethoscope, the patient, and the audience with a mastery born of long experience. He simultaneously diagnosed a heart lesion, reassured the patient, and instructed the medical students on the history of cardiac surgery. His commentary was punctuated by pointed remarks which delighted the audience. Noting that few doctors can make an accurate diagnosis simply by using the stethoscope, he called the persistence of its application in part "a hierarchical gesture." Dock noted the great improvement in the accurate recording of heart activity through new techniques such as echocardiography. Doctors should, and no doubt will, continue to use the stethoscope, some more successfully than others — but they should always know its limitations. He concluded, "It may be alright to fool the patient, but it's a mistake to fool yourself."

Because his career has spanned many of the dramatic innovations in modern medicine, William Dock has a particular appreciation for the therapeutic and technical tools now in the hands of physicians. During his seven months of training in Vienna between 1924 and 1925, he witnessed the accidental discovery of mercurial diuretics. While some more successfully than others — but they should always know its limitations. He concluded, "It may be alright to fool the patient, but it's a mistake to fool yourself."

During his seven months of training in Vienna between 1924 and 1925, he witnessed the accidental discovery of mercurial diuretics. While such derivatives were then in use for the treatment of syphilis, ward nurses first noticed their side effect of stimulating fluid elimination. In his view, it was only because physicians were intelligent enough to listen to these nurses that a new therapeutic approach to congestive heart failure was found.

A high regard for the nursing profession comes naturally to him. His aunt, Lavinia Dock, worked with William Osler at Johns Hopkins and was a pre-eminent figure in the development of nursing. An outspoken feminist, jailed several times for her suffrage activity, she was a tireless writer — and is still known for her definitive, three-volume History of Nursing. Such persistence and energy seem to have been a Dock family trait.

William Dock has not been merely a passive observer of medical progress; he has participated in it himself. For example, his observations in Vienna led him to work in California to be among the first American physicians to use mercurial derivatives for heart failure. As a pathologist, he had always had an intimate view of medicine's failures. He well remembers the introduction of antibiotics and the increasingly successful surgical corrections of the heart in the 1930s and 1940s. By 1936 he had been appointed professor of pathology at Stanford; he took a similar position at Cornell Medical College in 1941. However, in 1944 he returned to internal medicine as professor at the then new Long Island College of Medicine in Brooklyn. This unusual mid-career change took place after a second period of training; Dock stayed with internal medicine until he retired from the field in 1979. His last position, as chief of the Cardiology Laboratory at Lutheran Medical Center in Brooklyn allowed him to explore the use of echocardiography. Like his father, he is a keen diagnostician and stories are still told about his uncanny ability to size up a patient's problem.

Though he is now well into his 80s, William Dock's intellectual curiosity is undiminished. Since his retirement to Paris (a city which has held a special place in his heart since he first saw it in 1913), he has kept up a brisk pace — both physically and mentally. He often walks five miles a day and has continued to write and to publish. The author of nearly 200 articles, he is still adding to his bibliography. An historical perspective on science has always characterized his approach.

In a paper published in the May 29, 1980, issue of the New England Journal of Medicine, he reviewed the history of the Korotkoff sound, noting that "the most remarkable fact about the Korotkoff sound is that it was discovered. Its observation confirmed Pasteur's thesis that 'chance favors the prepared mind' — meaning that chances are innumerable but prepared minds are very rare." For this article William Dock did more than make use of historical sources; he constructed a portable qualitative device to demonstrate the sounds evoked by a sudden rise in pressure in arteries or veins (samples of which were obtained from a Parisian slaughterhouse). A photograph of the machine was published with the hope on the author's part that it might be used for teaching purposes. Such intellectual vitality is in the Dock family tradition. Though many years have passed since his student days at Smith Academy and Washington University, William Dock's warm feelings toward his alma mater persist; his sentimental journey defied the old saying that "you can't go home again."
Gesner's Historiae Animalium was given to George Dock by one of his teachers, Sir William Osler, who wrote on the flyleaf: "Conrad Gesner who kept open house for all learned men who came into his neighborhood . . . Gesner was not only the best naturalist among the scholars of the day, but of all men of that century he was the pattern man of letters. He was faultless in private life, assiduous in study, diligent in maintaining correspondence and good will with learned men in all countries, hospitable — though his means were small — to every scholar that came to Zurich. Prompt to serve all, he was an editor of other men's volumes, a writer of prefaces for friends, a suggestor for young writers of books on which they might engage themselves, and a great helper to them in the progress of their work. But still, while finding time for services to other men, he could produce as much out of his own study as though he had no part in the life beyond its walls."

While visiting the Archives, William Dock viewed a gift from his father to the School, Gesner's folio Historiae Animalium. Gesner was a physician and naturalist in the 16th Century.
New Endowed Chair in Developmental Neurology

From left to right: William M. Landau, M.D. ’47, the Andrew B. and Gretchen P. Jones Professor of Neurology and co-head of the Department of Neurology and Neurological Surgery; Sara Volpe; Joseph J. Volpe, M.D., professor of pediatrics, neurology and biological chemistry; Jane G. and A. Ernest Stein; and Philip R. Dodge, M.D., professor and head of the Edward Mallinckrodt Department of Pediatrics.

Dr. Volpe explains some of his research work to Mrs. Stein.
A prominent St. Louis public accountant and his wife are endowing a chair in developmental neurology in the School of Medicine. Philip R. Dodge, M.D., and William M. Landau, M.D., department heads in pediatrics and neurology respectively, announced that Joseph J. Volpe, M.D., professor of pediatrics, neurology and biological chemistry will be the first A. Ernest and Jane G. Stein Professor of Developmental Neurology.

A. Ernest Stein is a certified public accountant in practice for more than 50 years. He founded his own firm in 1939 and served many prominent St. Louis businesses. His firm merged with Peat Marwick & Mitchell in 1980 and Stein assumed the role of consultant. A 1926 graduate of Washington University where he was elected to Phi Beta Kappa, Stein attended Harvard Graduate School of Business and received his master's of business administration in accounting from New York University. He has been named a lifetime honorary member of the American Institute of Certified Public Accountants, one of four in the St. Louis area. An ardent bridge player, he has won several regional contract bridge championships. He is currently serving as financial advisor to faculty members of Washington University. His wife, Jane G. Stein, worked with a Hollywood motion picture agency before marriage. Since coming to St. Louis, she has been active in hospital and art museum volunteer work.

When Stein speaks of his long and distinguished career, it becomes obvious that he regards his profession as one of helping people and upholding the highest ethics. He has expanded customary accounting services to include financial and management consulting to corporate and individual clients. It is his value of helping, coupled with the fact that one of the Steins' daughters has suffered accidental and severe brain damage, which led him to endow the professorship in developmental neurology. "Being able to endow this professorship is a highlight of my achievements," he said. "Washington University ranks with the world leaders in medical care and research. Jane and I are proud to be able to perform this type of public service and we believe that Dr. Volpe's credentials are outstanding. We can dream of his future accomplishments."

Volpe received his M.D. degree from Harvard in 1964 and joined the faculty of Washington University in 1971 as assistant professor. He became professor of pediatrics and neurology in 1979 and professor of biological chemistry in 1980. A clinician and scientist of international reputation, Volpe specializes in the biochemistry of the developing brain, and in the prevention and treatment of brain diseases and injuries, particularly in premature newborns. He is the author or co-author of more than 100 scientific papers and book chapters on neonatal neurology and related topics. His book, *Neurology of the Newborn*, published in 1981, is already considered to be a classic in the field.

Volpe is a member of numerous professional associations in pediatrics, neurology and neuroscience and has delivered invited lectures in Europe, Japan and throughout the United States. He serves on the editorial boards of three scientific publications and has chaired many scientific symposia. "Lifetime neurological disability, such as cerebral palsy, mental retardation and epilepsy, is most frequently caused by brain injury incurred in the perinatal period," Volpe explained. "The major causes are intracranial hemorrhage, hydrocephalus, and events that impair the supply of blood and oxygen to the brain. The overall objective of our research is to prevent and to treat these disorders of the neonatal brain. Toward that goal, we have taken three major approaches: first, to define the precise causes of the injury to the brain; second, to devise the most rational and effective therapeutic modalities for the responsible disorders; and third, to understand important regulators of brain development."

The last approach, accomplished in the laboratory, provides information which Volpe hopes will lead to understanding the biochemical aspects of brain injury and the means by which the brain might be induced to recover from injury. "There is very much to be learned, in both the clinical and laboratory areas," he said. "Many very basic questions need to be answered as soon as possible. The gift from the Steins is both an impetus for our work and an assurance that answers to these basic questions can be pursued effectively at this University. I am deeply grateful and honored to be awarded this professorship."

Volpe will continue to work in the Mallinckrodt Department of Pediatrics, according to Philip R. Dodge, M.D., professor and head of the department, and professor of neurology and neurological surgery. It was Dodge who encouraged Volpe to come to Washington University eleven years ago and to pursue work in neonatal neurology.

"Having the Stein Professorship in Developmental Neurology is central to the development of related positions and programs in basic and clinical neuroscience. We are confident that within a very few years the wisdom of Mr. and Mrs. Stein in establishing this endowment will be proven," Dodge said.

William M. Landau, M.D., the Andrew B. and Gretchen P. Jones Professor and head of the Department of Neurology said: "The Steins are kind and generous people. By endowing a chair, they have invested in people and in the progress of science at Washington University. Dr. Volpe is a productive and imaginative scientist investigating the early development of the brain and nervous system. Much of his work as the Stein Professor of Developmental Neurology will be important to parents and children in the future."

Chancellor William H. Danforth, M.D., said that the Stein endowment is especially significant and appreciated "at a time when government support for scientific research is being restricted. Washington University is fortunate and honored in receiving the private support from public-spirited people such as Ernest and Jane Stein."
Washington U. and Monsanto Company have entered into a five-year agreement to conduct biomedical research. Under the general $23.5 million contract, WUMS faculty members and Monsanto scientists will cooperate in research projects, a number of Monsanto scientists will work in university laboratories, and university scientists will have access to certain Monsanto facilities.

An advisory committee consisting of four WUMs faculty members and four Monsanto appointees will solicit and review research proposals from the faculty at large, select proposals based on individual merit, distribute appropriate funding, and act as liaison between the University and the company. David M. Kipnis, M.D., Adolphus Busch professor and head of the department of internal medicine at the school will chair the advisory committee and direct the cooperative program.

Other members of the committee are: Louis Glaser, Ph.D., head of the biological chemistry department; Paul Lacy, Ph.D., Malinckrodt professor and head of the pathology department; and Joseph Davie, M.D., head of the microbiology and immunology department. Monsanto committee members are: Louis Fernandez, vice chairman of Monsanto; Howard Schneiderman, senior vice president for research and development; G. Edward Paget, director of the company's biomedical program; and David Tiemeier, science fellow.

Monsanto's participation in the program will begin with a $3 million grant for 1982-83, to be equally divided between fundamental and specialty projects. The funding will be increased annually to a total of $6,400,000 in 1986-87. The advisory committee will allocate 30 percent of its funding to fundamental research in proteins and peptides. The other 70 percent will support specialty projects for which there is significant public need and potential commercial utility in technologies and products.

University faculty members will be at liberty to publish research results. Monsanto will have the right to prior review if the results contain potentially patentable technical developments. Monsanto will be able to request a short delay in submitting articles for publication or public disclosure in order to begin the patent process. Many foreign patent laws require filing patent applications before public disclosure of inventions.

Monsanto will have the right to an exclusive license of any patents resulting from the funded research. However, the University will maintain the patents and receive royalties from Monsanto licenses. The royalties will go to the University, rather than to individual researchers, and will be used to support the University’s education and research programs.

During the third year of the five-year agreement (and every two years thereafter), the program will be reviewed by a panel of independent scientists who will evaluate the scientific merit of the research programs and their value to both institutions.

The Pew Memorial Trust of Philadelphia has contributed $500,000 toward construction of the school's new Clinical Sciences Research Building. It is expected that the 11-story structure, housing 375,000 square feet, will cost $50,000,000.

Chancellor William H. Danforth, M.D., noted that this gift is the first that Washington University has received from the Pew Memorial Trust. "This generous grant is encouraging and heartening. Washington University has set a very high priority on bringing the most advanced scientific understanding to the diagnosis and treatment of human disease. The building will contain excellent new facilities and provide added space for some of our most significant research efforts, ranging from cancer to mental illness and from new techniques in surgery to new understanding in immunology."

Samuel B. Guze, M.D., Vice Chancellor for Medical Affairs at Washington University, said, "The proposed new structure will facilitate collaborative research and physically unite for the first time all institutions at the Washington University Medical Center."

The Pew Memorial Trust is the oldest and largest of several charitable trusts founded by the members of the Pew family and administered by the Glenmoore Trust Company as trustee.

Danforth concluded, "The future of Washington University and of all private universities will be strongly influenced by support from the private sector. This gift from the Pew Memorial Trust is consistent with its proud tradition of allocating resources to benefit major universities and scientific institutions."

Originally established in 1948 in Pennsylvania as the Pew Memorial Foundation, it was created in memory of the late Joseph N. Pew, founder of Sun Oil Company, now Sun Company, Inc., and his wife, Mary Anderson Pew, by their four surviving children: Mary Ethel Pew, Mrs. Mabel Pew Myrin, J. Howard Pew, and Joseph H. Pew, Jr., all of them now deceased.

Research into epilepsy and seizure disorders will continue with a $368,167 grant to the School of Medicine awarded by the National Institute for Neurological and Communicative Disorders and Stroke.

Seven members of the Department of Neurology and Neurological Surgery, four of whom hold joint appointments in other departments of the school, have formed a team for various complementary studies of the molecular, biochemical and anatomical factors in seizures and epilepsy. Two percent of the people in the world suffer from epilepsy, which is characterized by recurring seizures, but available drugs satisfactorily control only half of the epilepsy patients. The other half receive only partial control of seizures, or no control at all. Seizure disorders are abnormal discharges of electrical energy by neurons. There are two major categories of seizures, each with several sub-types. Most seizures involve the cerebral cortex, the blanket of nerve tissues covering both hemispheres of the brain; but some involve parts of the limbic system and other structures deep within the brain.

James A. Ferrendelli, M.D., Seay Professor of Clinical Neuropharmacology and professor of pharmacology and neurology, is the project director and principal investigator of a study of biochemical disorders which may
lead to, or are associated with, seizure discharges.

Joseph J. Volpe, M.D., the A. Ernest and Jane G. Stein Professor of Developmental Neurology and professor of pediatrics, neurology and biological chemistry, will study how lipids, or fatty chemicals, of nerve cell membranes relate to epilepsy. He will also study the effects of anticonvulsant drugs on the developing nervous system.

Sidney Goldring, M.D., professor and head of the department of neurosurgery, will conduct electrophysiologic studies related to epilepsy.

Eric W. Lothman, M.D., Ph.D., assistant professor of neurology, will study seizures which involve or originate in the hippocampus, a part of the limbic system of the brain. Another part of the limbic system, the basal ganglia, coordinates movement, will be studied by G. Frederick Wooten, M.D., assistant professor of pharmacology and associate professor of neurology. He will investigate the role of basal ganglia circuits in focal motor seizures.

Basic aspects of the focal seizure process will be examined by Robert C. Collins, M.D., associate professor of neurology.

Marcus E. Raichle, M.D., professor of neurology and radiology, and assistant professor of biomedical engineering, will employ the new brain-imaging technique of PET scanning (positron emission tomography) to determine if PET scans can improve diagnosis or treatment planning in cases of focal epilepsy. PET scanning was developed at Washington University School of Medicine.

James E. Schwob, a predoctoral student in anatomy and neurobiology, received the fifth annual James L. O'Leary Prize for research in neuroscience. Schwob has been studying the development of axonal connections in the central olfactory system.

Axonal connections are the essential conducting portion of nerve cells by which connections are made with other nerve cells. Specifically, Schwob studied the pattern and sequence by which this intricate and tightly-organized system in the brain develops. His research was based on one of O'Leary's earliest papers on the olfactory cortex published in 1937.

The O'Leary Prize, which was established in memory of the eminent neuroscientist, James L. O'Leary, M.D., Ph.D., recognizes the most original and important accomplishment in neuroscience research by a pre- or postdoctoral student at Washington University.

O'Leary was Professor and Head of the Department of Neurology at Washington University School of Medicine. His career at the School spanned almost 50 years until his death in 1975. O'Leary devoted himself to training young investigators, many of whom now hold important academic positions throughout the country.

Barry A. Siegel, M.D., '69, professor of radiology and director of the nuclear medicine division of Mallinckrodt Institute of Radiology, has been appointed to a three-year term as chairman of the Radiopharmaceutical Drugs Advisory Committee of the Food and Drug Administration. The 11-member committee participates in the evaluation of new radiopharmaceuticals for use in diagnostic and therapeutic nuclear medicine procedures, and in evaluation of new contrast media for radiological studies.

Siegel was appointed to the committee for 10 years.

Mildred Trotter, Ph.D., emeritus professor and lecturer in anatomy, received the section award of physical anthropology given by the American Academy of Forensic Sciences. The award was announced at the Academy's 34th annual meeting in February. Trotter was cited for her work in physical anthropology, her research in anatomy and its application to forensic analysis and physical anthropology, and for her distinction in teaching.

The Mr. and Mrs. Lyndon C. Whitaker Charitable Foundation of Clayton, Mo., has contributed $61,000 to the School of Medicine for purchase of a sophisticated new microscope photometer. The gift was announced in April by Urban C. Bergbauer, trustee of the Foundation.

The equipment will greatly benefit a variety of molecular biology research projects in the departments of Anatomy and Neurobiology, and Biological Chemistry, according to Samuel B. Guze, M.D., vice chancellor for medical affairs.

As a result of the monoclonal antibody revolution, scientists now know of many fluorescent chemicals, each of which binds to a specific cell. It is possible to use the chemicals to "tag" molecules inside of individual cells or on the surface of the cell. Ordinary fluorescent microscopes will make the molecules visible, but the new microscope photometer goes even further. Specimens can be photographed or monitored with a video camera. Linked to a computer and electronic image analyzer, the microscope photometer will allow researchers to quantify the number of sites where antibodies bind to cells and precisely map their distribution.

"Because of this gift from the Whitaker Charitable Foundation, Washington University will be able to expand and accelerate research in the molecular biology of the nervous system," Guze said.

"The microscope photometer will be a major research tool for the School of Medicine."
In the newly renovated Chromalloy American Kidney Center in Barnes Hospital, Frank Nyklel, president and chief executive officer of Chromalloy American Corporation looks on as Wesley Barta, Chromalloy’s past president and board chairman, presents a check for $100,000 to Herschel Harter, M.D., Associate Professor of Medicine and co-director of the Chromalloy Kidney Center. The check was part of a $500,000 gift to support the renovations. In the past several years, Chromalloy provided over $1 million to support the Center’s research and treatment facilities and equipment. The Chromalloy Kidney Center now has 27 kidney dialysis machines and can accommodate 145 patients.

Susan Crawford, Ph.D., director of the School of Medicine Library, has been appointed editor-in-chief of the Bulletin of the Medical Library Association. Founded in 1911, the Bulletin is the major international journal in biomedical communication and health sciences librarianship, and is the official record of the Association. The Bulletin follows the format of general scientific journals as a channel for communicating new developments in the field. Previously, Crawford has served on the editorial boards of five other scholarly journals.

Stuart Kornfeld, M.D., professor of medicine and biochemistry, and Donald C. Shreffler, Ph.D., professor and head of the Department of Genetics, have been elected to the National Academy of Science, one of the highest honors that can be bestowed upon an American scientist or engineer. Kornfeld was cited for his work to elucidate the structure of carbohydrate units of glycoproteins and to identify the steps in their biosynthesis. Kornfeld is co-director of the hematology oncology division and edits the Journal of Clinical Investigation. Shreffler, the James S. McDonnell Professor of Genetics, was recognized by the Academy for his studies of immunogenetics and biochemical genetics of the major histocompatibility gene complexes.

Carl Frieden, Ph.D., professor of biological chemistry, received a $154,000 grant to continue basic research into the kinetic behavior of enzymes and certain aspects of protein-to-protein interactions. One of the proteins being studied is actin, which exists in all mammalian cells. In muscle, actin is responsible for contraction; in non-muscle cells, it may be responsible for maintaining the structure of the cell. Studies of the role of the polymerization of actin in cell function are being conducted. The enzyme adenylate deaminase, which binds to the major muscle protein myosin, is also being studied. This enzyme appears to be important in some aspects of muscle contraction and has been found to be lacking in two to three percent of individuals with neuromuscular problems. Mechanism studies on another enzyme, adenosine deaminase, are in progress. Lack of adenosine deaminase gives rise to an illness called Severe Combined Immunodeficiency Disease. There is also evidence that specific inhibition of this enzyme can lead to remission of certain types of leukemia.

George B. Johnson, Ph.D., associate professor of genetics and professor of biology, has been awarded a Guggenheim Fellowship for 1982, and will continue his work in genetic factors influencing mutation rates in the drosophila. Johnson earned his Ph.D. degree at Stanford in 1972 and joined the Washington University faculty. This year the John Simon Guggenheim Memorial Foundation awarded a total of $5,070,000 to 277 scientists, scholars and artists selected from among 3,200 applicants.
Dear Colleagues:

Reunion '82, “What’s New At Washington U?” is now history. But I wish that all of you could have been here in person to share in the excitement and glow of its unqualified success.

The scientific sessions on April 29 and 30 featured twelve of our faculty, exposed us all to new areas of research procedures and clinical applications, and made us realize once again what an outstanding institution the Washington University School of Medicine really is.

The social events planned and carried out — the welcoming cocktail party, the individual class dinners, the spouses’ program, etc., were all enthusiastically received and well attended. The highlight of Reunion '82 was the annual dinner dance at the Breckenridge Inn.

This year we had the largest number of any 50-year class return for reunion. It was a pleasure for me and your incoming president, Richard P. Parsons, M.D., '58, to present each of them with lifetime memberships in the Association.

This year we also had several “firsts” to celebrate. This was the first time the school has had a 55-year class reunion, and twelve members of the Class of '27 were in attendance.

This year, for the first time, we recognized our own—presenting Alumni Achievement Awards for outstanding achievement and service to Hugh E. Stephenson, Jr., M.D., '45, of Columbia, Mo.; Carroll Behrhorst, M.D., '47, of Guatemala; and George Sato, M.D., '47, of St. Louis.

Alumni Faculty Awards for outstanding ability and service were presented to Eugene M. Bricker, M.D., '34, clinical professor of surgery emeritus; Carl G. Harford, M.D., '33, professor of medicine emeritus; and John C. Herweg, M.D., '45, professor of pediatrics and associate dean of the School of Medicine. Each received a plaque and a specially designed blazer from Brooks Brothers, emblazoned with the University crest.

At the dinner, we also paid special tribute to Guy N. Magness, M.D., '28, for outstanding service to the Washington University Medical Center Alumni Association. John D. Davidson, M.D., '52, responded for Dr. Magness and accepted the award. I must sadly note the death of Dr. Guy Magness on June 7th. His classmate, Samuel D. Soule, M.D., '28, is preparing an article in tribute to him for the next issue of OUTLOOK Magazine.

The final “first” announced at the dinner was the formal presentation of the Alumni Endowed Professorship of Pharmacology, awarded to Philip Needleman, Ph.D., professor and chairman of the Department of Pharmacology. Needleman returned to the podium to accept the award as Preclinical Teacher of the Year, given by the Class of '82. This was the fourth time the graduating class has honored him for teaching.

The formal presentation at the dinner ended with a 14-minute audiovisual show contributed by Maritz, Inc., consisting of candid photographs taken all during the course of Reunion '82. It was an outstanding production. After dinner, music for dancing was provided by the Hot Docs, a very talented group of our own medical students. Another equally talented group of students had entertained us with chamber music earlier in the evening.

This has been a truly memorable year for your Association. Participation in the various programs presented has been excellent. Our ability to meet the increasing demand for emergency student loans has been made possible by your generosity. I would be remiss if I did not note the fact that Mrs. Claire MacConnell, director of medical alumni affairs, resigned for reasons of health in January. Mrs. Christine K. Owens, who had been serving as interim director during Claire’s illness, became our full-time director in April.

As I leave office as your president, I hope that the interest and support for the Association that has been generated during the past year will continue. Many new, exciting programs are in the works to serve you and the school in more meaningful ways.

—Frederick D. Peterson, M.D., '57
Alumni Achievement Awards

Carroll Behrhorst, M.D. '47, medical missionary. Following three years of residency in Cincinnati and St. Louis, Behrhorst returned to his native Kansas and entered private practice, which he continued for ten years. The director of the Medical Missions Council of the Lutheran Church–Missouri Synod invited him to visit Guatemala to evaluate health needs in rural areas. During his two years of church sponsorship, he visited poor isolated areas, learned Spanish, volunteered in a public hospital, prepared for the exam for a license to practice medicine, and became the first American in 26 years to be licensed by the Guatemalan Medical Examining Board. In 1962, he moved his family to the mile-high, remote homelands of the 200,000 Cakchikel-Maya Indians who lived primitively in scattered villages. He found people suffering from poor sanitation, many infectious diseases, tuberculosis, poor nutrition (their diet consisted mainly of cornmeal), high infant mortality and short life spans.

They were not glad to see him; they distrusted white people. So Behrhorst sat on a bench in the main village’s square daily for months until a desperate father sought help for his dying child. Modern medications and intravenous feeding saved the child and launched Behrhorst’s second practice, one that he continues today.

In the past 20 years, Behrhorst has developed a program of public health, self help, preventive medicine, patient care, education and training which the World Health Organization has used as a model for bringing care to developing countries. He has trained native men and women to go to villages to diagnose and treat common local illnesses or bring people to the hospital. He has changed the Indians’ idea of the hospital from a place where people go to die. Today, his privately supported hospital treats 30,000 patients per year and combines modern medical care with the patients’ cultural needs— from bedding to family-oriented care.

He has trained native public health nurses to go into the village to teach nutrition and gardening, sanitation and family planning. He developed a program to help the Indians borrow money to buy chickens, and initiated agricultural extension services to teach poultry husbandry, egg production and preparation. He introduced high-protein, high-yield corn. Improving health is more than attacking disease.

In 1973, Behrhorst was recognized for his contributions to world health and to Guatemala with a Washington University Founders Day Alumni Award. The selfless and human focus of his work as physician and dedicated medical missionary is of rare value.

Vice Chancellor Samuel B. Guez, M.D., presents the Achievement Award to George Sato, M.D. ’47, Alumni Association activist. A busy private practice in pediatrics has not prevented George Sato from expressing his dedication and commitment to Washington University School of Medicine. He has served as a member of the Medical Center Alumni Association Executive Council. When he was president of the Medical Century Club, he doubled its membership in the past two years to nearly 1,200 members. He is currently the national co-chairman for the Annual Fund. When any association activity is scheduled or in need of help, Sato can be counted on not only to participate, but also to infuse his spirit and enthusiasm. The Association is proud to call him a friend and colleague.

Following graduation, Sato served his internship at the City of Detroit Receiving Hospital, and his residency at St. Louis City Hospital. He served in the U.S. Air Force and, in 1954, resumed his private practice. He is a member of the American Academy of Pediatrics, the St. Louis Pediatric Society, and the Missouri and St. Louis medical societies. He is on the staffs of Barnes Hospital, St. Louis Children’s Hospital and St. Luke’s Hospital, where he supervised the newborn nursery for several years. He is clinical professor of pediatrics at the School of Medicine.

Hugh E. Stephenson, M.D. '45, surgical innovator. In 1976, Stephenson was appointed chief of the General Surgical Division at the University of Missouri Medical Center in Columbia, Mo. He had been professor and chairman of the department of surgery from 1956 until 1960, and then served as professor of surgery.

He is a founding member of the American Trauma Society. He is the first surgical traveler from the United States chosen for membership in the James IV Association of Surgeons, Inc., in Great Britain, and he currently serves on the organization’s board of directors. He was the University of Missouri’s first Markle Scholar in Academic Medicine. Stephenson is also responsible for the first design of a mobile cardiac resuscitation unit, used to revive the heart during surgery.

He served his internship in surgery at the University of Chicago Clinics and Billings Hospital and was resident and chief resident in surgery at New York University–Bellevue Medical Center. He is a fellow of the American College of Surgeons, a delegate of the American Medical Association, and past president of the Missouri Surgical Society. For his contribution to research and practice in cardiac surgery, and his commitment and dedication to the medical profession, Stephenson has been selected for a 1982 Alumni Achievement Award.
Alumni Faculty Awards

John C. Herweg, M.D. '45, accepts the faculty award plaque from Samuel B. Guze, M.D. '45, vice-chancellor for medical affairs and president of the Washington University Medical Center. Herweg has been on the faculty since 1952. He was assistant dean for postgraduate education until 1960, when he received a postdoctoral fellowship and was assistant professor of microbiology at the University of Minnesota. He returned to the School of Medicine in 1962 as assistant professor of pediatrics. He has served on the committee on admissions since 1965, and was named associate dean for student affairs. His reputation is one of being meticulously fair, a champion of the medical students. His leadership and honesty have influenced and inspired hundreds of students. His gentle manner and wise counsel have been a strong force among the faculty for thirty years. His advice reaches beyond the daily rigors of academic life into a genuine concern for students outside the classroom. As one student has explained, "Dr. Herweg is concerned about our day-to-day lives, telling us to take time off, calming our fears and frustrations and, like a good pediatrician, caring for us as if we were his children. He is a singular man."

Eugene M. Bricker, M.D. '34, has received numerous awards from professional societies and from Washington U. His career includes an appointment as chief surgeon at Ellis Fischel State Cancer Hospital in Columbia, Mo., distinguished accomplishments in the U.S. Army Medical Corps, service as assistant professor of surgery and clinical professor of surgery at WUMS. The American Academy of Arts and Sciences honored him in 1962 for developments in the treatment of cancer. He was appointed to Washington University's Board of Trustees in 1964. The University honored him in 1973 with the William Greenleaf Eliot Society Search Award for distinguished service, and in 1974 with a Founders Day Faculty Award. Throughout his career, Bricker has exemplified the teacher concerned with both practical and theoretical education.

Carl G. Harford, M.D. '33, receives the Alumni Faculty Award from Dr. Guze. Harford was honored for his many contributions to the University and the School of Medicine, and for his excellence as a physician. He is former chief of the Division of Infectious Diseases and is well known for his research and teaching. Twice he has served as Acting Head of the department of microbiology. He is a former member of the Alumni Association Executive Council. A 49-year member of the full-time faculty, Harford received the Founders Day Faculty Award in 1973. Six years ago, the annual Carl Gayler Harford Visiting Professorship in Infectious Diseases lecture program was established in honor of his contributions to the University. Harford is professor emeritus of medicine.
Needleman is Named First Alumni Professor

The first milestone in the Alumni Endowed Professorship Program has been met. In the five years since the program began, the goal of $600,000 to endow a professorship has been attained on schedule, Robert C. Drews, M.D. '55, past president of the Alumni Association and member of the Alumni Endowed Professorship Program steering committee, announced at Reunion '82.

Philip Needleman, Ph.D., head of the Edward Mallinckrodt Department of Pharmacology, was selected to be the first Alumni Professor at the School of Medicine. Needleman is an internationally recognized pharmacologist best known for characterizing the synthesis and function of prostaglandins and their intermediates on the renal and cardiovascular systems. A graduate of Philadelphia College of Pharmacy and Science, Needleman received his Ph.D. from the University of Maryland and served as a postdoctoral fellow at WUMS from 1964 to 1967, when he joined the faculty. He became chairman of the pharmacology department in 1976.

He has received many professional and scientific honors and has been chosen as "Preclinical Teacher of the Year" by the graduating classes of 1971, 1972, 1977 and 1982.

Thomas B. Ferguson, M.D., clinical professor of surgery and chairman of the Alumni Endowed Professorship Program said: "This is a truly bright day for the School and for all of us alumni. The response to this program has been tremendous." The program encourages annual gifts of $1,000 from alumni and qualifies donors for membership in the William Greenleaf Eliot Society. The ultimate goal is for the Alumni Association to endow a chair in every department of the medical school.

Letters to Outlook

"As a graduate of the class of '28 and as a 4-year trainee in Ob and Gyn, I enjoyed very much your articles about Dr. Graham and Dr. White. When I interned in surgery in 1929, we regarded Dr. Graham with admiration and respect. His many fine characteristics have been sufficiently portrayed in your article.

"Dr. White was a refreshing, humorous person, and I still remember the poem he used to sing to the tune of "Old Black Joe.'

"I enjoy your magazine very much . . ."

Paul Rollins, M.D. '28
2450 Canterbury Lane E.
Seattle, WA 98112

"I write to call your attention to errors in the winter '81 edition . . . in 'Milestones of the Mallinckrodt Institute.' The first relates to the Medical Center's first 24 MeV Betatron, said to have been installed in 1962. I left (the school) in December 1956, but before leaving, I had operated upon several patients who had been treated on the Betatron and in whom damage to the intestinal tract necessitated surgical treatment. Obviously, the machine must have been installed prior to 1962.

". . . the Medical Center's first electron microscope (was) said to have been installed in 1963. Actually, one of the first electron microscopes in the U.S. was built in the Anatomy Department of WUMS in the 1940's by Dr. Gordon Scott (who) later became Dean of the Wayne State School of Medicine in Detroit."

Charles Eckert, M.D. '39
Distinguished Professor of Surgery
Albany Medical College
Albany, NY 12208

"As a former patient of Park White, and as one of his ardent admirers for over half a century, I want you to know what a superb article you procured from Marion Hunt . . . it tells a great deal about Park White and the greatness of our Medical Center."

William M. Landau, M.D. '47
Andrew B. and Gretchen P. Jones Professor and Head of Neurology
WUMS

"Thank you so very much for the . . . article about Dr. White! I learned much from reading it . . . The information I obtained about Dr. White and from Dr. White will be incorporated into a book on the history of American medical ethics . . ."

Chester R. Burns, M.D., Ph.D.
Rockwell Professor
Institute for Medical Humanities
U. of Texas Medical Branch
Galveston, TX 77550

OUTLOOK welcomes letters from readers for use in the "Letters" section.

—cc
Chiming in to Support Teaching and Student Aid

A series of phonathons has been held, with students, alumni and former house staff seeking pledges to the Alumni Annual Fund, which supports medical teaching and financial aid for students. From the alumni and former house staff, 18 volunteers met success 150 times one evening in April, using Alexander Graham Bell’s nifty invention. The volunteers received pledges from 150 colleagues for a total of more than $13,500.

Students on the phonathon crew were: Max Deutch, M.D. ’26, and Samuel Soule, M.D. ’28; Paul Hageman, M.D. ’34, and Joshua Jensen, M.D. ’38; C. Alan McAfee, M.D. ’42, C. Read Boles, M.D. ’43, Richard Yore, M.D. ’43, Hugh Waters, M.D. ’45, and Richard Huck, M.D. ’48; George Rader, M.D. ’51, and Fred Peterson, M.D. ’57; Shu-Sum Cheuk, M.D. ’64, and David Hardy, M.D. ’64; Penelope Shackelford, M.D. ’68, and David Krajcovic, M.D. ’69; Francisco Garriga, M.D. ’70, and James Corry, M.D. ’74; and Francis Duffy, M.D., former house staff.

Finding More Than the Luck of the Draw

Enticed by prospects of winning gift certificates and the grand prize of an expense-paid trip to Cancun, Mexico, for the Alumni Association’s clinical conference, 27 medical school students volunteered for Spring phonathon duty. While only one won the trip, when associate dean John Herweg, M.D. ’45, pulled the name of Neville Ford out of a bedpan, no one felt like a loser.

Most of the students enjoyed having the chance to talk to alumni and many asked recent graduates about specialty selection and post-graduate training programs.

Student phonathons resulted in 631 pledges (many from people who had never donated to the annual fund) for more than $22,300. Students on the phonathon crew were: Tom Wolford, Gary Tobin, Grace Tannin, Eric Suba, Eric Stene, Dean Steele, Josh Rokaw, John Onufer, Christine Melnyk, John McAllister, Steve Machlin, Herluf Lund, Sheldon Litwin, Art Kreig, Marisa Klein, Glen Hord, Darren Gitelman, Neville Ford, Steve DeWitt, Ethan Crvant, Gary Collins, Jeff Cohen, Thomas Chang, Luci Belnick, Mark Behlke, Al Baudendistel, and Alex Auchus.

Max Som, M.D., Inaugurates Ogura Lectureship

A new named lectureship has been established to honor Joseph H. Ogura, M.D., Lindburg Professor and head of the Department of Otolaryngology. Ogura joined the WUMS faculty in 1948 as an instructor. The internationally acclaimed head and neck surgeon is also otolaryngologist-in-chief at Barnes and St. Louis Children’s hospitals, and consultant in otolaryngology at the Jewish Hospital of St. Louis.

Ogura is a member of many professional societies and past president of the American Society for Head and Neck Surgery, the American Laryngological Society, the Society of Academic Chairmen of Otolaryngology, and the Triological Society. He is one of 20 otolaryngologists selected for membership in the elite, international Collegium Oto-Rhino-Laryngologicum Amicitiae Sacrum.

In addition to patient care, teaching, research and department administration, Ogura has served on the National Cancer Advisory Board, being appointed in 1972 to complete the term of the late Wendell Scott, M.D., and being reappointed in 1974 to a full six-year term.

Placement Service is Reinstated

The Medical Alumni Office is establishing a permanent placement information service. Alumni and former house staff will be asked to register available practice positions with the Washington University Medical Center Alumni Association. These listings will be made available to WUMC Alumni Association house staff and fellows. Your cooperation is needed to reinstate this important service. Please complete the registration card that you have received when you are seeking to fill a professional position.
Helmull C. Wasserman, M.D. '32, was chairman of the 50-year class reunion. The class of '32 turned out the largest attendance at a reunion in the School's history.
Frederick D. Peterson, M.D., '57, turns over the office of president of the Washington University Medical Center Alumni Association to Richard P. Parsons, M.D., '58, the newly elected president.
Reunion '82 was a time to renew old friendships . . .

dress up in style to eat . . .
...drink...

...and be merry.
In Memoriam

John A. Hartwig, M.D., ’26, died June 15, 1982 of a heart attack. He was 82, and had been in practice in St. Louis for 54 years. He was on the staffs of DePaul Community Health Center and Compton Hill Medical Center, and was a member of the AMA, the Southern Medical Association, the Missouri Medical Society and the American Academy of Family Practice.

David Rothman, M.D., ’35, died on February 28, 1982 at the age of 70. He had been clinical associate professor emeritus in the department of Obstetrics and Gynecology, and was an obstetrician/gynecologist on the staff of Barnes Hospital for 40 years. He had served as vice president of the St. Louis Gynecological Society and was a Fellow of the American College of Obstetrics and Gynecology.

Harold Burnett Rapp, M.D., ’47, died suddenly and unexpectedly on May 28, 1982 at the age of 61. He was a diplomate of the American Board of Radiology and a Fellow of the American College of Radiology. A resident of Cape Girardeau, Mo., he was on the radiology staff at St. Francis Hospital and Southeast Memorial Hospital in Cape Girardeau, the Perry County Memorial Hospital in Perryville, Mo., and the Memorial Hospital in Chester, Illinois. He had been secretary of the Missouri Radiological Society in 1967 and president in 1981, and was a two-term member of the board of directors. He was a past president of the Cape Girardeau County Area Medical Society and had edited its journal.

Allan Yo Teranishi, M.D., ’76 died March 9, 1982 after a long illness. He was 36 and had been assistant chief of medicine at Mt. Zion Hospital in Kansas City. A fellowship fund in his name has been established there. He was married to Michele Flicker Teranishi, M.D., ’76, director of a Kansas City V.A. outpatient clinic and affiliated with the U. of Kansas Medical Center. His parents are Ann and Roy Teranishi of Kensington, California.

Ruth C. Steinkamp, M.D., who served her internship and residency at Barnes Hospital and was a fellow in internal medicine and hematology at WUMS, died in Arkansas in March at the age of 63. She was a hematologist and internal medicine specialist who had an international reputation as a nutritionist. She earned her undergraduate degree in home economics, and a masters degree from the University of Texas. She was a research nutritionist at the Vanderbilt University School of Medicine from 1941 to 1945. She received her M.D. degree from the University of Arkansas for Medical Sciences, and came to St. Louis for postdoctoral work. In the late 1950’s, she was a consultant to the World Health Organization. She practiced in St. Louis as a hematologist until 1958, when she moved to California to be staff hematologist for Donner Laboratories in Berkeley. She was with the California Public Health Department and later the University of California in Berkeley. She returned to Arkansas in 1971 as assistant professor of medicine at the U. of Arkansas for Medical Sciences.

Winifred Conrick Kahmann, who developed the first occupational therapy departments in St. Louis, at Barnes and St. Louis Children’s hospitals, and who began what is now the Program in Occupational Therapy at the School of Medicine, died March 31, 1982, at the age of 87. A native of Dedham, Massachusetts, she studied therapy under Herbert J. Hall, M.D., a neurologist and the first recognized occupational therapist in the U.S., at his private hospital in Marblehead, Mass. In 1917, Kahmann came to St. Louis to help establish the St. Louis School of Occupational Therapy. In 1924, she went to Indiana University Medical Center and developed occupational therapy programs at Riley and Long hospitals. During World War II, she was chief of the occupational therapy branch of the Army Surgeon General’s office, and in eight months nearly tripled the number of occupational therapists employed by the Army. She received the War Department’s Award of Merit in 1945. After the war, she returned to Indiana University and her career there. She retired in 1963. The Winifred C. Kahmann scholarship fund has been established in the Program in Occupational Therapy at Washington University School of Medicine.
The Clinical Sciences/Research Building and the new St. Louis Children's Hospital are taking shape. Looking northeast from the 10th floor of Wohl Hospital one can see in the foreground the part of the CSRB which will adjoin Wohl Hospital, the span over Audubon Ave., and the major part of the building. Behind it is the extension to the Jewish Hospital parking garage. In the upper left is construction of the new St. Louis Children's Hospital.

The "bridge" of the Clinical Sciences Research Building over Audubon Ave., looking east toward Euclid Ave.