Murray Weidenbaum, professor of political science at Washington University, and a colleague, Robert Joss, arrive for work at the United States Treasury Building. Dr. Weidenbaum is on leave of absence from the University to serve as Assistant Secretary of the Treasury for Economic Policy. See "Mr. Weidenbaum Goes to Washington," beginning on page 2.
WINTER 1970
Vol. 40, No. 2

Mr. Weidenbaum Goes to Washington 2 A professor joins the Administration

A Crisis of Confidence on American Campuses 10 The roots of student unrest

Treatment Planning by Computer 16 Biomedical engineering in cancer therapy

With the Soviets in Antarctica 22 Warm friendships in the Cold War

The War and Why We Must End It 28 A major policy statement by Senator Fulbright

Irv Malnik, Tracer of Lost Broadcasts 34 Echoes of the Golden Age of Radio

Is This Trip Necessary? 40 On international scientific meetings

The Space Place 44 Make your own environment

COVER: Winter on the campus. Herb Weitman made this photograph on New Year's Eve. Focus of the front cover is a snowy vista of Olin Library; center of the back cover is Graham Memorial Chapel.

Photo credits: John Millaire, page 12; Leroy Scharon, 22-27; NBC, 34, 36, 38; CBS, 37, 39; Mike Friedlander, 41-43; all others, Herb Weitman.

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SOME WEEKS AGO Saul Bellow, the novelist, declared that "American intellectuals don't enter government service very willingly, and they look on government as a cold-blooded monster." Murray L. Weidenbaum, formerly chairman of the department of economics at Washington University and currently on leave of absence from the faculty to serve as Assistant Secretary of the Treasury for Economic Policy, disagrees.

Now serving his third tour of duty in Washington, (he was with the Bureau of the Budget from 1949 to 1957 and in 1964 was staff director of a presidential Committee on the Economic Impact of Defense and Disarmament), Weidenbaum recently devoted an entire speech at Rutgers University to "The Role of the College Professor in the Nixon Administration." Stating categorically that he believes "the substantial infusion of academic talent is one of the hallmarks of the Nixon administration," Weidenbaum carefully enumerated dozens of university and college teachers who have left their classrooms for key jobs in the nation's capital.

Included on Weidenbaum's list were many of his friends, including Arthur Burns of Columbia University appointed to the new cabinet-level position of Counselor to the President soon after Nixon took office and now head of the Federal Reserve System; three members of the Council of Economic Advisers, Chairman Paul W. McCracken, from the University of Michigan, Hendrik S. Houthakker of Harvard University, and Dr. Herbert Stein, on leave as a Senior Fellow at the Brookings Institution; and Treasury Department colleague Edwin S. Cohen of the University of Virginia's Law School.

Weidenbaum's observation was one which he, himself, admitted had been generally overlooked, and consequently it came as quite a surprise. This ability to come up with original and unexpected conclusions, however, is by now a well-established Weidenbaum trait and undoubtedly one of the basic reasons why President Nixon created a new place for him in the administration as the Treasury Department's key adviser on economic policy.

Perhaps the best-known example of Weidenbaum's fresh approach to difficult problems is his analysis of one phase of the military-industrial-complex: weapons procurement. In 1966 and 1967, as he attested in a mid-November address in Chicago, his was "a voice in the wilderness" which warned "of the inflationary nature of the economic and financial impact of the defense buildup then underway." This contention, supported by basic research made possible through a NASA grant, led him to conclude that large defense firms are extensions of the public bureaucracy. In support of this thesis, he declared: "In some ways, the Federal Government is taking on the traditional role of the private entrepreneur, while the companies are behaving less like other corporations and more like government agencies or arsenals."

This reasoning has had far-reaching implications. John Kenneth Galbraith, for example, has used Weidenbaum's argument as a springboard for recommending that the whole military-industrial-complex be nationalized. Weidenbaum on the other hand would, he says, "orient it more toward private enterprise." Each economist has his share of supporters, nearly all of whom agree that as a result of his scholarly investigations Weidenbaum has become, in the words of The New York Times, "the nation's foremost academic specialist on military spending." It was this reputation that led a writer for Dun's Review to intimate not long after Weidenbaum's appointment to his present Washington post that his principal job would be to serve as a kind of "Pentagon watcher" acting as the Treasury Department's check on its outlays.

Such an interpretation of Weidenbaum's duties is quite obviously a gross oversimplification. His responsibilities are extremely broad, varied, and demanding. His primary concern, which is shared by other economic policy makers in the government, is how to bring the inflation in this country under control without precipitating a recession. "This is going to be very tricky," Weidenbaum said, "because in the past you couldn't do both. We think we're on the right track—the economic policy we have adopted we call gradualism. It is one of
Last year Murray L. Weidenbaum, formerly chairman of Washington University's Department of Economics, was appointed Assistant Secretary of the Treasury for Economic Policy. He is now on leave of absence in Washington, where he serves as a key official of the Nixon administration. Called "the nation's foremost academic specialist on military spending" by The New York Times, Dr. Weidenbaum is also considered one of the chief architects of the revenue-sharing plan.
Paul W. McCracken (left), Chairman of the Council of Economic Advisers in the Nixon administration, confers with Weidenbaum. McCracken, formerly of the University of Michigan, is another academician who left the campus for the nation's capital. He and Weidenbaum are old friends.
Our view is that you don't turn the economy upside down. You don't have massive unemployment. What you do is cool it down."

Weidenbaum sees signs that the restrictions which the government has imposed to curb inflation are beginning to work. "Most measures of real economic activity—GNP in constant dollars, industrial production, employment, and man hours—no longer are registering the strong gains which were being made during 1968. Perhaps this is best summarized," he continued, "by the decline in the rate of real economic growth to little more than two percent during the first three quarters of 1969, as compared with about five percent in the preceding three."

He made clear, however, that the easing of inflationary pressures might be reversed if Congress did not approve a responsible fiscal policy. Weidenbaum warned, "this is no time for a large tax reduction. Unfortunately, some of the people who have been pushing for big, new expenditure programs have also been advocating large tax reductions. You just can't have both. One of my jobs is to remind people that they must make a choice." Weidenbaum conceded that preaching such doctrine is bound to make him unpopular. "You begin to sound like Mr. Scrooge," he concluded.

Weidenbaum believes that the Treasury Department can do a great deal to bring about a healthy economy through a sound tax policy. "We can work up a tax system that is positive—that encourages job creation," he emphasized, "and that's one of the things I'm giving a great deal of thought to now."

Looking ahead—as far down the road as 1975—was one of the first assignments that Weidenbaum was given as a member of the Nixon administration. With Maurice Mann of the Budget Bureau he served on a three-man committee headed by Herbert Stein, asked by the President to study the peacetime economy in the aftermath of the Vietnam war. They predicted tight federal budgets even after the fighting ends in Southeast Asia, something that Weidenbaum prophesied in the Washington University Magazine a few issues ago in an article which he said really "scooped" the nation's press. Summing up their position, Stein told Washington Post reporter Carroll Kilpatrick that there would be substantial savings after the war ends, "but we are already committed to spending most of it." Their view was echoed by Daniel P. Moynihan, formerly counsellor to the President on Urban Affairs Council and now Burns's successor, who predicted that the "peace dividend would turn out to be evanescent like the morning clouds around San Clemente" (the California headquarters of the Nixon government). The President himself endorsed this view a few days later when he told the National Governors' Conference: "Dreams of unlimited billions of dollars being released once the war in Vietnam ends are just that—dreams. True, there will be additional money—but the claims on it already are enormous. There should be no illusion that what some call 'the peace and growth dividend' will automatically solve our national problems or release us from the need to establish priorities."

Such candid talk brought sharp criticism from those who wanted to believe that big budget savings would soon be available for cities, transportation, education, moderation. Our view is that you don’t turn the economy upside down. You don’t have massive unemployment. What you do is cool it down."

Richard F. Janssen (left), a Wall Street Journal reporter who regularly covers the Treasury Department, interviews Weidenbaum frequently. A 1954 graduate of Washington University, Dick Janssen is rated one of the best writers on economics in Washington.
Dr. Weidenbaum meets regularly with assistant director of the Bureau of the Budget Maurice Mann (center) and Herbert Stein (right), a member of the Council of Economic Advisers. They constitute what is known in Washington as the “T-2” or “working level” troika. Here they meet with a colleague.

and other social needs. While there will be no huge bonanza for beleaguered mayors and governors from post-Vietnam surpluses, the Nixon government has promised aid from another source. Help could come through a revolutionary revenue-sharing plan which President Nixon sent to Congress last August. Weidenbaum headed a special task force set up by the President to develop this proposal and is considered one of its chief architects. He spends much of his time explaining how the plan would work to “V.I.P.’s” all over the country.

Weidenbaum nearly always prefakes his remarks with a statement emphasizing that this plan is the financial heart of what the President calls “the New Federalism.” “The idea,” as Weidenbaum explained, “is to shift the balance from the federal government back to the state and local governments.” The concept is actually quite simple. A percentage of total taxable income, the same base used to calculate federal income taxes, would be set aside for return to the states and cities. A formula based on population and comparative tax effort would determine how much money would go to each state. The states, in turn, would be required to pass on a percentage of their share to all counties, cities, and towns within their borders. The amount each city and county would get is dependent on how much general revenue each unit collects.

One of the reasons why Weidenbaum is so enthusiastic about the proposal is that it reflects opinions which he expressed in papers published while he was at Washington University. “I called for a reallocation of public sector resources to the states and cities,” he explained, “and it is nice to have the opportunity of carrying out these ideas.” This point is part of a thesis on the need to decentralize the federal government which Weidenbaum regards as the fundamental message of his new book, The Modern Public Sector, published recently by Basic Books of New York. The volume, also prepared while Weidenbaum was on the Washington University campus, not only lays the conceptual foundation for the reform proposal for revenue sharing, but also emphasizes the current trend towards involving non-governmental institutions in the solution of society’s problems.

Weidenbaum has another book in mind, but it will have to wait because in his present position he has very little time for the kind of reflection necessary to produce a weighty tome on economics. In fact, one of his concerns is how to find a few spare moments for contemplation in a work week that averages 65 hours, with each day stretching from 9 a.m. to 7 p.m. As one solution, Weidenbaum hit on the idea of riding the bus from his Chevy Chase home to the massive pile of rock which is the Treasury Department’s headquarters just east of the White House. In rank-happy, status conscious “D.C.” this decision was regarded as highly irregular—administrators at Weidenbaum’s level simply don’t travel on public transportation. Or if they do, “they lose face,” Weidenbaum explained with a mischievous grin.

The whole business of formal protocol strikes Weidenbaum as ludicrous, but for the sake of convention he now wears conservative banker gray suits instead of blazer jackets, and always remembers to don his well-tailored coat when he leaves his very proper office. His black hair, once cropped in a crew cut, is now a more conservative length, which gives him a Brooks Brothers look. He appears changed, but conversations with him reveal that he’s not so very different after all from the professor who used to make his headquarters in McMillan Hall.

The sense of humor is very much in evidence and the candor. “A job as an assistant secretary was sometimes just a political payoff,” he observed, “That wasn’t true in my case,” he declared with a grin. Of his pace, which leaves his aides hardpressed to keep up with him, Weidenbaum remarked, “Ordinarily there’s just turmoil around here. Today it’s pandemonium.”

Asked to compare his life in the capital with that on the campus, Weidenbaum said, “Different it surely is, but more difficult?—no I don’t think so.” What he notices
Over on Capitol Hill, Professor Weidenbaum visits with Congressman Durward G. Hall (Rep.) from Missouri. One of the members of Hall's staff, Jim Robinett (background on the right), is a 1965 graduate of Washington University's School of Law.
Democratic Senator Thomas F. Eagleton from Missouri talked at length with Weidenbaum recently about the post-Vietnam economy. Eagleton's office is decorated with a great many photographs of prominent men who either have been or are now in government service.
most is that life in Washington, is far more routine. “At Washington University the pace was much more personally determined,” he said. “I could come whenever I felt like it if I didn’t have a class, stay late at night preparing lecture notes, and write a paper over the weekend. And if I ever thought faculty meetings were a bit much, imagine what life is like now! And there’s a different kind of meeting here which I call public contact work. Since I’m a policy-maker I spend a lot of time explaining what I’m doing to the press, Congress, and public interest groups.”

“Actually, I don’t find the substance that different. I was not a theoretical economist. I was always policy-oriented and interested in what was happening in the economy. But my role was different. There at the University I could be detached and just say whatever I believed to be the proper course of policy. Now, of course, no one censors my speeches, but still there is self-imposed restraint because you know that anything that you say of any consequence will be picked up and interpreted as the view of the administration. You simply aren’t speaking for yourself alone.” But Weidenbaum made clear that he is determined not to compromise his integrity. “I have an implicit understanding—again self-imposed—that I will not publicly criticize the administration nor will I publicly support something that I don’t believe in.”

Weidenbaum is skillful at fielding questions at press conferences and makes clear that he rather enjoys tangling with critics. “Good clean fun” is what he calls it, whether it be locking horns with Mayor John Lindsay on the same rostrum at the Forty-Sixth Annual Congress of Cities out in San Diego, or trading quips with Martin Agronsky on television.

Probably what he enjoys most, however, are the “T-2” (Troika Two) sessions when he and Stein and Mann get together to thresh out economic policy. Their combination is known as the “working level” troika. Above them is still another top-level troika team, abbreviated as “T-1,” composed of the Council’s McCracken, Treasury Secretary David Kennedy, and Budget Director Robert Mayo. When they meet with the Federal Reserve Board Chairman Arthur Burns, they become the Quadriad.

In early December when Weidenbaum was interviewed for this article, he and his “T-2” counterparts were preoccupied with the three major policy statements that a President makes in a given year. These are the State of the Union message, the budget message, and the economic report. Weidenbaum indicated that the work was proceeding smoothly. Indeed, quiet efficiency seems to be a characteristic of the Nixon administration. Even a message from the President announcing a major change in administration policy and requesting a prompt reply is delivered to Weidenbaum without furor. “That never would have happened during the Johnson administration,” he observed, “and I think that fact is very significant,” he added.

It suggests, as The New York Times’ White House correspondent Robert B. Semple, Jr. pointed out in a Sunday magazine piece not long ago, the “muted style” of the Presidency. But as this reporter went on to remind readers, the Presidency, nevertheless, has very clearly become Nixon’s Presidency.

It is Nixon’s photograph which looms large on the walls of offices all over the Treasury headquarters and presumably all the other key department buildings in Washington, and it is Nixon’s philosophy which sets the tone of this administration. Perhaps it was best expressed in the midst of a conversation which Mr. Nixon had with several of his aides last July when the President is reported to have said, according to his counsel, John Ehrlichman: “Let us not fall into the dreary rut or just manage the chaos a little better. Let us use the great power of this place to do something for the nation.” Administration officials like Murray L. Weidenbaum could ask for no better direction nor any clearer reason for coming to the banks of the Potomac to shoulder the responsibilities of public service.
LAST JUNE AT a time when the nation was reacting
with disbelief to the class of 1969 and periodicals
were churning out yard upon yard of copy, I was asked
to address a conference of administrators held at Saint
Louis University. My assigned topic was “Students in
the Mind and Heart of Administrators and Faculty.”
While I conceded that the minds of all administrators
and most faculty were preoccupied with the phenomenon
of student activism, I could not resist the wry comment
that the emotions of some academicians toward students
seemed to have their seat in some other bodily organ
than the heart—perhaps the gall bladder, liver, or spleen.

When we are honest with ourselves, we must all admit
that there are moments, even days, when we find it
extraordinarily difficult to think of some of today’s students
as anything other than our enemy, a threat to the insti­
tutions to which we are deeply committed, a threat to
our own sense of well-being. Such attitudes are at least
in part a commentary on our failings as educators. How
fallacious it would be to assume that all would be well if
only a few militant students disappeared from the scene.
And how ironic that after years of lecturing essentially
decide students that they must think for themselves, dis­
cover their own values, and become independent agents,
we recoil with resentment when a handful of students
actually do. Were we really only saying “think as we
do and discover our values”? This is treacherous ground indeed. Too easily we are
trapped by stereotypes, by labels, by fetishes. Terms
such as “peacenik,” “Bircher,” “hippy,” “the movement,”
“the system” are like buttons on a badly wired intellec­
tual circuit. We push them, knowing they will produce a
charge, but lack control over the consequence.

In universities over the last several decades we have
in part been victimized by our successes. We fought for
faculty control of the curriculum, for recognition of the
value of research, for better physical plants, for salaries
which recognize our value and training. Suddenly, unex­
pectedly, we find ourselves forced to defend these
achievements to affluent and inexperienced students who
question the very premises on which these battles were
fought. As Dr. Rosemary Park notes in The University in
America, quoting the opening chapter of A Tale of Two
Cities, it is indeed “the best of times, the worst of times.”

Perhaps what is most disconcerting to faculties and ad­
ministrations is that as we were preparing to establish
our standard at the summit of our achievements, we
discovered that we did not control the field. Hurl ed
back into a defensive posture, we lost the initiative. Our
precious and too tender egos were somewhat bruised.
Perhaps as educators, we shall be the better for that.

None of us can foresee with any certainty what the
next several years will bring to the nation’s campuses or
how they will affect the future of higher education in
this country. Rather, I am concerned with the response
to student activism, particularly with regard to curricular
matters and thus to the raison d’être of the university.

TO PROVIDE a framework, it is necessary to summarize
some of my basic assumptions about the university
scene today:

1. Although factors beyond our control provide much
of the impetus for and set the tone of student activ­
ism, the solution to these national problems—
the war in Viet Nam, the plight of our cities,
racism, the destruction of our natural environment
and poverty—would not resolve many of the major
problems of higher education.

2. At least over the last several decades, higher edu­
cation has concentrated too much on the individu­
al’s success: his ability to develop intellectual
skills, cultural interests and, above all, vocational
skills. We have neglected the essential interde­
dependency of men and institutions in modern so­
ciety. We can no longer afford this neglect.

3. Faculties of American colleges and universities
have been unable to formulate a coherent and
cohesive philosophy of education for these times. We
maintain curricula without much attention to
learning theory and tend to perpetuate programs
modeled upon somewhat nostalgic memories of
our own collegiate experiences.
As professor of English, Dean of the College of Arts and Sciences, and former Master of Forsyth Houses, Dr. Wheeler has had a long, intimate, and it is hoped mutually beneficial relationship with today's students. In this article, based on his talk this fall at Family Day, he examines the causes of "student unrest," and explores the new and complicated relationships among students, faculty, administrators, and parents today.
Dialogue with the Dean. "Only by listening, really listening," Dean Wheeler says, "... can we begin cooperatively to transform the rhetoric of our college catalogues and indeed of student activists into reality."
4. American families have generally become increasingly dependent upon educational institutions for moral leadership and as socializing institutions. At least in higher education, we have neither met this challenge nor have we been effective in returning these responsibilities to the family. Consequently, we find ourselves in constant turmoil over whether or not, or how far, we should intrude into the "private lives" of our students.

5. Faculties too frequently behave as though physiological and psychological factors should have no appreciable influence on the intellectual performance of students.

6. Our students today are, with few exceptions, the most affluent, intellectually sophisticated and, in practical terms, least experienced group ever to appear on the campus scene. Few of them have ever had to be fully responsible for their actions. In private, high-tuition colleges, few have ever been truly tested in a working situation.

7. Perhaps because of these qualities, our students seem incapable of living between the poles of cynicism and romantic idealism. They oscillate from one extreme to the other. Simultaneously, they are often almost exclusively present-oriented, unlike their teachers and parents, who were as students largely future-oriented. This difference is quite significant, for much of the docility and patience which characterized our generation was the consequence of our willingness to tolerate whatever hurdles stood between us and our goals. Conversely, many of our present students feel that they must live in the present as though there were no future. Whether this is because their view of the future is so terrifying or because they believe that our generation was too obsessed with an extreme future orientation, I cannot say.

8. We have probably never had so many students on college campuses so genuinely concerned about the nature of education. Many of them have read a remarkable amount of the recent literature and have created their own forums to discuss reforms. They see many of the shortcomings of colleges and universities and are frustrated by their inability to produce instant transformation.

9. University and college procedures on most matters are cumbersome and designed to resist changes which may prove idiosyncratic and fleet-
tactics which may effectively quash any peaceful dissent and therefore any will toward independence. I am squarely opposed to violence, to arrogant interference with the rights of others. But, the evidence is overwhelming that the small handful of leaders who feed on disruption are powerless and without significant following except where valid concerns are treated casually.

Questions pertaining to structures for decision making, therefore, are of central importance. Until very recently, students accepted the faculty as the legitimate as well as the actual authority on all curricular matters. Although complaints were often lodged against one or another of the multiple requirements for graduation set by the faculty, the legitimacy of the faculty’s power in these areas went unchallenged. Within the last several years, perhaps the most revolutionary development on campuses is the challenge to the legitimacy of the faculty’s authority. The cry of “student power” should not be dismissed as rebellious, adolescent railing against authority. Nor is the demand for an active role in decisions affecting central issues of a student’s life merely engendered by utopian visions of a “truly democratic society.”

The concept of student power could not have gained the credence it has among many of our most intelligent and concerned students had it not been preceded by a significant loss of confidence in the faculty and administration. Some of the most significant innovations in higher education have been motivated in large part by a desire to prove that the faculty does care about its students. In retrospect it is distressing that we needed to provide that proof. It suggests that for years the seeds of discontent have been widely scattered. Students have seen the faculty as being so preoccupied with their own scholarly work, university politics, and personal lives that students and good teaching were an unfortunate if necessary encumbrance.

When I hear this position declared, I hasten to cite the large numbers of faculty who have cared about good teaching and students. But this misses the point. The student’s perception may be incorrect, as we see it, or at least exaggerated, but we do not help a child overcome his fear of darkness by reciting over and over that darkness is not frightening. We must seek to determine why the perception exists.

Some students not only condemn faculties and administrations for indifference to them, but seriously question whether we have anything to convey to them apart from our special fields of knowledge. At a moment of history and at a time of life when fundamental questions of morality are nearly overwhelming, students often seem to care more about the life styles of their teachers than about their subjects. Their stated concern is for wholeness and integration, for authenticity.

Doubtless Erikson, Fromm, Buber, and others have provided a vocabulary, but I suspect that the student articulation of these concerns rises from deep fears that they will not as individuals be able to achieve a strong personal identity. The characteristic fears of inadequacy which are so strong during adolescence have been intensified by their experiences: their apparent powerlessness in the face of social evils, their familiarity with the literary and visual art amplifying themes of alienation and despair. They desperately want to know how to live and love and they desperately need reassurance that they are worthy of living and being loved. The calculus, closed couplets, Byzantine art, and quantum mechanics do have ultimate relevance to their concerns, but we have failed miserably in establishing this relevance, certainly as teachers and perhaps as persons.

The concerns which characterize the white student activist are intensified among black students. As chairman of our Committee on Black Studies, I have been educated in a very real way by the opportunity to discuss educational objectives with the black student members. I have come to realize somewhat better their fundamental distrust of educational structures and their anger towards what they regard as paternalistic attitudes. And I have been deeply impressed with their determination to develop a curriculum intended to lead black students to become more involved with their communities and more accepting of themselves and their heritage.

Nevertheless, in their minds, the evidence is clear that my colleagues and I have neither the understanding nor the sense of urgency to conceive and develop the programs they consider most suited to their needs. To a large extent, they are correct. Certainly we cannot provide a meaningful educational experience for black students without their leadership, nor can they succeed without our assistance. We are all caught in the tension between dependency and distrust.

This crisis of confidence underlies all that we must struggle with in resolving issues of student power, faculty power, and administrative power. I have dealt with the problem briefly because we normally give less attention to student distrust of us than to the pronounced lack of confidence of adults toward students as reasonable par-
participants in decision making. A crisis of confidence is likely to characterize the relationships between faculties and students in the aggregate for the foreseeable future. Happily individual relationships will temper aggregate relationships. Surely a primary role of the administration will be to assist in the creation of those settings and procedures which will enable each to become more understanding and confident in dealing with the other.

For a number of years students have been involved on our campus in various University-wide committees. They have taken the predominant role in disciplinary matters and, particularly in the residence halls, student government has been very influential in the setting of policies. Thus the faculty and administration were able to respond to demands for student power by a recitation of the important role played by students before such demands were made. As careful observers of the student scene would expect, this recitation was immediately countered by declarations that such roles were tokenism and did not give students real power.

Both positions are defensible. Students on committees dominated by faculty and administrators have served valuable roles in presenting student perspectives. From the student standpoint, however, these roles have been rather uncomfortable, no matter how flattering. The majority have felt ill at ease and rarely permitted themselves to take aggressive leadership. They have been emotionally unprepared to participate as equals. Faculty and administrators have often not understood why students seemed to agree in a meeting, only later to express disagreement and discontent. For students, particularly, there is strength in numbers.

Further, many young people have a misconception about the nature of “power.” Having never possessed more than the semblance of power nor the responsibility power brings with it, they assume it to be more absolute than it can or should be either in an academic structure or in a democratic society. Someone, somewhere, they reason, must be pulling the strings. And if that person cared sufficiently, he could correct the injustices.

That students can make a significant contribution to areas of educational policy seems to me beyond question. That the process of involvement in policy making can restore a measure of confidence between those who are called students and those who are called educators seems to me equally clear. In an institution of higher education, we must all be teachers and learners.

Parents and alumni have a vested interest in American colleges and universities. They have more than that—a responsibility to understand what is happening on the campus and to interpret it to the society at large. The crisis of confidence on campus is a part of a larger crisis of confidence—a deep-seated conviction on the part of far too many young people that this society is corrupt, that its leaders are faithless, and that their parents who may make the sounds of caring are in fact paralyzed.

I have tried to suggest that what we are witnessing on campus is a microcosm of the larger society. The great majority of students are neither radical nor ultra-conservative, but their perplexity leads to forms of cynicism which may in the long run be more dangerous to this society than either extreme. We will not resolve this crisis of confidence by force. We may resolve it, and indeed we must, by grappling honestly and perseveringly to eliminate the shocking gap between our stated ideals for this country and the facts which confront us daily.

Over the course of the next several years, American higher education will be tested as it has never been tested before. Administrations are likely to be caught in a vise between external and internal pressures. To set ourselves staunchly against all student activism, denouncing it as anti-intellectual and satirizing its qualities of self-gratification, would be to intensify the crisis of confidence upon which we are already foundering.

The central convictions of student activists, whether white or black must be heeded. When they insist that the full potential of higher education is not being realized, that our curricula must be tested against contemporary experience, that the collegiate experience should not only sharpen the intellect but produce humane and concerned persons, they summon us to our highest obligations as educators. If they minimize the value of the traditional disciplines, they nevertheless remind us that the disciplines are not ends in themselves. Perhaps only by their challenges will we remember that institutions exist for persons, not persons for institutions.

It will be easier and I fear more popular to answer rudeness with rudeness, arrogance with arrogance, power with power. However, only by listening, really listening, to one another beyond the words to the stimuli which evoke the words, can we begin cooperatively to transform the rhetoric of our college catalogues, and indeed of student activists, into reality. Only as we do this together, regaining confidence in our social structures, and one another, will the future appear less harrowing and the present offer greater promise for human fulfillment.
TREATMENT PLANNING BY COMPUTER

The separate discoveries of x-rays and the radioactive element radium in the 1890's presented medicine with the first tools to be used in radiation therapy. Both emit ionizing radiation, which has a powerful lethal effect on rapidly dividing cells and hence is useful in the treatment of many kinds of cancer. The later discovery of artificial radioactivity and the development of super-voltage equipment extended the scope of this specialty. Today about 50 percent of all cancer patients are treated with some form of radiation therapy either for cure or as a palliative measure.

One of the chief problems in such treatment is to direct as high a radiation dosage as possible to the cancerous area while delivering the lowest possible dose to the surrounding healthy tissues so they are not harmed. The calculations involved in determining this dosage have constituted a time-consuming and laborious manual task.

A few years ago, the Biomedical Computer Laboratory at the School of Medicine, working with the Department of Radiology, began developing a computer to do this treatment planning. The result was the Programmed Console (P.C.), a small digital computer with a number of added features, which now has been in clinical use for more than a year at the Mallinckrodt Institute of Radiology, serving patients within the Barnes Hospital group as well as outpatients from other institutions and clinics.

Last fall, a program funded by the Bi-State Regional Medical Program was begun to extend the services of Washington University's computerized treatment planning to twenty institutions in Missouri and Illinois.

To understand the significance of this development, it is necessary to have some background on what's involved in planning radiation therapy for the cancer patient using external beams of radiation such as x-rays. Often two or more beams are aimed at different angles so that they intersect at the tumor, thus giving the tumor, through this interaction, a higher dose of radiation than a single beam could safely produce. A treatment plan involves determining which beams to use and at what angles and distances to place them.

Each source of radiation such as an x-ray machine has an isodose chart—a graphic description of the pattern of the radiation which it emits. For each modification of the source such as with filters, there is also an isodose chart. In working up a treatment plan, when more than one source of radiation is to be used, the radiotherapist, his resident, or a well-trained technician must work from these individual charts to produce another isodose chart to describe the composite distribution of radiation produced by the interacting beams.

This chart is actually a pattern of lines representing degrees of radiation. From it the radiotherapist can tell where the radiation is high or low and if too much is reaching healthy tissue. If the chart representing a given composite dose is not satisfactory, it must be scrapped, the angles of radiation beams changed, and another chart drawn up. Actual treatment can begin only after a satisfactory plan is prepared. Doing this manually is very laborious, and more complicated charts may take several hours to prepare. With the P.C., however, a treatment plan using two beams that takes a skilled person thirty minutes to work up can be produced in about ten seconds.

First step in preparing a treatment plan is to make a contour of the patient's body at the region of the tumor. One of the methods for doing this is to form a strip of lead around the body and then trace the lead shape onto paper. Before the P.C. adaptation, the radiotherapist would manually superimpose the isodose charts on this body contour (within which were drawn the tumor and any vital organs near by) to see how the radiation would be distributed.
Before a cancer patient is treated with radiation, a plan must be calculated to determine what the placement of the x-ray or other radiation beams should be. This task takes much time and work. Cooperation between the Biomedical Computer Laboratory and the Department of Radiology at the School of Medicine has resulted in the development of a computer setup that prepares these plans in a fraction of the time it used to require.

A technician in the radiation therapy division uses a P.C. to prepare a treatment plan. By manipulating the set of knobs on the keyboard, she can try numerous beam positions. Representations of the beams and the body outline are displayed on the screen above.
To make the computer "see" this contour, however, is another matter. Therefore, a device called a position transducer was built. The operator uses it to trace around the paper outline, which has been prepared in the standard way, and the computer then converts that outline to numerical data that can be stored on magnetic tape on a card. When this card is put into the P.C., the patient contour, with location of tumor and vital organs, will show up graphically on the computer's oscilloscope screen.

Ways have also been devised to transform the graphic isodose chart of each radiation source into numerical form. Thus, a representation of a radiation source is also contained on a card for use by the computer—one card for each available radiation source or its modification.

After the computer receives the data from the patient contour card and from a card for each of the beams to be used, treatment planning can begin. By switching to another program, the P.C. operator can then superimpose on the patient outline a graphic representation of up to six beams. By moving a set of knobs, he can vary the angle and position of a beam as he aims it at the tumor. The computer can then calculate the isodose pattern produced by the beams as he has positioned them. If the pattern is not suitable, he can easily try again.

After arriving at a good treatment plan, judging from the screen pattern, an option in the computer program enables him to get a screen display telling him how far and at what angle each beam is from a given reference point. A device called a digital plotter can then draw on a piece of paper the pattern on the P.C. screen as well as print all angles and distances. This represents a permanent record of the treatment plan, and the patient can now be treated. Information on the beams can also be
stored on a card to recreate this plan if necessary.

The original stimulus for the development of the P.C. came from Dr. William E. Powers, professor of radiology, currently on leave of absence with the National Cancer Institute. About five years ago, aware of the computer's potential for solving some of radiotherapy's problems, he had worked with Dr. Tom L. Gallagher, now director of the University's Computer Facilities, to write a program which would enable a computer to determine the distribution of radiation from radioactive needles surgically implanted in cancerous areas. The calculated results were excellent, but, using a big computer, it was a major undertaking to get cards punched and the program run. Furthermore, the answers were in numerical form from which treatment plans had to be sketched before they could be meaningful to the radiologist.

Independent of this effort was a course in computer design offered one spring semester to electrical engineering graduate students by Drs. Wesley Clark, director of the University's Computer Systems Laboratory, and Jerome R. Cox, director of its Biomedical Computer Laboratory. During the final part of the course, the students had to design and build a computer. After four weeks and many late hours, two computers of the same basic design were produced. Each was dubbed a "4W2," or Four-Week Wonder, a la "TW3" for "That Was the Week That Was," then a popular television show.

The following summer, V. W. Gerth, Jr., then a graduate student who had been head of one of the groups designing the 4W2, was working at the Biomedical Computer Laboratory. At Dr. Powers' suggestion, he wrote a program for the 4W2 for the plotting of isodose contours.

"Bill Powers, who is a man of great, great enthusi-

Close-up (left) of a screen display shows three radiation beams intersecting within the outline of a cross section of a patient's body. The tumor and vital organs nearby are also shown. After the operator has positioned the T-shaped beams as desired, the P.C. calculates the radiation pattern which they would produce. This pattern is subsequently displayed on the screen and enables the operator to judge whether a plan of treatment using those beam positions would be suitable. If the plan is satisfactory, the computer can display the distance and angle of each beam from a given reference point. If a set of beam positions produces a screen pattern that is not satisfactory, the beams can easily be changed to other positions and new patterns of radiation dosage displayed.
as m," Dr. Cox recalled, "thought this program was just what he wanted for the radiation implant work."

Some time later at a scientific meeting, Dr. Cox happened to show some pictures of the contours produced on the 4W2's oscilloscope screen to the doctor from the National Institutes of Health who administered the grant to the two computer laboratories. He was very interested and encouraged further development of the idea. Later, an NIH advisory committee met and offered to make money available to develop several of the computers which could then be lent to cancer treatment centers around the country.

Dr. Cox agreed to go ahead. In reviewing what had to be done, it was evident that the 4W2 design needed change. So, during Christmas week of 1965, Dr. Cox designed the Programmed Console with Mr. Gerth's assistance. A prototype unit was built and running by February—something of a speed record for getting a computer design operative.

Four institutions besides Washington University were originally selected to participate in the use of the P.C. Another was added later. The first commercial models came out in the fall of 1966, built by SPEAR, Inc.

During 1966 and 1967, Dr. William F. Holmes, an assistant professor at the Biomedical Computer Laboratory, developed the major programs. Many others contributed to the programming effort.

By that time, the thrust of the design had changed from calculating radiation dosage from internal implants of needles to calculation of dosage from external means such as x-ray beams. "This emphasis was changed because the major fraction of radiation therapy is by external means," Dr. Cox said, "People were not finding the P.C. clinically useful because of a few early design decisions, so we got busy and modified the programs and equipment." At this stage of development, Dr. Roy E. Bentley, a visiting scientist from London, was very helpful in determining the accuracy of the calculations using the P.C. By the spring of 1968, it was useful clinically.

The matter of going from a graphic input (the patient contour) to a graphic output (the treatment plan) was a complicated new approach to the clinical use of a computer in radiation treatment planning. Yet it was necessary to realizing one of the design goals—to make the data that had to be handled, whether that data was going into or coming out of the computer, similar to that which the radiotherapist was accustomed to handling.

Thus, there is no need to have a computer staff. The radiotherapist can work directly with the computer. His ability to interact, bringing his medical expertise into play through manipulation of the beam knobs, is one of the novel features inherent in the P.C. design. He actually decides a radiation treatment plan and the computer relieves him of the drudgery of its calculation. "As engineers, we have only automated technical details, but left medical judgment up to the doctor," Mr. Gerth said.

Others had previously tried to use larger computers for such planning, but found them inconvenient and expensive for a number of technical reasons. Comparisons between hand-produced isodose curves and those calculated with the P.C. have agreed very well. Further critical evaluation is presently underway.

Since the P.C. makes it possible to produce these diagrams of radiation distribution simply and quickly, it is more practical to produce more accurate and individualistic plans. "The doctor can manipulate the beam knobs, analyze and compare the shortcomings of one plan versus another," Dr. Carlos A. Perez, associate professor of radiology, noted. "Hopefully, this will result in patients being treated better and more cures—a general upgrading of radiation therapy."

The interaction between the P.C. operator in the manipulation of beams and the almost immediate display of the radiation dosages those beams represent also makes it possible for an intelligent person with no previous computer experience to learn its operation. Thus, the P.C. is a very useful teaching tool.

"For training, it's tremendous," Dr. Perez said. "It allows a number of alternative plans to be generated in a very short time at a low cost. At the longest, it takes five minutes to get a plan on the computer. It could take a technician a half-hour to work one up."

The trainee doesn't have to perform time-consuming calculations, therefore, but instead can concentrate on learning how to get the highest dose to the tumor and the least to healthy tissue.

For more complicated situations such as the radiation distribution of radioactive sources surgically implanted.
in the body, the P.C. is also designed to work in collaboration with a larger computer. An earlier program for computer calculations of such implants, as mentioned earlier, had several drawbacks. By working with the P.C., the time required for an answer is reduced to the point where it may be possible to keep the patient in the operating room under anesthesia until the dosage of the implants is checked out. If necessary, readjustment of the radiation sources can then be made.

The advances in treatment planning made possible with the P.C. are not restricted to only the largest of medical centers; the average radiotherapy department can afford to purchase one. Smaller hospitals with more limited facilities and fewer patients to treat, however, cannot justify the cost. Therefore, a plan was devised whereby the services of the P.C. at Washington University could be made available to such smaller institutions. Using a Xerox telecopier, a device for transmitting graphic information over telephone wires, therapists at a smaller hospital can send conventional patient outlines and descriptions of the radiation beams they want to use. An exact copy of this information is produced at a telecopier in the University's radiation therapy division. The P.C. is then used to calculate a treatment plan, which is returned with the telecopier.

For three years, the radiation therapy division had such a project with six institutions sponsored by the American College of Radiology. Last fall, this service was expanded to twenty institutions in Southern Illinois and Missouri with funding by the Bi-State Regional Medical Program. There are also private arrangements for similar service with institutions in Oklahoma, Arkansas, and California.

"We prepare about 100 to 120 treatment plans per month for other institutions," Dr. Perez said. This represents about 75 percent of all plans prepared in the division.

Dr. Powers initiated the proposal resulting in the Regional Medical Program funding. The three-year grant supports the "Cooperative Regional Radiation Therapy Development and Support Program" which is directed by Dr. Perez. Through this cooperative approach, it is hoped better overall treatment of cancer will be provided. The program consists of three separate, but closely coordinated efforts.

First is the Physics and Treatment Planning Center under Dr. Arnold Feldman, a radiation physicist and assistant professor of radiology. The Center does treatment planning for the participating institutions. "There is presently no charge for this service, which is one of the main contributions of Washington University to the project," Dr. Perez noted at the first meeting of the participants. Plans also call for the Center to provide other treatment aids and services to radiation therapists.

"This project," Dr. Wendell G. Scott of the Scott Radiological Group in St. Louis has commented, "is the first of its kind to be developed and funded in this country. It represents a radical change in the thinking of radiation therapy for the improved treatment of cancer patients not only in our area, but in the entire country."

The second facet of the Regional Radiation Therapy Program is to provide various levels of continuing education for x-ray technologists. Dr. Perez and his colleagues are working closely with Ellis Fischel Cancer Hospital, Columbia, Mo., in this training.

A third project under the direction of Dr. Leonard J. Tolmach, professor of radiology, will involve teaching radiation biology to residents or trainees in radiology as well as to practicing radiologists.

"The Regional Medical Program," Dr. Perez said, "is trying to make the facilities and advantages in a big medical center available to all the people."

In a recent article, Dr. John H. Knowles of the Massachusetts General Hospital (and a graduate of Washington University's School of Medicine) stated: "Cancer deaths have been rising recently at an annual rate of about two percent, and the increasing demand for radiation therapy has at least equalled this and more probably exceeded it as cancers are detected earlier and newer methods of therapy prolong life or result in cures in increasing numbers of patients."

"Short of solving the entire riddle of cancer," he noted, "the need for radiotherapy and radiotherapists will continue to increase."

The development of the Programmed Console and its expanded use through the Bi-State Regional Medical Program should be a significant help in meeting this growing need.
Earth Scientist Leroy Scharon has returned to Washington University from a sixteen-month sojourn in Antarctica as the only American at a Soviet scientific station. As an exchange scientist assigned to the Russian bases, Professor Scharon learned a great deal about the Antarctic—and he learned a great deal about the Soviets and about how people of different ideologies can work together in harmony and peace.

As part of his research in rock magnetism and paleomagnetism, Professor Scharon drills into the frozen Antarctic soil. Glare on snow made sunburn more of a hazard than frostbite.
ON A COLD, CLEAR night in early September, 1968, two men were standing on an ice-capped field at the bottom of the world contemplating the heavens. Shining above them in the Antarctic sky was our sun's nearest stellar neighbor, Alpha Centauri. Standing in the bitter cold, the men discussed the possibility of intelligent life on a planet in the solar system of that bright star 4.3 light years away.

If there were intelligent life on such a planet, they speculated, it could have advanced far beyond ours, and the answers to the problems that plague mankind might seem simple and obvious to creatures of such great intelligence. But then the two looked at each other with the realization that no hypothetical Centaurians were going to solve man's problems. There on the frozen wastes of Antarctica, the two men agreed that they must have a common faith in man's ability to solve his own problems if he is to live in peace on this planet.

Who were these two men? One was a cosmic engineer from the Leningrad Arctic and Antarctic Research Institute—a citizen of the Soviet Union. I was the other man—an exchange scientist representing the National Science Foundation and Washington University—a citizen of the United States.

The understanding that came to me that my Soviet colleague and I shared the faith so essential to bring peace to mankind was one of the most important experiences of the sixteen months of communal living I spent with the Soviets on the barren, windswept, icebound wastes of the vast continent of Antarctica.

Antarctica, a continent of some five million square miles covered with an ice shield seven million cubic miles in volume, has taken diabolic delight in pitting its hostile environment against man's aspirations to conquer its vastness. But it is there, in spite of Antarctica's lack of cooperation, that men of all nations may move freely, exchange ideas and hopes and desires, and work together in international scientific investigation.

I had joined the Soviet Union's Thirteenth Antarctic Expedition at Dakar, Senegal, in late November, 1967, to carry out scientific investigations of the geomagnetic field both of the present and of the ancient past. From Dakar, we progressed southward aboard the Soviet oceanographic vessel Professor Viese, one of seven identical ships built in East Germany a year earlier.

Life aboard the Viese dispelled any uncertainty or anxiety with which I might have approached my assignment. My identity as a foreign guest was soon lost, and I became a fellow worker. In the course of the next sixteen months, I was to have the privilege of sailing on another Soviet vessel, the Ob, around the Antarctic continent, following much the same path that Captain Cook took in 1773. I was also privileged to live at three Soviet Antarctic coastal bases—Mirny, Bellinghausen, and Molodezhnaya.

During this long period, I worked with scientists and engineers in many disciplines involving geophysics, upper atmosphere research, and biological and medical investigations. Life and fellowship with these men, as well as with many construction workers of various trades, was a tremendous experience.

Both the men and women of the Soviet Expedition were eager to learn about the United States, its physical features, its history, and its people. Matching their zeal, I tried to share with them all I knew of our country, and I am still doing so through correspondence.

A MAJOR SOURCE of the information about the United States that I shared with my Soviet colleagues came from National Geographic Magazine. I took to the Antarctic with me some fifty recent issues of the Geographic, and if that publication's pictures and texts can satisfy man's hunger for knowledge, I provided the station with a rich source of food. The Geographic was so popular with the men that it was listed as one of their first choices for the free magazine subscriptions the Soviet government offered to all Soviets wintering in Antarctica. Unfortunately, word came later from Leningrad that all
Yet, the Soviets in Antarctica showed only genuine concern for my son and me. I could not have received more solicitude from my own countrymen. When the start of the peace conference in Paris was announced, there was a noticeable relaxation among all of us. My Soviet friends came to me with happiness in their faces and seemingly lighter hearts, assuring me that we should not worry, for the war would be over soon!

My daughter expressed the paradox best, however, when she wrote, "I don't understand this at all. David is fighting the communists while Dad is living, cooperating, and working with them."

The Assassinations of Robert Kennedy and Martin Luther King produced among us an atmosphere that truly reflected the hopelessness of modern civilization. I was overwhelmed by the tragedies and couldn't even attempt an explanation. The Soviets quickly assured me that such senseless and violent crimes could not occur in the Soviet Union because firearms there were under strict control. Imagine their embarrassment several months later when Radio Moscow brought them the news of an attempt on the life of one of the Soviet cosmonauts by an armed assassin!

While at Soviet stations or on their ships in Antarctica, I had access only to Soviet literature, political writings, newspaper, and cinema, except for the reading material I brought with me. I read all the Soviet literature avidly to attempt to learn just what Soviet citizens were being told about the United States. Soviet writers do not hesitate to blast our economic views, embellish our race problem, and expand on the terrible state of our cities, but I was constantly amazed at their antiquated view of our society. My Soviet colleagues constantly chided me about my ability to purchase stock in American companies, where I could "acquire wealth at the expense of the American working man." They condemned the American practice of putting money in banks to earn interest, apparently with no idea of the millions of American workers with bank accounts.

The banking discussion came to a sudden end one day, however, when I was examining the station's signpost. The sign gave in Russian and in kilometers the distances to the South Pole, Leningrad, Moscow, and New York. An additional marker confused me, however, for it gave only a numerical designation and a distance of only a few kilometers from that of Leningrad. But this last designation was not a town—it was the distance to the nearest bank in Leningrad. What do they do with such banks? Why, they deposit money and draw interest. The sign gave in Russian and in kilometers the distances to the South Pole, Leningrad, Moscow, and New York. An additional marker confused me, however, for it gave only a numerical designation and a distance of only a few kilometers from that of Leningrad. But this last designation was not a town—it was the distance to the nearest bank in Leningrad. What do they do with such banks? Why, they deposit money and draw interest. The sign gave in Russian and in kilometers the distances to the South Pole, Leningrad, Moscow, and New York. An additional marker confused me, however, for it gave only a numerical designation and a distance of only a few kilometers from that of Leningrad. But this last designation was not a town—it was the distance to the nearest bank in Leningrad. What do they do with such banks? Why, they deposit money and draw interest.

Shortly after this, Radio Moscow announced in a broadcast on the hundredth anniversary of Lenin's death that the incentives of the Western economic system would be incorporated into the economics of the Soviet Union. Well, the American system cannot be all that bad after all.
The Soviet research vessel, the Ob, in which Professor Scharon sailed around the Antarctic continent, following much the same path Captain Cook took in 1773.

Scharon and his Soviet colleagues lived for months in this snug dormitory at the Russian station of Molodezhnaya. The building accommodated fourteen men.
What do the Soviets read about higher education in the United States? An article in the Soviet magazine *International Affairs* assures its readers that "The universities in the United States have been losing their reputations as the breeding ground of the intellectual elite and the source of liberal thought and are becoming more and more an appendage of the industrial-financial complex for which they supply skilled labor." The article concluded "that capitalism has done everything to turn the intellectuals it trains into obedient servants of bourgeois society."

One may read much about World War II in Soviet sources. *The Army that Defeated Fascism* gives the official Soviet interpretation of "the historical role of the Soviet Army, which has upheld the independence of the country, fighting the enemy single-handed, and paved the way for the victory of the freedom-loving people in the second world war. The Soviet Army dealt the decisive blow at the armed forces of Hitler Germany, thereby performing an outstanding feat in the name of mankind." Not one mention is made of the other countries that fought the Nazis or of any of the aid or assistance given Russia by the United States.

What are the Soviet attitudes toward American youth today? Their writers quote Lenin's observations that students are receptive to revolutionary ideas and are prepared to spark the protest and demand absolute change. Lenin said that from the Communist viewpoint the revolutionizing of students and their ideological unity means first "spreading social-democratic ideas among the students and combatting ideas which, although called Socialist-Revolutionary, have nothing in common with revolutionary socialism, and secondly, endeavoring to broaden every democratic movement, the academic kind included, and make it more conscious and determined."

But it's all quite different when you talk to individual Russians. We must remember that in their country of more than 200 million only about twelve million are Communist party members and only a small minority of those can be thought of as hard-core communists. The Soviet people I met did not hesitate to tell me that they felt closer to the Americans than to any other people in the world.

My colleagues at the station were extremely given to asking loaded questions about America. One such question was, "What would you do if your daughter wanted to marry a black man?" My answer was not what they expected. I replied that race, color, or creed would have nothing to do with it; all that would matter would be what kind of a man my daughter was choosing: what was his potential, his promise, could he be trusted? I learned later that the same question was put to another American exchange scientist a few years back and that the answer was quite different.

The Soviets are quite familiar with the "Ugly American," both the book and the stereotype. I was always being asked if I were a millionaire and how many rooms did I have in my house and how many cars did I own. I told them that I was a millionaire only in terms of the things that really make a man happy: his family, his job, and his freedom.

Wherever I was in Antarctica, I made it a point to be willing always to assist in any job, no matter how menial. In turn, the Soviets constantly helped me in my work. They were interested in my problems of rock magnetism and paleomagnetism and did everything to help me. In Antarctica, cooperation is natural and essential. If you fail to help your fellow-workers whenever you can, you will never get your own work done. This spirit of teamwork is the secret of success anywhere—not just in Antarctica.

Communication with the Soviets was easy, but it did have some peculiar problems. The Soviet people in Antarctica, representative of their nation, included Siberian Indians, Eskimos, Russians, Uzbekians, Mongols, Ukrainians, and many others. They all spoke Russian, but in a wild assortment of dialects. Of course, with few exceptions, most Soviets know some English. To the Soviets, English is almost an obsession, and I found that my whole day could be taken up with formal English lessons if I weren't careful. I would like to think that I managed to strike a delicate balance between teaching English and learning Russian.

There was a real feeling of comradeship in Antarctica that transcended differences in nationality or background. Alone at the bottom of the world, we shared our hopes and desires and trials and tribulations, and we came to know each other's families through exchange of pictures. During one period when I was extremely ill, two young men stood at my bedside inquiring about my condition, and I can still remember the look of genuine concern on their faces. I shall never forget this human bond, and no matter what the ultimate outcome of our international situation, these men will always remain close to me.

Sixteen months in Antarctica could drag on interminably, but the work was fascinating, the surrounding country was a source of endless interest, and my colleagues were a fun-loving, humorous, musical group that made the time fly. They made spirited mental battles of chess games and drove dominoes onto the playing tables with loud snaps and boisterous laughter. Just to watch their hard play was relaxing, as was their singing of folk music and war songs to the accompaniment of the accordion or the balalaika.

Just as enthusiastic was their participation in sports of all kinds. During the celebration of their national holiday on November 7, the Soviets formed two teams to repre-
sent Leningrad and Moscow and played a soccer game as fiercely fought as the real national match back in Russia. Imagine my role as the lone American serving as referee and being forced from the first whistle to penalize rough players. The climax came in the evening during the traditional Revolution Day banquet when I was presented with a book of poems by Lermontov with an inscription on the flyleaf to a “fair and just American referee.”

We spent most of February on the western end of King George Island in the Antarctic Peninsula. Here the Soviets established a new scientific base, Bellingshausen, named after a famous Russian explorer who sailed into the Antarctic seas and discovered land in 1817. In one month the station was completed, including the construction of a diesel-electric power station, a small hospital, a radio-restaurant-headquarters building, a meteorological complex, and laundry and bath facilities. The men worked with a minimum of simple tools, usually just axes and saws. Holes, instead of being drilled into the foundation logs, were burned through with heated iron rods. To measure distances, Soviet safety matches (exactly three centimeters long) substituted for rulers. I was reminded of President Kennedy’s observation that “the Soviets sacrifice today for a better tomorrow.”

MY MEMORIES and, yes my heart, hold many lasting impressions of my Soviet friends. The friendship will last if the freedom expressed in Antarctica is allowed to continue now that we are at home. I will never forget my leave-taking; the many firm handshakes, the promises to write, the genuine Russian hug and kiss.

I’ll remember especially the Fourth of July celebration the Soviets tendered my country and me, and how it brought home to me for the first time in my life the real significance of that date in 1776. I’ll cherish forever the testimonial the Soviets presented to me that day. It read:

“Though far from your homeland, you display the courage of a lofty purpose and share with us, as a comrade but not a guest, all the difficulties of Antarctica. We express our satisfaction that your scientific work at the station is useful for the study of the planet Earth. We hope that you will carry a sincere memory about us as an example of a creative concord and friendly relation.”

Now that I am home the question has been asked many times, “Would you do it again?” I can answer yes, without hesitation. It was an unusual and successful period of comradeship and scientific cooperation, of understanding and learning. I learned to know the Soviet people as one of the friendliest in the world and I learned that, regardless of political systems, it is possible to work with them and enjoy everyday life together. It is something I wish all citizens of both the United States and the Soviet Union could experience.
On December 10, Senator J. William Fulbright, chairman of the Senate Foreign Relations Committee, delivered his first major address on Vietnam in more than a year as the annual Thomas C. Hennings, Jr. Memorial Lecture at Washington University. Because it was a major policy statement that has attracted widespread attention throughout the country, we are presenting here a partial text of his address.

**THE WAR AND WHY WE MUST END IT**

—Senator J. William Fulbright

In his speech of November 3 President Nixon spoke of the “right of the people of South Vietnam to determine their own future” as the single American war aim which is not negotiable. “Let historians not record,” declared the President, “that, when America was the most powerful nation in the world, we passed on the other side of the road and allowed the last hopes for peace and freedom of millions of people to be suffocated by the forces of totalitarianism.”

The President’s words are a reasonable expression of the official theory behind our war in Vietnam. Like many theories, however, it does not tell us much about the practice. To remedy that omission a few additional quotes are necessary—such as the following:

“They just marched through shooting everybody. Seems like no one said anything—they just started pulling people out and shooting them. They had them in a group standing over a ditch—just like a Nazi-type thing.” These words are an eye-witness’ description of the alleged massacre at Song My.

I recall to you also the now famous words of an American major after the Tet offensive in 1968: “We had to destroy Ben Tre in order to save it.” This statement comes as close as any I have heard to summing up the theory and practice of America’s war in Vietnam. It may stand some day as Vietnam’s epitaph.

American intervention in Vietnam never has been rationalized primarily in terms of indigenous Vietnamese considerations. It was said—and is still said—to be an exemplary war—an object lesson for the makers of “wars of national liberation,” and a war designed to inspire worldwide confidence in America through a demonstration of fealty to our presumed commitments. For these great purposes it has been judged necessary to make use of the Vietnamese people—or at any rate the “silent majority” of the Vietnamese people—as pawns—luckless expendables in a test of America’s will.

Mr. Nixon has long subscribed to this theory of an exemplary war. Early in his campaign for the Presidential he made reference to Vietnam as “the cork in the bottle of Chinese expansion in Asia.” In the spring of 1968 he asserted that the war was “not for the freedom and independence of South Vietnam alone, but to make possible the conditions of a wider and durable peace . . . .” And in his speech on November 3 the President predicted that American withdrawal from Vietnam—our “defeat and humiliation,” as he chose to put it—“would spark violence wherever our commitments help maintain the peace—in the Middle East, in Berlin, eventually even in the western hemisphere.”

Rooted in the analogy of Munich, the idea took firm hold during the Johnson administration that, by fighting a relatively small war in Vietnam now, we were sparing ourselves a much greater war—or a whole series of wars—later on. This notion has been reaffirmed by President Nixon. Again speaking on November 3 of the consequences of “precipitate” American withdrawal from Vietnam, the President laid it down as a flat prediction that “ultimately, this would cost more lives. It would not bring peace. It would bring more war.”

With due respect for the President’s strong conviction, I submit that the theory of the exemplary war—a war to end “wars of national liberation”—is unsound.
Analogies are dangerous devices, giving people who take them very seriously an erroneous conception of their ability to read the future. Drawn upon in this way, the past is far more likely to deceive than to enlighten. History, as any good historian will tell us, does not really repeat itself in the sense of a pattern of events unfolding in one set of circumstances in exactly the same way that they did in seemingly similar circumstances in the past.

All that history can ever provide is a general insight into the broad tendencies of political behavior and a certain sense of what is and is not possible in human affairs. History can endow us with wisdom but never prescience, because nothing is foreordained. There may, for example, be certain similarities between Hitler's design for conquest and Mao Tse-tung's concept of wars of liberation, but whatever element of truth there may be in the analogy, there is a larger element of untruth. For one thing, Hitler acted on his plan, while Communist China is neither participating in the Vietnamese war with her own troops nor otherwise engaged in military activities anywhere outside of her own borders. This as a significant flaw in the Mao-Hitler analogy.

Expanding on the exemplary war thesis, President Nixon expressed the opinion on November 3 that calling off our war in Vietnam "would result in a collapse of confidence in American leadership not only in Asia but throughout the world." The President's own chief foreign policy adviser, Mr. Kissinger, effectively challenged this proposition in an article written shortly before he went to work in the White House. "Whatever the outcome of the war in Vietnam," he wrote, "it is clear that it has greatly diminished American willingness to be-

"... the Chinese challenge in south Asia is more political and cultural than military ... a strong independent communist regime is a more effective barrier to Chinese power than a weak non-communist regime ..."

come involved in this form of warfare elsewhere. Its utility as a precedent has therefore been importantly undermined."

Wedded as they have been to the idea of Chinese communism as a conspiracy for the conquest of Asia if not of the world, our policy-makers have been more than resourceful in disposing of facts that do not fit the cherished preconception. Conceding in principle that the world communist movement is divided, and that North Vietnam is not merely a pawn of China, our policy-makers nonetheless invoke these very specters in their efforts to justify our involvement in Vietnam.

Mr. Rusk used to warn of a "world cut in two by Asian communism." The President's speech of November 3 was suffused with associations of this kind, including a reference to "those great powers who have not yet abandoned their goals of world conquest." For whatever their reasons—conviction, pride, or dogmatic anticomunism—our policy makers have never been willing to recognize the Vietnamese conflict for that which virtually every expert and seasoned observer has long recognized it to be: a civil conflict in which communism is and always has been secondary to the drive for national independence.

As the former Secretary of the Air Force, Mr. Townsend Hoopes, put it in his excellent memoir on the reversal of the Johnson escalation policy:

"What really drove Ho's sacrificial legions was not the dream of world conquest, nor even the notion of generating a new momentum for Communist advance and triumph throughout Asia. What motivated Hanoi and enabled its leadership to hold nineteen million primitive people to endless struggle and sacrifice against odds that were statistically ludicrous was the goal of national independence."

Once it is clear that the war in Vietnam is neither a valid global testing of the liberation-war doctrine nor a proxy war in a grand Chinese strategy for the conquest of Asia, it follows inescapably that the United States has been fighting a war without need or justification—a war based on demonstrably false premises.

My own premise of course is that our legitimate interest in southeast Asia is not ideological but strategic, having to do not with the elimination of the Vietcong or of any other indigenous communist movement but with the discouragement of overt Chinese military expansion.

The prevalent view among southeast Asian specialists outside of government is that the Chinese challenge in south Asia is more political and cultural than military, that a strong independent Communist regime is a more effective barrier to Chinese power than a weak non-Communist regime, that the Hanoi government is nationalist and independent, and that, accordingly, once peace is restored—if ever it is—North Vietnam will serve as a barrier rather than as an avenue to Chinese expansion.

On the basis of their grudging, minimal contributions to the fighting in Vietnam it would appear that our Asian and Pacific allies either do not take the ostensible threat to their own security very seriously or are content to have the United States do their fighting for them. Of our nominal allies Thailand is the closest geographically to Vietnam; it is challenged by a minor communist insurgency within its own borders and its leaders have been effusive in their enthusiasm for the American involvement in Vietnam. Nonetheless, we have paid the Thais an enormous sum in military equipment and financial support, including salary bonuses and PX privileges for their soldiers, to get them to send a force to Vietnam which at its maximum reached twelve thousand men.
South Korea has provided 48,500 tough, effective combat soldiers, with the United States paying for everything above the base pay of the troops: premium pay for combat, food and shelter, logistic support—and generous additional support for the Republic of Korea's home army.

The Philippines, after haggling and entreaties, sent a noncombatant engineer battalion of about two thousand men to South Vietnam in 1967, for which the United States gratefully agreed to bear all costs in addition to maintaining military assistance to the Filipino home force. President Marcos recently announced his intention of withdrawing the Filipino battalion from Vietnam.

Australia, which raised an army of 682,000 in the Second World War, has, at its own expense, provided a token force of 7,600 men for Vietnam; more, quite obviously, as an investment in Washington's gratitude than as a serious contribution to the war. New Zealand, which had raised an army of 137,000 men in World War II, provided what Townsend Hoopes describes as the "astonishingly token contribution of 450 men"; it has since been increased to 550 men. Both Australia and New Zealand have been rewarded with lavish praise and gratitude from the United States.

Gratitude for what? For making a tiny contribution to what they themselves consider their own defense? For patting America on the back at a time when most of the world was pelting us with epithets? How has the United States, the greatest and strongest nation on the face of the earth, been reduced to such pitiable gratitude for such small favors? The answer, it appears, is yes, and the reason, according to our policy-makers, is that the United States has global responsibilities which compel us to bear burdens which no one else will bear.

Then the familiar image is invoked: of America, the martyrred giant, manning the ramparts of freedom, humoring the recalcitrance and enduring the insults of those who are free from the "discipline of power," bearing without complaint the unfair burdens which destiny has thrust upon us. Diplomats have described this role as the "responsibility of power"; others have called it imperialism.

I call it nonsense. Power is a narcotic, a potent intoxicant, and America has been on a "trip." We soared for a while, gladly dispensing goods and services for the tribute which nourished our vanity. Then our un piloted space ship came down in the swamps of Vietnam, and suddenly, instead of soaring, we found ourselves slogging in mud. The contrast could not have been greater and it has shocked and confused us. We must hope that it will also have sobered us, and that we will be able to find our way out of the swamp, not, let us hope, to take flight again, but just to get back on our feet, which is the posture that nature intended for us.

To get back on our feet we will have to shake off the lingering effects of the narcotic of power. For a start we might stop the proudful nonsense about "defeat" and "humiliation." Liquidating a mistake is neither a defeat nor a humiliation; it is a rational and mature way of accommodating to reality, and the ability to do it is something to be proud of.

When President Johnson used to declare that he would not be the first American President to lose a war, and when President Nixon warns, as he did on November 3, against "this first defeat in American history," they are not talking about the national interest but about the national ego and their own standings in history.

As to their own personal roles, both the incumbent President and his predecessor seem to have subscribed to an essentially military view of history's judgment. "History," as they have invoked it, is a kind of divine magistrate, lavish in its praise of victors and scornful of all losers. To some extent that is probably true—witness the glorifications of despots like Caesar and Napoleon—but if it is true, all it shows is that historians, like laymen, employ some primitive standards in judging their fellow men.

Everybody knows that we could "win" in Vietnam; we could wipe that poor country and every living thing within it off the face of the map. What would "history" have to say about that?

The stakes of the war in Vietnam have been debated, without resolution, for five years. In recent weeks we have learned something about the way the war is being fought. What emerges from the atrocities, from the destruction of whole villages by artillery and B-52 raids, and from the indiscriminate killing of the "free fire" zones is the picture of a war whose means have consumed its ends. As the major said of Ben Tre, we are having to destroy Vietnam in order to save it.

A whole new set of questions now arises. Even if all of the rationalizations for this war were valid—even if it were containing China, preventing future "wars of national liberation," and upholding the principle of self-determination—would we have the right to do what we are doing to the people of Vietnam, and to ourselves in the process?

I am not advocating an exercise in national flagellation. Quite a number of people—I among them—suggested the need for a national effort at critical self-evaluation after the murder of President Kennedy. It seemed appropriate at the time but nothing came of it. We did not look into ourselves and, instead of the cathartic reorientation that we hoped might come of the shock we...
had experienced, there has occurred over the last six years a rising tide of both personal and political violence in American society.

Arousing as it does our natural defenses, guilt is simply not very useful as a means of eliciting serious introspection. The people who are most willing to feel guilty are usually blameless humanitarians; perhaps, for some reason, guilt has a certain attraction for them. The rest of us are usually satisfied to rationalize, improvising whatever arguments are necessary for self-justification.

If we really want to understand the meaning of the Song My massacre and all the other acts of indiscriminate killing in Vietnam, we are not going to do it by declaring a national day of atonement. That might satisfy other needs but it is not likely to result in the acquisition of accurate and useful information about ourselves. That can only come from an appreciation—as guiltless an appreciation as possible—of the common human susceptibilities with which every one of us—old and young, communist and noncommunist—is endowed by the simple virtue of being human.

I have had the impression of a certain Puritanical stiffness on the part of many young people, a certain reluctance to face the likelihood that deep in the soul of the most high-minded student activist are some of the same fears and longings that lurk within the soul of the most ravenous, bloodsucking, imperialist warmonger.

The really important and useful thing to know about Song My is not the unspeakable things that certain GI’s did but the unspeakable things that most human beings are capable of doing in extreme circumstances. The American soldiers who wiped out the civilian population of that Vietnamese village were not monsters but ordinary young men acting under the pressures of intense fear and anger.

These atrocities in Vietnam, committed by Americans, must be taken as a warning and a symbol of what can happen to a whole society. We are, I believe, far short of the state of moral disintegration that Germany reached in the 1940’s, and I am all but certain that we will not descend into that abyss. It is not, however, utterly and eternally out of the question.

I would not want the perpetrators of the Song My massacre let off. On the contrary, I want them tried and, if guilty, punished—not for retribution but for deterrence, not because they are different from the rest of us but because they are so much like the rest of us, because what they have done almost any of us could have done.

President Nixon said one thing in his recent speech with which I agree. He said that “North Vietnam cannot defeat or humiliate the United States. Only Americans can do that.” In my opinion we have already done it, but I also think we can undo it—not with glory, because there is no glory in a charnel house, and not with “honor” in the sense in which soldiers use that term. But we can do it with dignity and we can do it with self-respect—the self-respect of human beings who have learned something about their own humanity and its terrible fallibilities. The question of course is how.

The Administration has a plan—so they tell us—for getting out of Vietnam. They won’t tell us exactly what it is, or exactly how it will work, or when it will be accomplished, but they insist that they have a plan. They call it “Vietnamization.”

“Lacking either a reliable army or the support of their own people, the Saigon generals have only one sole basis of power: their veto over American war policy. If they had anything like the same influence in Vietnam that they have had in Washington, Thieu and Ky would have beaten the Vietcong long ago.”

As defined in the President’s speech of November 3, “Vietnamization” means that American forces will be withdrawn gradually while the Saigon army is built up to take over a greater share of the war. How far this process will go remains unspecified.

Since it is all but inconceivable that the shaky Saigon army can hope to win the victory which half a million Americans and the Saigon army besides have been unable to win, it would appear that the best possible prospect for Vietnamization—“best,” that is, for Thieu and Ky and for the Nixon administration’s prestige—is a continuing war of stalemate and attrition, with a reduced number of Americans reverting to their pre-1965 “advisory” role in a semi-permanent war of counterinsurgency.

For the Vietnamese people this of course would mean continuing terror and death for the indefinite future. That is the price which it is proposed to exact from them so that the Americans can withdraw with what their leaders conceive of as “honor.”

The crucial issue of the war is the character of the government which rules in Saigon. As long as American policy is committed to survival of the Thieu-Ky regime or one very much like it, “Vietnamization” will remain a euphemism for victory.

The weakness of the policy of “Vietnamization” is the weakness of the South Vietnamese government itself. Its claim to legitimacy is based on rigged elections and on an American-sponsored rather than an authentic Vietnamese constitution, which specifically bars all Communists from participating in the government. The electoral law barred “neutralists” as well as communists from running for office in the supposedly free election of 1967.

In his speech of November 3, President Nixon said
that "we really have only two choices open to us if we want to end this war": either "precipitate" withdrawal or, failing acceptance of our terms in the Paris peace talks, Vietnamization. The President, I think, is mistaken. There is a third and better option than either of these: the negotiation of arrangements for a new interim government in South Vietnam for elections conducted by the interim coalition regime with or without international supervision, and for complete American withdrawal.

The obstacle to such a negotiation is our continuing attachment to the Thieu-Ky government. If we could bring ourselves to deprive Saigon of its veto on American policy—as we could do without impairing either our own vital interests or, I daresay, the best interests of the South Vietnamese people—there would be no need either for the "precipitate" withdrawal which the President likes to talk about or for the condemnation of the Vietnamese people to prolong war, which is the true meaning of "Vietnamization."

There is good reason to believe that, in return for our agreement to an interim coalition government and to ultimate total American withdrawal from Vietnam, the Vietcong and the North Vietnamese would be willing to make significant concessions. They have already indicated that they would not expect total American withdrawal prior to substantive negotiations but only a commitment to a definite schedule for withdrawal. They have also indicated that a transitional government need not necessarily include members of the National Liberation Front.

In addition, the North Vietnamese government is on record as being willing to accept a neutralist, independent South Vietnam which they would not seek forcibly to reunite with North Vietnam. It should also be possible, in such a negotiation, to make arrangements for a general amnesty on both sides and for prevention of the "blood bath" which the Administration confidently predicts should the Vietcong ever gain power in South Vietnam.

To get these negotiations going, two things are required of the United States: our willingness to require Thieu and Ky to take their chances along with the other factions in South Vietnamese politics and our willingness to commit ourselves to a phased but total American military withdrawal from Vietnam.

We do not have to force such a settlement on the South Vietnamese government. We need only put them on notice that these terms have become our war aims, that we hope they will join us in negotiating their realization, but that, if they are not, we shall nonetheless negotiate the conditions of American withdrawal, while they, in turn, will be at liberty to continue the war on their own, to negotiate for new alliances, or to come to their own terms with the Vietcong.

If we did withdraw and the Army of the Republic of Vietnam, with its one million well-equipped soldiers, could then be inspired to defend the Saigon government, it would survive. If it could not be so inspired, then the South Vietnamese government would not survive. But we have done enough, having fought their war for over four years at the cost of over forty thousand American lives thus far.

As long as the Nixon administration adheres to its present position that it will "discuss" but not "negotiate" a settlement without Saigon's approval, thereby giving Saigon a veto on our policy, Mr. Thieu will have every incentive for continued adherence to his present uncompromising stance.

Lacking either a reliable army or the support of their own people, the Saigon generals have only one solid base of power: their veto over American war policy. If they had anything like the same influence in Vietnam that they have had in Washington, Thieu and Ky would have beaten the Vietcong long ago. The critical question therefore remains: Are we going to allow Saigon to continue to exercise this veto or are we going to give them the simple choice of joining us in making a compromise peace or continuing the war on their own?

Our basic asset, which neither the Johnson nor the Nixon administration has been willing to acknowledge, is that this war is not now and never has been essential to our interests, essential, that is, to the freedom and safety of the American people. The exact terms of peace do not, therefore, matter very much from the standpoint of American interests, but the early restoration of peace matters enormously, because every day that this war goes on the sickness of American society worsens.

Looking back on the history of Vietnam since World War II, if we had not intervened in any way either to support the French or to create the Diem Government, the nationalists would probably have achieved the independence of a unified Vietnam. It would have been achieved under the only authentic nationalist leader in modern Vietnamese history, Ho Chi Minh, and we would probably be today on as good terms with a unified Vietnam as we are with Yugoslavia.

After all this killing and destruction, and unless we remain in permanent occupation of Vietnam, the eventual outcome will probably be the same that it would have been if Americans had never gone to Vietnam. Our leaders may then suffer a loss of prestige, but our country will have recovered its self-respect.

"Our legitimate interest in southeast Asia is not ideological but strategic, having to do not with the elimination of the Vietcong or of any other indigenous communist movement but with the discouragement of overt Chinese military expansion."

SENATOR FULBRIGHT
Irving Mahnik, AB 50, JD 52, has built a collection of well over 1500 hours of old radio shows on transcription records and tapes taken from the radio programs.

Three giants of the Golden Age of Radio: Edgar Bergen, Charlie McCarthy, and threatening mayhem with the saw, the one and only W. C. Fields.
IRV MALNIK, TRACER OF LOST BROADCASTS

Can a graduate of the Class of 1950 find happiness with 1500 hours of old radio programs?

"I LOVE TO SPEND each Sunday with you..."
"Henryyy! Henry Aldrich!"
"Wanna buy a duck?"
"And now, Mr. and Mrs. North America and all the ships at sea—let's go to press!"

These and many others were the splendid voices of big-time radio broadcasting. For millions of Americans, they formed a vast chorale of adventure, music, comedy, drama. They brought all the glamour and glory of Hollywood and New York into everybody's parlor and living room. But the times have changed so drastically, has radio.

Those old friends who faithfully visited our homes to entertain us—Ma Perkins, Baby Snooks, Fibber McGee, Dr. Christian, Captain Midnight, and all their talented cohorts—are long dead and vanished, the hit-and-run victims of television. The great radio shows of the past belong only to memory. Many of the star performers have died, others are retired.

I recently discovered, however, that haunting echoes of radio's fabulous era of the 1920's, 30's and 40's still can be heard.

Last spring, the St. Louis Post-Dispatch published an article of mine called "The Golden Age of St. Louis Radio." It was a reminiscence of some of the leading personalities and programs of local broadcasting during those years when radio was king.

A phone call in response to that article not only re-united me with an old friend whom I had seldom seen in recent years, but also introduced me to one of the country's most unusual and outstanding collections of old radio programs.

The phone call was from Irving Malnik, A.B. '50, LL.B. (J.D.) '52, a classmate of mine at Washington University in the late 1940's and for one steamy summer a fellow usher at the St. Louis Municipal Opera.

Malnik, now a St. Louis attorney, said some kind words about my article, reminisced briefly about our student days on the Hilltop, and then told me—almost as an afterthought—that he had become a collector of old radio programs on tape and discs.

I had never heard of such a hobby. In fact, I wasn't aware that the great old programs of radio had been preserved through recording, since virtually all such programs were broadcast "live" and audio tape didn't come into general use until the 1940's.

Malnik assured me that many of them had indeed been saved and that he had developed quite an extensive collection. His collection has no particular monetary value, he said, but perhaps it would be of interest to a fan of old radio like me. I certainly was interested, although perhaps a bit skeptical about the scope of his collection.

I happened to think of a program I had especially liked, a relatively obscure series that offered some of the most imaginative dramatic writing ever heard on radio. This, I figured, would provide a good test.

"Do you," I asked, "possibly have any shows from an old series called 'Quiet, Please' that was written by a genius named Wyllis Cooper?"

"Sure," Malnik replied, matter-of-factly. "I have two or three of them."

This I had to hear, because that eerie, poetic program, off the air for many years, presumably had been lost forever. So I arranged to visit Malnik at his St. Louis County home and inspect his collection.

I came away convinced that Malnik's residence is not really just a house; it is actually Valhalla for all lovers of old-time radio. For there, neatly stacked on shelves, are virtually all the disembodied voices of radio's golden age.

GIVEN THE CHANCE, Stella Dallas will weep again, the Inner Sanctum's door squeaks as chillingly as ever, and Eddie Cantor renews his jousts with The Mad Russian.

Malnik's collection, I discovered, is easily the largest in this area and one of the biggest in the country. On tapes and electrical transcriptions (the sixteen-inch discs
made for radio broadcast) he has more than 1500 hours of old radio programs. (Actually the figure may be closer to 2000 hours by now; Malnik admits that he has fallen behind in cataloguing his collection.)

The hobby of collecting old radio shows is a relatively new one, although it seems to be spreading with the speed of a flu epidemic. Malnik's eight-year-old collection is a mature one, compared to most similar collections.

Malnik, a soft-spoken, medium-sized man with thick graying hair, told me that, as a youngster, he had listened to radio programs with interest, but not obsessively.

In his teens, he bought a short-wave radio and often searched the dial for English-language broadcasts from other countries. Tennis was his consuming interest—he played in many local tournaments—and radio was just a pleasant diversion.

In 1961, however, Malnik was glancing through a magazine called Tape Recording when he noticed a letter to the editor by a radio announcer named George Jennings. A fan of old-time radio, Jennings had started to collect recordings of old network shows and he urged readers of the magazine to seek out such recordings in places like radio station basements to prevent them from being lost forever.

"This came as a complete surprise to me," Malnik remembers. "I never had imagined that programs like that might still be available. I figured it would be interesting to hear some of them again."

He wrote to Jennings and inquired how one could get such tapes. Jennings responded by making a copy of his tape of "Good News of 1940" starring Fannie Brice and Frank Morgan and sending it to the St. Louisan. Later Jennings sent him tapes of Fred Allen and Dick Powell programs and the Lux Radio Theater.

"That was all it took," Malnik laughs. "I caught the fever. At first I had just been curious; I had no intention of starting a collection. But I found that I got quite a kick out of acquiring something unusual and sort of rare, like old radio shows.

"Also, these old programs have great nostalgic meaning for me; they can bring back something I had thought was gone forever. And, let's face it, these old shows are amazingly entertaining. That's why they were so successful. I get real pleasure out of hearing them again."

Jennings generously continued to send tapes to Malnik and also supplied him with names of the few others who were starting such collections. Malnik began trading with them and with others who began entering the field. Trading involves an even-up exchange of tapes, hour for hour.

Most of the collectors got started by scrounging around for a few programs, perhaps rummaging through the discard pile at their local radio stations, then building their collections by trading with others. The inevitable commercialism has recently crept in and some people now are offering tapes for sale.

Virtually all the collectors are radio buffs with no professional interest in broadcasting. A few performers, however, have gotten the bug. One of the best collections is owned by country-western singer Johnny Tillotson.

The earliest program in Malnik's collection is one from 1929 called "Sam and Henry." It featured Freeman Gosden and Charles Correll, who later created one of radio's longest-running programs, "Amos 'n Andy." Malnik has a recording of the ten-thousandth broadcast of "Amos 'n Andy."

The most recent items in the collection come from the early 1960's when the last few network dramas fought a rear-guard battle against final extinction—shows like "Johnny Dollar" and "Gunsmoke." (The original Matt Dillon, by the way, was not James Arness, it was William Conrad, a burly-voiced radio actor who more recently has been directing films.)

From the years in between, Malnik has hundreds on hundreds of recorded dramas, mystery programs, variety and comedy shows, soap operas, and children's programs.

"I go after the shows that interest me the most," he pointed out. "I try to collect a sample of every type of radio show, a little of everything, but I don't have much interest in soap operas, for example. I could have many more hours of 'Pepper Young's Family' and 'Life Can
With nobody watching but the studio technicians, the actors emoted just as dramatically for the blind microphone as they do today for the television camera. This is a scene from "Sam Spade Detective," starring Howard Duff.
Perhaps the greatest stars of the old radio days were Jack Benny (left) and Fred Allen. Their famous “feud” provided countless hours of hilarious material for both comedians.
Be Beautiful,' but I don’t care to. My greatest interest is mystery and drama, then comedy and variety.”

We stopped talking and listened to some of the old shows. I heard again the sonorous tones of narrator Ernest Chappell on “Quiet, Please,” the bucolic pleasantries of Lum and Abner, and the daredevil exploits of Jack Armstrong, the All-American Boy.

Joe Penner cavorted again in a 1937 show, Fibber McGee commiserated with Mr. Wimple, and The Shadow triumphed over evil in such typical episodes as “Mansion of Madness,” “The Inventor of Death,” and “Horror in Wax.” We topped it off with a blessedly brief sample of 1932’s “Mary and Jerry, Sweethearts of Radio.”

As with any field in which collectors compete, there are some items that are comparatively rare. These include recordings of “The Thin Man,” “The Fat Man,” “Little Orphan Annie,” Al Pearce, the early Dean Martin-Jerry Lewis radio shows, and Orson Welles’ Mercury Theater. The rarest show of all seems to be “Don Winslow of the Navy.” Malnik doesn’t know of any collector with that one.

Malnik listens to the programs on three Ampex tape machines hooked up to two giant hi-fi speakers in the basement of his home. His filing system involves putting an hour of programming on each reel of tape and numbering and cataloguing the reels. To play the electrical transcriptions, he bought a Collins turntable of the type used by radio stations.

The audio quality of the old programs varies considerably and most collectors apply a rating, ranging from excellent to poor, to each of their shows.

“At first I would take anything,” Malnik says, “just to build my collection, but now I’ve become pretty finicky and will only take recordings of good quality. Some collectors will try to trade you stuff that is barely audible.”

Recognizable in many of the old dramatic programs are the familiar voices of actors, once anonymous as radio actors tended to be, but later big stars in television and movies.

Among the voices on Malnik’s tapes are those of Tony Randall, Frank Lovejoy, Art Carney, Ed Begley, Jeff Chandler, Mercedes McCambridge, Agnes Moorhead, and TV quizmaster Bud Collyer, radio’s original Superman.

Randall played the part of Reggie in another of radio’s most popular and longest-running shows, “I Love a Mystery.” It was created and written by a one-man assembly line named Carlton E. Morse, who also wrote the much-loved “One Man’s Family” and numerous other dramatic and mystery programs. Malnik has a fairly complete collection of Morse-written programs, thanks to two California collectors who traded them to him.

Malnik admits that his wife and their young son and daughter don’t share his fascination with the old radio programs.

“I guess they’re of the TV generation,” he says in gentle reproof. “Actually, I find that most people who remember radio well enjoy talking and reminiscing about it, probably even more than actually re-hearing the old programs.”

At that point, I decided to apply one final test to his collection.

“There was a particularly good science fiction drama that I would really like to hear again,” I said. “It was called ‘Mars Is Heaven’ and was written by Ray Bradbury, the noted science fiction writer. It was just one half-hour episode in a series of science fiction shows. I can’t even recall the name of the series. You wouldn’t happen to have that particular program, would you?”

“Sure,” Malnik answered calmly. “I’ve got both versions of it—one from the ABC Radio Workshop and one from NBC’s ‘Dimension X’ series. Which one would you like to hear?”

With that, the last of my skepticism vanished and I just settled back and lost myself in a blissful audio procession of “Lights Out,” Al Jolson, the CBS Radio Workshop, “The Lone Ranger,” “Chick Carter—Boy Detective,” and on and on and on. The time barrier had been broken.

Now that I’m regressing like this, I may even contact a Brooklyn man who sells the Junior C-Man badge offered to listeners of the Dick Tracy radio program in 1938.
Every year, scientists and other scholars travel around the world attending international conferences in dozens of fields. Physicist Mike Friedlander, who attended the International Cosmic Ray Conference in Budapest this past summer, asks if these trips are really necessary, and explains why he thinks they are.
Science is truly international. Most scientists like to talk with colleagues over a glass of wine in a cafe far from their laboratories—the farther the better, perhaps.

The number of international scientific and academic meetings has increased rapidly over the past twenty years, and no longer is attendance confined to the gray-bearded elite. International conferences have become a part of the way of life for many scientists of all ages.

While one may keep informed of progress abroad by reading journals, the personal contacts and friendships which come from conferences can be made and strengthened in almost no other way.

These are some of the impressions which come to mind as I look back on the International Cosmic Ray Conference I attended in Budapest this past summer, along with two other delegates from Washington University's Physics Department—Joseph Klarmann and Martin Israel. The role which scientific meetings play (apart from taking faculty to exotic places) is not generally understood and, perhaps, is worth a review.

How does the scientific community distribute its information? The prime means of recording data and analyses, theories and predictions, corrections and retractions (rare) is in the professional journals. These are published by scientific societies (such as the American Physical Society), or commercial publishers, or universities. They may appear weekly, biweekly, monthly, or less frequently, but most have the common requirements that what they publish shall be new and shall have been reviewed by experts in the field, to try to guard against careless analysis or faulty inferences.

For most journals, the delays inherent in reviewing and publication mean that it will probably take several months between the time an article is submitted and its final appearance in print. To get around this delay, an extensive mailing of "preprints" has grown up, in which a scientist sends to his colleagues, who are working on similar problems, an informal copy of his manuscript at the same time that he submits it to a journal. This is clearly a less formal means of communication and it has grown to include items which may never be submitted for publication, but which might still be of use or interest to others.

The next logical step along the direction toward more informal contact is personal correspondence—a practice that is probably rare these days with the usual academic pressures of lectures, committees, grant proposals and reports, and student demonstrations.

But all of these methods still rely on the written word—inevitable for repeated reading in detail, but no substitute for personal contacts. These can be supplied by scientific meetings. To hear a man describe his own work is to add a unique dimension to one's picture of him. Some scientists are showmen, some mumble, one famous man uses his hands and expressions like an Indian dancer, his affability and elegance increasing as the quantitative context of his talk decreases. Others are concise, even terse, but penetrating. After attending a conference and meeting a scientist, one cannot again read a paper in a journal without adding one's personal estimate of the author. It is the compound of these impressions which leads to a very subjective evaluation of another scientist as being absolutely reliable or given to wild and undocumented flights of wishful analysis.

One side of the picture is supplied by the formal conference sessions in which results and calculations are presented. The other side is gained less formally—in the corridors between sessions, over coffee, or in the evenings as one strolls around an unfamiliar city. In these ways, one renews friendships from the last conference and extends them. It is during these casual talks that another scientific aspect emerges. The formal sessions are devoted to descriptions of work fully or nearly completed, but the experiments in progress or being planned are just as important. Here one can argue about the best
Criterions which enter into the choice of the conference site include the existence of an active, local cosmic ray group, adequate conference and hotel facilities for the usual attendance of about 500, and timeliness.

Another requirement is that the host country should not restrict attendance through passport and visa control. For this reason, it can be difficult to hold a meeting in the United States, as has recently been shown by the refusal of the Justice Department to grant a visa to a French scholar. Even if a visa could be obtained, foreign scientists are often quite unwilling to answer questions on their visa applications concerning their political affiliations—affiliations which are respected and legitimate in their own countries but unlawful in the United States.

Considerable prestige is attached to acting as host to a major international gathering. The value of this prestige is clearly recognized, to the extent that political implications may be seen in the decision either to hold or not to hold a meeting in a given country. Could our recent conference be taken to indicate international approval of the Hungarian regime? (This is very similar to the question so hotly argued after the 1968 Democratic convention about whether various learned societies should meet in Chicago.) Recently there has been some discussion in the distinguished English journal Nature on just this problem, and the consensus seemed to be that it is indeed possible to hold a meeting in a city or a country without that decision giving support to a government. At the very least, the organizers should require that attendance at the conference be open to all scientists invited and that there be a minimum of travel restrictions. For the record, we should say that attendance in Budapest ranged over all nationalities, including some from countries with which Hungary had no diplomatic representation, such as South Africa and Israel. We encountered no restrictions as we walked around the city during our ten-day stay.

It is also worth pointing out that in the last century Davy and Faraday traveled from England around the various academies of the Continent at the height of the Napoleonic Wars, and that the Royal Society of London had a foreign secretary even before the British government had created such a post. There is a long precedent of science crossing all sorts of international barriers.

With our conference, each country issues its own invitations within a quota somewhat flexibly assigned by the commission. At present, the problem of obtaining travel funds is the main restriction on attendance. Any invited scientist may submit a paper which he can read at the conference at times allocated by the organizers.

It so happens that our present experiments, in which we have collaborated with friends at the General Electric Research Laboratories and at the University of Bristol in England, are of widespread interest, and we were assigned half of one complete session to report on them. The work we described dealt with the detection of ultra-heavy cosmic ray particles and the inferences which can
be drawn regarding their origin in processes taking place within our galaxy.

In addition to the sessions of contributed papers, many of them brief reports of ten minutes each, there were several invited papers and summary reports. The invited papers were given by physicists whose work lies not exactly in cosmic ray research, but in closely related areas. The summaries were given in the last two days and were useful in pointing to unresolved difficulties or to agreement which has become more extensive. With the number of delegates and the extreme specialization, it was possible to have three parallel sessions for contributed papers, leaving open the time for the invited talks, or unparalleled sessions, as the program called them.

Over the years, the meetings (and many of us) have travelled widely. My first meeting was at Bagneres-de-Bigorre in the French Pyrenees in 1953. Later meetings have been in Mexico, Moscow, Varenna, Kyoto, Jaipur, London, and Calgary, but many of us have not been to all of them.

This impressive list illustrates another important aspect of international meetings—the chance to learn something of another country. Despite this internationalism, English has more and more become the language of cosmic ray physics. In 1953, many of the papers were read in French, but this year the official language of the conference was English (if often broken). There has been a similar trend with journals, so that the Italian *Nuovo Cimento* the Swedish *Arkiv fur Astrophysik*, and the Japanese *Physical Society Proceedings* are almost wholly in English.

Tales from travellers returned may easily lead one to suspect that the conference was incidental to the goulash, the gypsy violinists, the local folk-dancing, and the vista along the Danube. But, there can be some hard work. Much of this takes place in the weeks before the meeting, when the data are being assembled, graphs plotted, and slides made. And of course, much took place earlier, when the experiments were being designed and carried out. The contributions made by students, engineers, and technicians can be too easily overlooked.

But even during the meeting, the final preparation for a presentation is not a trivial task, when one will be so critically judged, and while the discussions may go on into the small hours, much of it is very high-powered. Which, of course, is not to say that we did not enjoy our conference.

Formal meetings play an important part in international conferences, but equally valuable are the informal discussions among scientists of many nations.
The City Art Museum of St. Louis is a quiet place where visitors wander through the galleries of priceless treasures speaking in low tones. But plunked amidst the rooms of paintings and period furniture is a gallery labeled The Space Place, a maze of life-size styrofoam building blocks, movable, plastic wall panels, and scrambling, squealing children, an anomaly in this otherwise serene atmosphere.

Approached through a mini-door, the dimly lighted room, with its low four-foot ceiling, is a child's wonderland where little people can create their own environment by moving blocks, walls, and even the ceiling... now a movie theater, now a fort, now something rather less identifiable, but equally delightful, and all very much of their own doing. Movie and slide projectors and tapes provide a montage of sight and sound. And adults are not allowed.

The Space Place was created by a team of St. Louis architects and educators, including Theo van Groll and Atilla Bilutay, of the University's School of Architecture. The designers wanted to build a flexible structure that would allow children to control and experiment with their environment. Children live in a grown-up world designed for adult convenience. In The Space Place they create their own surroundings.

Opened in September, The Space Place is available to small groups of children, and one Friday afternoon this fall, Annelise Mertz, director of the dance division at the University, took a class of her younger students to The Space Place. The fifteen youngsters, aged seven to ten,
are participating in an experimental program in creative dance for children initiated at the University several years ago. Designed to provide children with an aesthetic and creative education through the study of movement, the program also gives dance majors an opportunity to learn to teach small children.

In this unique setting, Miss Mertz directed the students in a mosaic of movement and form, crooning, "Just walk around and try to feel the space. You can touch the ceilings, the walls, touch the floor, feel and see how big it is, how high it is." Then they were free to build any shapes they wanted and to move in the spaces they had built, winding through tunnels, scrambling over lofty styrofoam piles, moving to get a feeling for the space, bumping into each other and giggling.

The magic of The Space Place won't be limited to the groups of children who make special trips to the City Art Museum. Supported by a grant from the John D. Rockefeller III Fund in cooperation with Monsanto Chemical Company, the Central Midwestern Regional Educational Laboratory, and the Washington University School of Architecture, the Place is owned by the University City School District of Missouri. After its experimental stage at the museum, it can easily be moved from school to school within the district so that it will be available to large numbers of children as an integral part of their day-to-day education and recreation.
OF MICE AND POETS (AND QUARKS)

If you have to catch pneumonia, the best time to do it is four o'clock in the morning—if you're a mouse.

Dr. Ralph Feigin and his colleagues at the University's School of Medicine have discovered that mice injected with pneumonia-causing germs at 4 a.m. have a better chance of survival than mice that get the same dose of germs at any other time.

In a recent article in The New York Times, Dr. Feigin is quoted as advancing the theory that the time of day may influence the pattern of infection in human beings as well as in mice. It may have an important bearing, too, on the effect of drugs and on the outcome of vaccinations. From such studies may come a way of determining the optimum time for drug administration or vaccination in human patients.

It has long been known that the body has a daily rhythm of highs and lows; temperatures, for instance, are usually lower in the morning and rise toward evening. Dr. Feigin and his associates found a similar pattern of daily ups and downs in the amount of amino acids in the blood (amino acids are the basic building blocks of proteins, the major ingredients of all living things). The level was lowest at 4 a.m. and highest at 8 p.m.

Later another study showed that the pattern was disturbed by the administration of a vaccine designed to protect against a certain virus infection. The disturbance came earlier and was briefer in patients who were immunized at 8 a.m. than in patients who were immunized at 8 p.m. The scientists concluded that the time of day must be having an influence on the body's response to infection, and that the daily rise and fall of amino acid concentrations in the blood might prove a useful clue to a patient's progress against an infection.

In the experiments with mice to test the validity of the theory, groups of mice were injected with disease-causing bacteria at various times of the day throughout the 24-hour cycle. The amount of the injection was also varied from very small amounts to massive, and invariably fatal, doses. The conclusion of the experiment was that the time of day was a significant factor in survival as the amount of the dose. From the mouse's point of view, the best time of day to get the germs was 4 a.m.

So, even if you're not a mouse, here's a good excuse for staying up every night until 4 a.m. It's the healthiest time of day!

ANTARCTICA MAY BE ON ITS WAY TO BECOMING THE WASHINGTON UNIVERSITY SOUTH CAMPUS. In this issue, Earth Scientist Leroy Scharon describes his sixteen-month tour of duty in the Antarctic with a Soviet research team. Recently, we had another faculty member in Antarctica. He's Donald Finkel, Poet-in-Residence in the Department of English, who served as Poet-in-Residence in the Antarctic.

The National Science Foundation invited Finkel to spend three weeks at America's McMurdo Base and to visit Antarctic bases while he was there. The Foundation extended the invitation to Finkel because of his long interest in the South Pole. He is the author of Answer Back, a novel about the exploration of the Antarctic. Finkel had never been that far south before, so he says his next book (about the Antarctic, naturally) will be even better than the first one.

The idea of a Poet-in-Residence in Antarctica is a great idea and it's too bad that the NSF didn't think of it earlier. Robert Frost would have been a natural choice, to say nothing of C. P. Snow.

Professor Calandra's article, "The New Math: Why Johnny Can't Add," in the last issue of the Washington University Magazine aroused a great deal of interest and reader response, ranging from enthusiastic support to just as enthusiastic condemnation. There were readers who praised Dr. Calandra for "finally telling the truth about the new math," and there were readers who took him to task for giving "a distorted picture of the new math." We have no idea what the box score of favorable and unfavorable reactions would add up to in the new math, but in the old math we learned in school, the comments are running about five-to-one in Professor Calandra's favor.

In his article, "Is This Trip Necessary?" Physicist Mike Friedlander used the cosmic ray conference he attended in Budapest this summer as an illustration of the kind of international meetings under discussion and did not go into the actual substance of the meetings.

One of the more interesting papers delivered at the Budapest conference was one by Dr. Charles McCusker of the University of Sydney, Australia, in which it was reported that evidence of "quarks" had been discovered in showers of cosmic rays. The quark, first proposed as the most fundamental particle of matter about five years ago by Caltech's Dr. Murray Gell-Mann, last year's Nobel Prize-winner in physics, is believed to be much heavier than a proton and to possess an electrical charge either one-third or two-thirds that of the electron.

The name "quark" sounds like something from Australia, but of course it really comes from James Joyce's Finnegans Wake ("Three quarks for Muster Mark"). So the name comes from a book inspired by Dublin and written in Paris. It was applied to physics in California, and reported discovered by a group of Australian scientists at a meeting in Budapest. We can see why Dr. Friedlander began his article with the declaration, "Science is truly international."

—F.O'B.
SERIOUS STUDENT AUDIENCE ponders a speaker's remarks during a Wednesday Assembly Series in Graham Memorial Chapel. Among the speakers this fall have been Historian Ralph Hofstadter, Drama Critic Clive Barnes, Senator J. William Fulbright, and Joseph Blatchford, director of the Peace Corps.