GENERATION GAP? ... maybe it's just the difference in clothing. To open this issue, the editors present some candid pictures of new freshmen and their parents and some equally candid observations by both about the present-day campus scene. See "Great Expectations," Page 2.
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COVER: Josephine Johnson, Washington University alumna who won a Pulitzer Prize for her novel Now in November at the age of twenty-four, deep in her “Inland Island,” setting of her latest book. See page 17.

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What is it like to be starting college in this year of 1969? The freshmen who showed up on college campuses this fall arrived with the same mixed baggage of high hopes, shining ideals, and anxiety-laced bewilderment that accompanied their predecessors of countless autumns before them.

But there is a difference this year—a difference that has been growing rapidly in recent times. Today's freshman is a lot more self-conscious about becoming a college student. After all, in recent years mountains of newsprint, oceans of ink, and centuries of television time have been lavished on the college student and what he feels and what he thinks. In trying to examine today's student, you have to allow for the uncertainty principle—the beam of public attention focused on the subject is so intense it is distorting the particles you're trying to observe—and those particles are far from simple in the first place.

Some 1100 freshmen arrived at Washington University this fall and many hundreds of parents came along with them—to help tote baggage, to see first-hand where their offspring were going to be living in the years ahead, and to help get them launched on their new careers.

What is on a freshman's mind as he begins his college life? What are his plans and ambitions? What does he think about the college scene today and how he'll fit into it?

To try to get some answers to these questions, we talked to many freshmen at random when they first arrived on campus. We also talked to many of the parents to see what they thought about the same subjects. The answers, from both students and parents, revealed a wide variety of opinions.
and concerns, but they also unearthed some striking similarities in outlook among both groups.

Opinions on campus life and personal expectations revealed a “first-day-of-school” excitement typical of the freshmen of any year. The excitement, however, was marked by a seriousness about their goals at the University and about current campus issues much more marked than in previous years.

One blue-eyed blond coed expressed a feeling that seems to be shared by many of her fellow freshmen when she said, “I feel like college is really getting down to it. This is it. High school seemed just like something to keep us busy, a groundwork and that’s about it. Now we can do what we want.”

One boy, an honor student from a small Wisconsin town where the cows outnumber the people, said, “Everyone senses the building of a better world. To go through college at a time like this, when there is so much concern for one’s fellow man, is really an opportunity—getting to look at social ills objectively and to try to improve them. It’s a chance to see things from other people’s points of view.”

In any conversation with today’s freshmen, or their parents, the subject of “student unrest” comes up quickly. Most freshmen we talked to seemed to support the idea of peaceful demonstrations for a “good cause,” but there all semblance of unanimity disappears. The students seem to have as many and as divergent opinions on the subject as their parents.

One black student expressed what seems to be a common feeling: “Because young people are better educated and not set in their ways, they’re
always working and hoping for the best. When they see something they don't like, they want to change it. I think that demonstrations are a healthy sign."

Many of the freshmen interviewed took a skeptical view of campus radicals, judging from comments like, "The radicals have shouted louder than other people and gotten more publicity," and "Radicals profess to have a divine ability to see right and wrong. I usually agree with their goals, but not with their methods."

The "generation gap" also keeps coming up in conversations with both the freshmen and their parents, although there is wide disagreement on the meaning of the term, or even if a gap exists. One girl remarked, "That expression is an anachronism. My younger sister, who is twelve, and I have differences. I think it's more of an experience gap."

"The difference is primarily in outlook," one freshman boy said, "Twenty years ago, people looked with indifference toward everyone and then picked companions. This generation loves everyone to start with and then picks friends to love more. It's also a difference in priorities. The older generation's priorities list material success rather than relations with other individuals, which is what is stressed by young people."

To some the "generation gap" is more of an "information gap," or a lack of communication. Said one freshman, "Very few parents are around the home these days. Many families are broken up and many more have both parents working. People are so busy keeping up with the Joneses that they don't have time to build a good home life. It's the parents' fault—they just don't stop to listen."

A pretty St. Louis girl said, "Kids are trying to find something different just as their parents did, but their parents had to get right into life and support themselves. Kids today have more time to question things and want something better."

This opinion is shared by many. Said one freshman from Boston, "We're making a big deal of it, but it's no worse now. It's a difference of values of young and old people."

Many students pointed out that the "generation gap" was really just a lack of understanding—and "it works both ways." Many others, however, feel that the gap is a real issue and not at all exaggerated. One girl who believes that the two generations are worlds apart in values, emphasized her point by saying, "I can't imagine talking to anyone my parents' age without making them mad at me. Many parents never talk to their kids about important things."

There was one freshman girl who disagreed strongly with the majority. "I don't know what all the fuss is about," she declared, "I like my parents."

The parents of today's freshmen feel strongly about the generation gap themselves. Said a Baltimore father:

"I'm tired of hearing about a generation gap as if it were something new. There has always been a difference in values between the young and the old because there is a difference in life experience. Maybe each generation chooses its own manifestations of that difference.

"I don't think my parents felt that my behavior was anything but kookie when I went to the Village, grew long hair, drank wine, and wrote poetry." He added, "I don't always understand my daughter, but what's new about that?"

Another father remarked, "I have a Jekyll and
Hyde for a daughter. Sometimes there is the greatest rapport between us and other times we can’t touch each other. But is that bad? If she were always with us, I’d worry that she couldn’t communicate with her contemporaries. All I want is a daughter who thinks for herself even if that thinking sometimes strikes me as way out.”

To many parents being willing to stand up and be counted for a cause they believe in is a trait they admire and even encourage in their children. One couple explained that they saw in their daughter and her friends a refusal to see any cause as lost. “They may hit their heads against stone walls,” the parents said, “but they will be heard.”

“I don’t think we’ve done such a great job of shaping the world for kids,” said one New York mother. “If they want to rebel, let them. Maybe something will come of it.”

“They say that they are appalled by our materialism and I agree with them,” said another parent, “I’d be disappointed if my daughter wasn’t idealistic. What other time is there for idealism but youth?”

On the other hand, one father remarked, “If there’s a generation gap in our family, it consists of parental idealism and youthful conservatism.”

Another father pointed out philosophically how paradoxical his son’s attitude toward materialism was. “They are more materialistic than we are because they don’t just accept the good life, they take it for granted. But what should they do, turn their backs on what we offer them? I admire the fact that they can accept our material security and not stop there, but want to use it as a base to right the wrongs the system has created.”

The subject of virtually universal concern among the freshmen themselves is the war in Vietnam. It colors their thinking, clouds their future, shapes their outlook on their parents, their college life, and the society in which they will take a place some day. “What’s bugging kids today?” one freshman asked. “First of all, it’s the war in Vietnam.”

Parents generally agreed that the issue of the Vietnam war is of great concern to their children. “My generation wasn’t concerned about social and world issues in the same way,” a Louisville father said. “I think that the difference is that we believed that these were things that could be dealt with and that would end. Our sons see wars as one endless cycle and they’re horrified.”

A mother commented, “I think the war is their rallying point now, but if it were not the war, they’d be horrified by poverty, violence, graft, and injustice in general.”

A feeling expressed by many students and parents alike was that entering college marked the end of parental authority and the beginning of independence for the student. “If they haven’t given it to you by now,” said one freshman, “you’re not going to get it.”

“We don’t expect our daughter to abandon our standards,” a mother explained. “We think that we have taught her values which are her own now, but we expect her to apply these standards to her world, and we hope that we will have sense enough not to find that too shocking.”

One practical-minded coed from New England expressed a feeling that most of today’s freshmen share, and that most freshmen throughout the years have felt on first entering college: “I just want to stay in,” she said.
Physical disablement, whether the result of injury or disease, results in multiple problems. In addition to the disability itself, there are often overwhelming psychological and sociological effects not only on the patient, but also on his family. Rehabilitation medicine must cope with all of these factors. With the opening of the Irene Walter Johnson Institute of Rehabilitation ten years ago this fall, this important phase of medical care, with its variety of medical and paramedical specialties, was fully integrated into the activities of the University's Medical Center.

REHABILITATION CENTER

By CAROL COLLIER
Office of Information

Urban renewal is a bit of sociologic jargon that everyone within sight of a newsstand or earshot of a television set has incorporated into his vocabulary. How many understand what it really means, however, is another matter. Except from sociologists or city planners, one would probably get few correct replies to questions on who is involved in urban renewal and what it is they renew.

The same sort of vague generality is inherent in the word "rehabilitation" as it applies to efforts by medical and paramedical specialists to help the disabled person manage the consequences of his handicaps. Besides doctors, therapists, and the patients themselves, few people are aware of the many professional skills, equipment, and concepts of rehabilitation medicine. A look at Washington University's Irene Walter Johnson Institute of Rehabilitation is an apt way to illustrate just what this important phase of medical care is all about.

Organized within the Department of Preventive Medicine and Public Health, the Institute provides several kinds of rehabilitation services to patients within the Washington University Medical School and Associated Hospitals complex as well as to other patients from private or agency referrals.

Sixty-five percent of the approximately 2000 persons seen each year begin as patients within the Medical Center. The majority of the patients suffer from some neurological impairment such as cerebral palsy or central nervous system injury. About 20 percent are orthopedic patients in need of rehabilitation after bone or joint operations. The rest are mostly internal medicine cases involving, for example, arthritis, metabolic disorders, or respiratory problems.

The Institute uses a comprehensive approach to the program of rehabilitation—comprehensive in the wide range of medical and paramedical specialists either on the staff or available for consultation. These specialists include internists, neurologists, neurosurgeons, pediatricians, plastic surgeons, urologists, orthopedists, physical, occupational, and speech therapists, psychologists, social workers, rehabilitation counselors, and nurses.

There are no bed facilities in the Institute. Rehabilitation patients are given therapy and returned to the particular hospital service from which they were brought. The Institute's planners felt that by this means some of the approach in comprehensive rehabilitation might get back to the services. Also, the patient's original doctor could maintain contact and supervision of his patient.

Rehabilitation therapy falls into several categories. Physical therapy, for example, uses light, water, heat, sound, and exercise as agents to ease pain and restore strength and coordination to muscles affected by disease and injury. At the Institute, there's a gymnasium for the various exercise programs, an area for hydrotherapy, and several treatment rooms where ultraviolet light and ultrasound equipment is used.

An important feature of the occupational therapy service are the ADL rooms. An acronym for activities of daily living, ADL has a complete apartment for retraining the disabled person in once-routine everyday tasks. There is, for example, a two-level kitchen, one for helping the housewife confined to a wheelchair and a standing level for those who must use crutches or a walker. Additional areas are designed for training in special activities related to specific disabilities and for evaluating
vocational ability. (Another occupational therapy unit for psychiatric disorders is organized within the Department of Psychiatry and isn't associated with the Institute.)

Members of the staff at the Central Institute for the Deaf are employed to provide speech therapy service for those whose speech is impeded by stroke or injury. There's also a small but strong social service to help the handicapped person and his family deal with the upheaval which disability causes in many lives. "Seriously disabling illnesses have social implications that far exceed financial aspects. The family of the disabled is also involved. These are problems that require emotional as well as financial adjustments. We couldn't get along without the social service department," Dr. Hugh Chaplin, Jr., director of the Institute, said.

Teaching is another demanding part of the Institute's work. Although the Medical School has separate departments for instruction in physical and occupational therapy, members of the Institute's staff participate in teaching programs and demonstrations besides serving as one of the major clinical affiliations for students in those fields. There is also an increasing number of medical, nursing, speech therapy, and social work students.

A relatively recent educational activity at the Institute was begun in 1967 by Dr. Lorraine Lake, associate director for education and administration. Called an inservice training program, it is a weekly seminar on topics related to rehabilitation. Many specialists have participated, and the program continues as an important contribution to the professional growth of the Institute staff.

These numerous activities reflect the fact that rehabilitation is a growing medical endeavor. But such was not always the case. Before World War II with its 265,000 permanently disabled U.S. veterans, interest in rehabilitation medicine was not widespread. As Dr. Howard Rusk, a former Washington University Medical School faculty member and well-known rehabilitation specialist at New York University, has noted, "Rehabilitation in its modern concept was a child conceived in adversity and born of necessity in the 1939-45 War."

It was during this period of expanding interest in rehabilitation that a division of physical medicine was established under Dr. Sedgwick Mead at the School of Medicine. Working with the department of physical therapy then in Barnes Hospital, it attempted to treat all types of physical disability. As interest in rehabilitation continued to grow at the Medical Center, support was sought for a facility to house its activities.

Shortly after Dr. Mead left St. Louis in the mid-1950's, the dean of the school, then Dr. Carl V. Moore, appointed a committee to evaluate the purpose of the physical medicine unit. The committee, headed by Dr. Carl A. Moyer, then Chairman of the Department of Surgery, suggested that the program in physical medicine be broadened to give a more comprehensive approach that would consider all the needs of a patient with disability. It was also suggested that the Department of Preventive Medicine and Public Health assume the responsibility for getting the program underway. It thus became the responsibility of Dr. Robert E. Shank, Danforth Professor and head of that department, to build and seek a director for a new facility for the planned rehabilitation program.

The campaign to raise funds for the new structure and program received important help from then-chancellor Ethan Shepley and the late John C. Talbot, an assistant to the chancellor with a long-standing interest in the rehabilitation program at the Medical School.

With support from several gifts, a federal grant, general Medical School funds, and a teaching grant from the National Foundation, ground for a rehabilitation institute was broken in the fall of 1957. It was to be named for the principal donor of the funds, Irene Walter Johnson, widow of the late Oscar Johnson, a former president of International Shoe Company.

The structure, her son noted at the groundbreaking, was "dedicated to the purpose of restoring persons upon whom physical disabilities have come to as near normalcy in living as human skills can provide."

In October, 1959, the Institute admitted its first patients and began full-scale operation in November. Dr. Eric Reiss, an internist, was the first director.

Dr. Lake was also a member of the original staff. Her first professional training was in physical therapy, and she later earned her doctorate in anatomy.

Dr. Chaplin, on the other hand, had not been involved with rehabilitation before becoming director of the Institute five years ago. He took over that position from Dr. Shank, who had been acting director for a year after Dr. Reiss left. His reasons for accepting the directorship are varied and some are quite pertinent to any discussion of rehabilitation service in an academic setting.

One reason was personal. Although he was certified as an
Staff members instruct the father of this severely disabled little girl in rehabilitation activities that can be done at home between Institute visits.

A medical student (second from right) assists a physical therapist in walking a paralyzed patient. Another student (right) and Dr. Chaplin (left) look on.

Dr. Hugh Chaplin, Jr., Institute director and Kountz Professor of Preventive Medicine and Public Health.
The physical therapist kneeling at the edge of the mat helps a young patient (also on mat) in a demonstration for medical students at a teaching seminar.

Dr. John O. Holloszy (left) uses rats on this treadmill device in his studies of endurance exercise.

Biomedical engineer Howard Bonze checks the apparatus which he designed and built to measure spasticity, a condition often seen in neurological patients.
internist, Dr. Chaplin had devoted most of his time to research on immunological problems related to the blood, and felt rehabilitation work would be a way to get more directly involved with patients. He indicated that the example of his father, who had practiced medicine for forty-seven years, had an effect on his decision.

Those who tried to discourage him by pointing out that rehabilitation wasn't a prestigious field provoked an opposite effect. "This seemed to be a poor excuse for not entering a field," he recalled.

Another reason reflected the importance he attaches to research. "Rehabilitation is quite young as a specialty and has a very weak scientific base," he said. "There's also a great deal of empiricism in rehabilitation techniques. As one would expect, there's a considerable amount of cultism. A particular method gets used and gets publicity, yet the scientific rationale may be nil.

"I feel there is an enormous need for a sound scientific basis for rehabilitation. This requires research techniques, sophisticated equipment, and a healthy criticism of rehabilitation procedures. Here I felt my own laboratory research background would be useful. Although the particular techniques are unrelated, the principles are highly relevant."

The need for rehabilitation-connected research has been recognized in a number of top centers and there has been very respectable work in some places, Dr. Chaplin continued. But there has been relatively little research of the kind he envisions, which is scientific as opposed to sociological. "This in no way implies criticism of the latter type of research, but simply that the other—on basic human physiology and biochemistry as it relates to rehabilitation—is lacking."

"To start is very difficult," Dr. Chaplin said, "but we think we're coming along well in the early phase of developing research activities." Since 1964, money for Institute research related to rehabilitation has increased from zero to about $60,000 in the coming year.

The first step toward a research orientation was to persuade Dr. John Holloszy, now associate medical director, that the Institute eventually would have facilities for coronary rehabilitation, and that his laboratory studies on the physiology of exercise would be pertinent.

The plan for coronary rehabilitation is to provide heart attack patients with a gradual and well supervised program of endurance exercise. There are two types of exercise, Dr. Chaplin explained: maximum-effort exercise, such as weight lifting, which builds muscles but doesn't improve endurance; and endurance exercise, such as long distance running, which is characterized by adaptive biochemical changes that increase the efficiency of muscular work. In this sense, indirectly, the heart, which is a specialized muscle, has to work less to support a given amount of work.

Dr. Holloszy's work is quite pertinent to the program. For the past several years, he has been studying the biochemical and anatomical changes associated with endurance exercise that are responsible for the increase in muscle work capacity.

Endurance exercise, for example, tends to reduce serum triglycerides, fatty-like substances in the blood, and possibly to improve abnormal glucose tolerance curves. Both excess serum triglycerides and abnormal glucose tolerance curves have been associated with heart attacks. Endurance exercise also reduces overweight and increases the capacity of skeletal muscle to extract oxygen from the blood, thus decreasing the work of the heart, Dr. Chaplin added, "so there are several ways by which it might be expected to improve the function of the person suffering from heart disease."

An exercise program for patients suffering from heart disease is a relatively new approach. Previously, heart attack patients were told to "take it easy." This approach frightened many who then tended to remain at an unnecessarily restricted level of activity.

"We have had this type of rehabilitation program in mind for several years," Dr. Chaplin said, "and we are very fortunate to have someone like Dr. Holloszy whose research and background make him equipped to run it." Both Drs. Chaplin and Holloszy insist on a strong scientific basis for the coronary rehabilitation program so that the how and why of its effectiveness can be understood.

The importance attached to rehabilitation research at the Institute is also illustrated by the Biomedical Engineering Laboratory. Started a little more than a year ago, the Laboratory was made possible by a grant from the Harry S. Freund Memorial Foundation to cover most of the salary costs for a biomedical engineer. The original space alloted was recently doubled because of its active growth, and basic laboratory equipment was provided through a grant from the A. P. Green Foundation.

One of the Laboratory's first research contracts, from the National Institute of Neurological Diseases and
Stroke, is for the development of equipment to get objective measurements of spasticity, a condition often associated with diseases of the central nervous system. Dr. Chaplin estimates that more than half of the neurological patients at the Institute exhibit spasticity.

The principal way of evaluating the degree of spasticity has been a subjective assessment by the examining doctors and therapists. This method has its drawbacks in that interpretations of spasticity may vary and the various test movements are not reproducible. The therapist, for example, cannot move the patient's arm in precisely the same way each test; a machine can. The equipment at the Institute has been designed and built by Mr. Howard Bonze, the biomedical engineer, to carry out test movements for spasticity at precisely the same speed and angle with a controlled force, and record the resistance that is due to spasticity. The data can then be transformed for computer analysis.

Dr. Chaplin indicated some important ramifications of the machine testing: "Any studies of treatment where one wants to assemble groups of patients with similar disabilities requires a means of objective measure. We hope this equipment will provide it.

"Also, when anything is done that is alleged to help the spasticity, such as special exercise or administration of drugs, we can dispassionately assess it."

The Biomedical Engineering Laboratory has additional projects. One is the development of a computerized typewriter which can be operated by a patient who is unable to communicate by any other means. The idea for such a setup was developed elsewhere, but is being modified at the Institute. The unusual case of a young patient, incapable of almost all motion as a result of a freak automobile accident, stimulated the work.

"If the patient can move anything, even wrinkle his forehead or move his eyelids, and still has intellectual capacity, he can operate this typewriter." Dr. Chaplin said. As an indicator moves across a board containing various letters, numbers, and symbols, the patient, by whatever slight movement possible, can flick the switch when the indicator reaches a particular position. The letter or number related to that position is then typed.

The Institute has fulfilled a need not only within the Medical Center, but also for the community it serves. All needs, however, have not been met. "For a city of the size and medical sophistication of St. Louis," Dr. Chaplin said, "the rehabilitation facilities are too small. Also, there are some types of rehabilitation therapy not available in St. Louis."

Part of the solution is adequate funding. "Rehabilitation is a very expensive kind of treatment because it requires the participation of many highly trained personnel, generally in a one-to-one relationship with the patient. For this reason, the day-to-day support of such a program can never be expected to be paid for solely out of fees for services. It is going to be necessary that various agencies and foundations contribute some support through training and other kinds of grants.

"To me, an essential in an academic rehabilitation center is an endowment for 'leadership' money, which will enable the center to try something new without delay. It's very easy, without such a fund, to be always trying to catch up with other developments and not initiating any. This is because the mechanism for getting grants is so cumbersome—there's a long time gap between the idea and the money to develop it. My own hope is that we will succeed in establishing a significant endowment so that new ideas can be acted on quickly. This is vital for any academic institution, but also for the community."

The expanding role the Institute plays in the city and within the Medical Center is reflected by the rise in the number of treatment visits, which have increased in the last five years by more than 60 percent—from about 15,500 in 1964 to more than 26,000 annually.

Such activity has put into use practically every square inch of the present space, and there is great need for more room. Consequently, plans are underway to add four floors to the two now in use. If construction can begin next year, the cost of constructing all four floors and entirely finishing two of them is estimated at $2.6 million. To complete all four, including interiors, would cost about $3.4 million. If funds are not available and there is a delay, construction costs will go up.

The physical therapy unit will use one of the new floors. Another will service selected occupational, social service, and speech therapy activities. Plans call for a closed-circuit TV system for viewing some of these activities without disturbing the participants.

Research facilities will occupy a third floor. One feature of this area will be an exercise physiology laboratory for Dr. Holloszy's coronary rehabilitation program. A specialized gymnasium of sorts, this laboratory will have a treadmill, on which speed and angle can be regulated to grade the exercise, and bicycles on which resistance to work load can be well controlled. There also will be equipment to monitor the patients' heart contractions.

"A very important need," Dr. Chaplin said, "is space for the endurance exercise to be carried out independent of the weather." This would involve a running track in a temperature-controlled area, which the Institute hopes to build on the roof of the planned floors.

These new architectural plans are ambitious, but necessary, if the Institute is to meet the call for its services. From a rather small initial demand, it is now used to the limits of its present facilities.

"The important role of the Institute is now well established in the Medical Center," Dr. Shank said. "As the number of persons with physical disabilities increases, the demands for these services also increases. The program has demonstrated very well that there can be cooperative efforts in medicine to deal with the total problems of patients. This multidisciplinary approach will probably extend to other areas of medicine.

"Real credit goes to the devoted staff which serves the patients. The department and I have a real pride in the development of the services it now renders."
THE INLAND ISLAND

OF JOSEPHINE JOHNSON

By DOROTHY BROCKHOFF
Office of Information

Josephine Johnson, a Pulitzer prize-winning author and a Washington University alumna, has written a new book, Inland Island. It is a rare and beautiful work which tells of her love for the land which she feels "a need to record and cherish and to share... before it is too late." The place of which she writes is "just short of the timber forty... with steep hills, two creeks, thousands of trees, and a network of small ravines or draws" on the fringes of Cincinnati. But Miss Johnson's volume, published by Simon and Schuster, is far more than a book about nature; it is also a stringent attack on the evils of modern society. For these reasons, her slender book with its marvelous poetic observations and passionate denunciations has won widespread reader response and critical acclaim.
"A rounded stone, boulder size. . . . A sculptor would study it for the hidden form, cat, lion, bull . . . but I like this rock the way it is. The rough round shape is soothing."
Thirty-four years ago Josephine Winslow Johnson, then just twenty-four, won the Pulitzer Prize for her first novel, Now in November. Not long afterwards, she confided to a reporter, "The only complete peace and happiness seems to be in the fields or woods when one is alone, and even that isn't sufficient for always."

When reminded of this comment on a muggy summer day in mid-June of this year, as she sat in her unpretentious three-story bayberry green frame house on the perimeter of Cincinnati, Josephine Johnson remarked, "I haven't changed much."

It was an offhand, top-of-the-head remark, tossed off casually in the middle of a two-hour conversation which left her weary and raspy-voiced from the effort of reminiscing and reflecting on the complex human being who is Josephine Johnson. Nonetheless, it was and is true, for this gaunt, handsome woman who earlier this year published another book, Inland Island, which is among other things an impassioned ode on the wonders and solitary splendors of the wilderness, is not very different from the young lady who spoke so wisely and well back in 1935.

Now fifty-nine, she looks years younger and very much as she did when a Saturday Review photographer hurried out to Woodlawn Avenue in what was then bucolic Kirkwood, Missouri, to take pictures of the fledgling author who had captured the top literary award on her first try.

In profile at a certain angle, she continues to bear a striking resemblance to Katharine Hepburn, and the smoky hair swept back from the high cheek bones shows few strands of silver. Philosophically, her sympathies are "still for the underdog," as a perceptive observer wrote of her during the thirties, and the young radicals of today reading her polemics in Inland Island are claiming her as their "left-of-center" fathers and mothers did a generation ago.

For Josephine Johnson, who is and always has been a shy, gentle, very private person given to introspective musings, is paradoxically also a social reformer burning with convictions which time has not stilled. This curious ambivalence is one of the reasons, at least, why she is such an extraordinary writer. For
her penchant for contemplation, coupled with her passion for those causes in which she believes, enables her to express her feelings on paper with searing intensity. It is these characteristics, plus a gift for viewing the world through a poet’s eye, which make her latest work, Inland Island, a work of art.

Countless reviewers have burrowed in Webster’s International in a futile effort to dredge up precisely the right words to explain why it is such a great book. Those who came closest to honing out the essence of this slim volume (only 159 pages including line drawings) were two writers for The New York Times, Edward Abbey and John Leonard. Abbey, a writer and an Arizona park ranger who turns a facile phrase, called it “a hymn of love and wrath divided like the calendar into twelve cantos of days and nights.” But Leonard summed it up most succinctly with the starkly simple sentence, “This is a beautiful book.”

Essentially the book is about life on (nobody knows quite what to call it) a farm? a timber tract? a forest? of thirty-seven acres in the Ohio heartland which has been allowed to return to wilderness. This natural preserve evolved after Josephine Johnson and her late husband, Grant Cannon, consulted a state forester who advised them “to sit back and watch the ecology develop.” Today, this “island of sanity,” as she calls it, is “a place . . . with steep hills, two creeks, thousands of trees, and a network of small ravines or draws.”

Despite the fact that Josephine Johnson’s work is a paean celebrating the uniqueness and beauty of this island, rimmed by an ever-encroaching mechanistic civilization, visitors are never quite prepared for its isolation. “No man or woman or child, coming down that drive for the first time, has failed to say, ‘My, but it’s quiet back up here;’” she has observed.

In June, the view from the “windows wide as walls” across the steep valley cut by a glacier eons ago is of a sea of green with waves of treetops rustling gently in the breeze. Pistachio, emerald, lime, olive, and myriad other verdant shades in nature’s palette color the lush foliage. To stroll through this dense forest with its undercover of wildflowers and colorful weeds is to plunge into another world. It is no trip for those with flabby muscles or sagging arches because with Josephine Johnson as an escort one does not amble aimlessly—one moves, and quickly, up and down, down and up hills that seem after awhile as precipitous as the Rockies.

“Patience pays off. Silence and stillness bring reward. (Nothing moral about it, but it’s the only way you’ll ever see anything but green vegetables and bugs.)”
"Armies of bullrushes are taking over the pond. Moving out toward the center, pushed forward by the willows. Tried to cut some of the willows with a corn knife. The old branches clanged like steel."
"Woods full of second- and third-growth trees, maples and bass, wild cherry and ailanthus, ash and sycamore and oak."
Visitors slip and slide, their slacks stained walnut by the moist earth, but Josephine Johnson takes it all in stride—the fording of the creeks, the struggle up the sharp embankments. Now and again she pauses to examine the rough bark of an oak, a gnarled root, or a granite rock whose crystals sparkle in the sun which filters through the forest roof. There are few plants which she cannot identify, nor any fibrous textures which escape her glance. Like Sherlock Holmes she carries a magnifying glass through which she occasionally peers, hoping to zero-in on a jack-in-the-pulpit or a paw-paw sheltering a gold bug.

On such an inspection tour one does not see many animals—to view them in the wilderness one must play the waiting game. There is a wicker chair for bullfrog watching propped against one of the willows that ring the pond. The old croaker who lives there, she says in her book, "is as graceful as the great Dr. Samuel Johnson in a bathing suit."

The best place to see some of the bolder of the wild creatures who inhabit this island is from the kitchen window which overlooks thoughtfully provided feeders. On a good day, a lucky day, as you munch your lunch you can see a hungry raccoon or a fox with her young. It is hard to believe, at such moments, that one is only about fifteen miles from the heart of a metropolis, and easy to understand why Miss Johnson loves this place.

The lyrical, iridescent quality of her prose takes on even more meaning when one sees what she is describing first-hand. Of the beauties of summer she writes: "In the walnut grove, whose leaves are gold in the evening light, the blue bellflowers are beginning to bloom, tall and delicate spires along the path. And the small blues, the butterflies, open their mini-wings that alternate blue and gray like dusty jewels. A bit of fudge hops in the path, a toad traveling."

That happy choice of words was no accident; Josephine Johnson has a flair for original description, fitting nouns and verbs together as precisely as if they were pieces in a parquet floor. "Man has few friends anywhere in the insect world," she begins. "Among the winged and studded, the bristling, spiked, armored, cusped and corniculated, the hairy and waxy, the creeping and crawling, warty and needle-d, the forceped and mandibled, piercing, humping, stabbing, the glabrous, oily, hairy, and downy, among the whole blind and bright-eyed stubborn, swarming.

“A raccoon’s loose, baggy shape seems to change form like a hairy amoeba. Through him flow other animals, as though they borrowed for an instant that commodious grey coat, put on the black mask.”
instinct-driven hordes that inhabit the earth and every green living plant thereon, we can count only a small, half-hearted little band of bugs as allies. We had better treasure this little palace guard, for the enemies' name is legion."

But Inland Island is more than a nature book, it is also a bitter and biting commentary on the horrors of Vietnam, urban sprawl and squalor, over-population, and pollution. And the miracle of the book is that its odd mix of observation and denunciation results in not a hodge-podge but a brilliant mosaic.

At one point Josephine Johnson decided that her indignant social protest had no place in the book and was about to blue-pencil her philosophical asides, but her husband persuaded her to reconsider. "That is what is going to give the book its strength, its meaning," he told his wife.

The reception that the book has received (as this article goes to press it is in its fourth printing and has sold 30,000 copies) and the rave notices that it has garnered throughout the country have surprised its author. "I hadn't expected anybody to read it. For one thing, it was such a hard book to describe and it didn't seem to fit into any category. I realized that such books had not been wildly popular in the past, but it was just something that I felt was my strong point. It was something about which I knew. What I wanted to do was to preserve this land in words," she said.

Josephine Johnson has done just that. Inland Island is rapidly becoming as identifiable a place as Walden, and inevitably the authors who put these oases on the literary map are being compared. Some people see similarities between the two, but Josephine Johnson is not one of them. "I'm interested in Thoreau," she explained, "but I haven't read all that he's written. I was trying to figure out the other day why it is that I find him hard to read. I think it's because he is too ruminative. He makes me want to get on to something else, he's so terribly leisurely. No, I don't see any resemblance between my book and Thoreau's. Wendell Berry's works seem much more like Thoreau's."

Nor does Josephine Johnson think of herself as a scientist although she was able to write of the ladybug with an entomologist's precision and accuracy. "I don't have a scientific attitude towards nature. But I do think it is unsentimental," she added. "I look at things the way an artist does. I don't pretend to be either a scientist or a naturalist."

"Sat by the granite boulder, almost green now, orange where the water edged around it. Found two silvery nests of vireos still knitted well with the moss between."
Whether Josephine Johnson is too modest is for the specialists in these fields to decide. But she is right about one thing—she is an artist who paints pictures not only with words, but also with pastels and watercolors. Her works have been displayed at various exhibitions, and her drawings were considered professional enough to use as illustrations in a children’s book, Paulina, which she wrote in 1939.

Drawing is something that Josephine Johnson does instinctively, and the dozens of notebooks written in longhand which comprise the Inland Island first draft are full of whimsical little creatures which she calls gnomes. “I don’t really think about what I’m drawing as I write—it is just something that I do with my hands while I’m concentrating,” she explained.

It is not surprising that Josephine Johnson should be a “gnome-doodler” for she has been drawing them ever since she was a student in Washington University’s School of Fine Arts back in 1928. At that time the late Dr. Edmund Wuerpel took one look at these strange little beings and muttered, “They have no bones.” “What he meant,” she said, “was that they had no understructure. He was trying to tell me that I didn’t understand anatomy, but after all,” she added with a mischievous smile, “who does understand the anatomy of a ‘gnome’?”

After a year in the Art School, Josephine Johnson switched to what is now the College of Arts and Sciences and spent four more years studying on the Hill. But she never graduated because she couldn’t bring herself to take some of the courses required for a degree. Josephine Johnson has a disarming way of looking at herself with detached objectivity, and she does not tend to romanticize her student days. “I was terribly shy,” she recalled, “and I was always looking for some place to hide at Washington University.” Nevertheless, she believes that she got a good education at the University and made at least one friend on the faculty, the late Alexander M. (Sandy) Buchan. “He wasn’t particularly enthusiastic about my type of writing,” she confided, “but it was good to have somebody to judge and evaluate it. Young people just beginning to write are usually overly sentimental and romantic. Sandy had a very astringent attitude toward that sort of thing, which was good.” “And besides,” she added, “writing was what I had decided I was going to do, so I just kept on.”

Buchan was not the only one who disapproved of

“Spectacular and almost grotesque, the velvet green of these roots. They are so powerful they disturb and satisfy.”
"The small crumbling cottage was built long ago when all land was farmland in this county and, with its old ragged lilac bushes, still stands near a pond in a corner of our acres."
“White moths flying low in the grass, Skies full of white stars. They seem no different from the summer nights of all the years before.”
"The wild red-and-grey fox circling the farm lots, free, running the ridge, regarding with cold amber eyes the penned white flock, or sleeping in the silence of the ferns."
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"The creek is runnjng well. The cold water
flowed through hollow cow bones on the
pebbles, the air full of little white things flying.
And on a rock a lively coal-black springtail
brisked about."
catapulted to fame and, for the reticent Josephine
Johnson, being the center of attraction was a painful
ordeal. Suddenly she was expected to be a pundit with
opinions on every conceivable subject, a situation she
found ridiculous. At the same time, there were those
who sought to use her name to advance a variety
of causes, and inevitably she was the lady every
ambitious hostess insisted had to come to dinner. "I
was not a social person," Josephine Johnson
emphasized. "In fact, I was what Shaw called an
'unsocial Socialist.' Today, I'm an unfriendly 'Friend,' "
she quipped, referring to her regular attendance at
Quaker meetings.
Subsequently, she has written eight more books,
dozens of short stories, and innumerable poems.
Despite all the praise and honors which have come
her way, however, Josephine Johnson does not think
of herself as having unusual literary talent. In Inland
Island she appraised her work and habits with a
critical eye and concluded that she has lost the
desire to become a great writer. "I am too old and
the price is too high. I can't give up all the rest of
myself—my crowded self. All the undisciplined, poorly
organized pack of women and children who live inside
me. Self-indulgent, easily tired, short of intra-span;
longing to clean house, watch birds, read books, paint
pictures, walk in the fields, eat in the fields . . .
die in the fields. And some of them want to save
the world, clean up the cities and rivers, tear
down the Pentagon."
There it is—the social conscience which all her life
has driven Josephine Johnson to battle against
injustice. "Battle,"—that's an odd word to link with
Josephine Johnson, who has always been an accowed
pacifist, but it is the only verb strong enough to
express the powerful forces within her which cause
her to fight against what she believes to be unjust.
In the thirties she was in the midst of the struggle to
help the sharecroppers in Southeast Missouri who
were evicted from their homes by callous plantation
owners; as a volunteer social service worker she went
out to Kinloch, Missouri, and wrote a series of
newspaper articles about the appalling conditions of
the black people there. Recalling those days, a friend

some of Josephine Johnson's early efforts. She
estimates that dozens of her poems were rejected, but
apparently she never thought of quitting. "It was
interesting—after all, with so many manuscripts
coming back I was getting plenty of mail," she wryly
reminisced. "Actually, it was discouraging but the
small successes seemed so enormous when I was
starting out that they made up for all the others."
And then, suddenly two years after she left
Washington University she was awarded the Pulitzer
Prize. The book which won this coveted literary
plum was written with the encouragement of Clifton
Fadiman, then a Simon and Schuster editor, who read
one of her short stories in the Atlantic Monthly and
inquired if she were writing a novel. Now in
November, today a classic which has been translated
into six languages, was gestating in her mind at the
time, and Fadiman's interest was the catalyst which
hastened its creation.
Winning this prize, one of three major awards
which she has captured over the years, was a
disconcerting experience. Over night she was
who remembers her well, said admiringly, "Josephine was way ahead of her time."

A few years ago she and her husband mastered the Frank Laubach method of teaching illiterates to read and went to Tennessee where they lived with a black family. There Grant Cannon taught at a Freedom School, achieving a heartening breakthrough, his wife remembers, when an old man who walked four miles to class each night triumphantly lifted up a John F. Kennedy souvenir glass and read for the first time in his life. The words he haltingly deciphered were: "Ask not what your country can do for you, but what you can do for your country."

More recently, Josephine Johnson, who fears crowds and refuses to fly, journeyed to Washington, D.C., where she marched with a band of Quakers protesting the Vietnamese War. The quiet courage which sometimes moves her into the vortex of conflict is something about which she does not talk. But unconsciously, perhaps, she revealed more about herself than she knew, when in another context she remarked: "Motivation is a powerful thing. You need to have an incentive in order to be able to do things."

Compared with the efforts of others, however, Josephine Johnson firmly believes that she has done very little. And so much, she realizes, needs to be done. Nowadays, she pins her hopes on young people, including her three talented offspring, Terence, twenty-nine; Ann, twenty-six; and Carol, sixteen. "I am proud of my three beautiful children," she said, "and believe that they may do more to bring about a new and better world than I have ever done."

After each sally into the outside world, Josephine Johnson returns to her refuge, her Inland Island. But nowadays even the stillness of this place, walled in by trees and several thousand books, is occasionally broken by a call from a stranger in some distant city who feels compelled to tell Josephine Johnson that he has been deeply moved by the poignancy of Inland Island. And then there is the mail—another tie binding her inextricably with the outside world. Herbert Mitgang, a member of the editorial board of The New York Times, is one of those who sent a message a few months ago requesting her to write a special essay for that newspaper. The result was a provocative piece, "Who Is Really Uprooting This Country?"

Short, powerful, and to the point, it indicted the spoilers of this land and brought admiring response from Nobel Prize winner George Wald of Harvard and Mark Van Doren. Perhaps the basic reason why Josephine Johnson is so disturbed about the squandering of our resources and the desecration of our country is because she has so much concern for all living things including man himself. This philosophy she expressed eloquently in one of the most moving passages in Inland Island when she wrote: "Appreciate the living. Live the summers now. That's all you'll ever have. That's all anybody will ever have. Wipe the fog off your glasses and you'll see the living people around. This is their now. This is all there is. Be kind now."
"On the narrow ridge where the land begins is the old barn, the small willow-bordered pond, and beyond, a crumbling cottage where the original owners lived when this was once a farm."
"I live on an island of sanity: the island of this place. I am fortunate. I no longer ask why."

photos by Herb Weitman
OUR TWO-PARTY POLITICS:
WILL IT SURVIVE?

Two-party rivalry has dominated American national politics for almost as long as the Constitution has been in effect. Yet the sway of Democrats and Republicans was challenged by the American Independent party of George C. Wallace in 1968, and it has been challenged before. Our two-party system, one of only fifteen such systems among the 135 nations of the world, may not survive the divisions of our time of troubles.

Six major parties have provided the building-blocks of our historic two-party competition: Federalists (1793) vs. Jeffersonian Republicans (1795); National Republicans (1828) vs. Democrats (1830); Whigs (1834) vs. Democrats; and Republicans (1854) vs. Democrats. Only twice have party systems broken down totally, first when national parties collapsed between 1819 and 1828, and again after 1854, on the eve of the Civil War.

On balance, our two-party politics has probably been functional. By offering rival candidates and different views on issues, parties have made politics more intelligible to voters than it otherwise would have been; and party positions on national questions have helped to shape the agenda of public policy. "Out"-parties have mounted criticism of "in"-parties and offered an alternative team of political managers. Striving to win electoral majorities, American major parties have usually appealed to broad coalitions of interests, voting blocs, and opinions. In consequence they have generally taken moderate rather than extreme, ideological positions on issues, in order to attract a wide spectrum of voters.

Critics have contended that such loose, heterogeneous
parties have often put off serious consideration of deep-seated problems, and fail to provide clear, consistent programs. The alternative in a highly pluralistic society, however, might be a multi-party system which would intensify conflict, sow confusion among voters, and impede the conduct of government—as many multi-party systems have done in European nations. In a sense, our major parties have been "multi-parties" within themselves. The result has been a tendency to moderate conflict by adjustment and compromise within the dominant party machinery. Yet today we face a question similar to that which arose in the decade that preceded the Civil War. Can such parties deal with critical social problems?

Meanwhile, the two-party norm has often been challenged. There have been fifty-six minor party candidates for president from 1832 through 1968. Yet the average popular vote for all minor-party nominees since 1828, when the choice of presidential electors by popular ballot became standard, is only 5.5 per cent. Nine "third" or "fourth" parties, however, have done better than this average in seven elections. These parties all marked significant threats to or deviations from two-party politics (see Table 1, page 37).

Two other occasions brought unusual coalitions involving major parties: in 1812, when anti-war Jeffersonian Republicans joined with Federalists to oppose James Madison's re-election; and in 1872, when a reformist, Liberal Republican faction won Democratic support in an effort to thwart Ulysses S. Grant's bid for a second term. Neither effort succeeded, but both constituted departures from two-party politics as usual.

All told, significant challenges to the two-party practice, by third parties or coalitions, have marked nine presidential elections: 1812 (coalition), 1848, 1856 and 1860, 1872 (coalition), 1892, 1912, 1924, and 1968. Excluding uncontested or non-party elections in 1789-1792 and 1820-1824, we have seen forty-two presidential contests, of which thirty-three, or not quite four-fifths, were basically two-party races. Deviations from the two-party standard in nine contests, more than one-fifth of all, suggest that the two-party norm has not been so invulnerable as most Americans have thought.

Why has the two-party pattern held on most occasions, but not on others? What can the answer to this question tell us about our present prospects?

Serious threats to two-party politics have occurred in times of national stress which have generated critical political conflict. Tension ran high over the war with England in 1812; over the issue of slavery extension in 1848 and in more explosive form after 1854; over corruption, Reconstruction, and Negro suffrage in 1872; over the plight of farmers and labor in an emerging industrial society in 1892; over questions of progressive reform in 1912 and 1924; over race, Vietnam, the conflict of generations, and other issues in 1968. In most of these instances, ideological confrontation was also unusually sharp.

In the face of such conditions, established major parties failed to adapt, failed or refused to channel dissenting currents into major-party expression, adjustment, and compromise. Party mechanisms for managing conflict proved inadequate or broke down. As a result, spokesmen for the discontented lost their sense of the efficacy of established party procedures and turned to other means to realize their goals.

Frustration with major-party processes and a rising sense of utility in other modes of action have been crucial in attacks on two-party politics. On four occasions, severe stresses have been held within two-party bounds: in the late 1790s and early 1800s in the face of sharp conflict over world politics and related issues; in the battles of the 1830s over the tariff, nullification, banking and currency, and abolitionism; in 1861-1865 over the conduct of the Civil War and issues of the Union and slavery; and in the era of the Great Depression and New Deal in the 1930s. In each of these cases, however, one of the major parties was able to give vent to new demands, adapt to the situation, and contain conflict. In part this was due to the skillful appeal of charismatic party leaders—Thomas Jefferson, Andrew Jackson, Abraham Lincoln, and Franklin Roosevelt—who were also unusually effective presidents.

Periods of two-party persistence have generally been far longer than the relatively brief episodes of deviation (see Table 2). Thus the two-party norm appears to have been rooted in certain basic characteristics of the American experience. Our economy and society have generally been characterized by opportunity and well-being for most Americans, despite major exceptions like Negroes and the deeply impoverished. The result has been a relative minimum of class antagonism or profound social conflict, in comparison with other nations. Our national political culture, meanwhile, has grown up around a classi-
Campaign poster of the short-lived American Party, better known as the "Know Nothings," displays candidates ex-President Millard Fillmore and Andrew J. Donelson.
cal, liberal tradition which has stressed human dignity, equality, and moderation as matters of general consensus. Society and the liberal tradition have helped to sustain a prevailing pragmatic approach to politics which has emphasized conflict-resolution and compromise rather than insatiant, ideological demands. In this context a positive sense of political efficacy in our pragmatic major parties, usually coupled with a sense of futility in third-party ventures, has also become a part of American political culture.

Attenuation of these conditions in the face of social crisis and severe conflict has set the stage for significant challenges to the two-party standard. Ultimate resolution of the problems causing critical conflict has, in turn, facilitated a restoration of two-party politics as usual.

Institutional arrangements have also helped to make third-party ventures uncertain, and have thereby sustained the two-party practice. Notable examples are the election of the president by a majority of electors chosen by voters within each state, and the election of congressmen and other officials by plurality vote in single-member districts rather than by proportional representation. Other methods—choosing presidential electors by proportional representation within the states or by special election districts—might have served as "accelerators" for multi-party tendencies. The incidence of significant third parties in our history, however, suggests that election procedures have acted only as "brakes" on multi-party tendencies, rather than as invulnerable barriers.

What of our situation today? Severe social tensions, critical conflict, ideological confrontation, and disenchantment with the major parties, have all marked our present time of troubles. Yet in 1969 these basic conditions for deviation from two-party politics stirred a sense of efficacy in third-party ventures only on the right. The liberal left held back, hoping for an ultimate restoration of the Democratic party.

Neither major party could have adapted wholly to the racist, right-wing populism of the Wallace crusade, although the Democrats might have adjusted more readily to their liberal, anti-Vietnam, peace wing at their national convention, and avoided the Holocaust of the Chicago streets. With a substantial 13.5 per cent of the total popular vote, the American Independent party won 5.5 per cent or more of the vote in forty-two states; and it carried five states, all in the deep South. Without the last-minute Democratic drive to undercut Wallace's appeal, especially among union members, he might have done far better. Today he is clearly looking forward to another try next time, and his cohorts are organizing accordingly.

What the future brings will depend heavily on major-party adaptation to pressing problems. If the Republicans under Richard M. Nixon can generate the will—and find it politically feasible—to take hold of such critical issues as war and peace, the crisis of black and white, poverty within affluence, urban disintegration, and alienation, we might simply reaffirm the two-party standard, as we have done after third-party ventures in the past. If the Democrats can achieve renewal without undue internal strife, they might regain the allegiance of the liberal left, intellectuals, and even alienated youth, and provide a hopeful alternative for the future. The sense of efficacy in major-party action, rooted in American political culture, held up surprisingly well against the stresses of 1968; and it might gain new strength in the decade to come.

Yet it is uncertain whether Nixon—and the heavily white, middle-class, middle-road, cautious voting coalition he appealed to—can provide effective action to resolve sweaty problems. A strong line in military defense at the expense of significant domestic reconstruction will not serve. Neither will a Johnson-like stance on Vietnam while the war drags on, vacillation on desegregation and the needs of black Americans, apparent indifference to the physical and social quality of our environment, or bearing down on student activism. If the next few years essentially mark time rather than mark progress in treating underlying social ills, and the Democrats cannot accomplish party renovation, political polarization will harden and persist; and the emergence of a self-conscious mass of "troubled" whites may further complicate matters. The sense of efficacy in the major parties may well decline accordingly. In the 1970's, moreover, significant third-party action may come from an aroused left as well as from the right.

In an era of a virtually unprecedented rate of political change, prediction is hazardous. Yet in a new failure of major parties to adapt, the two-party norm might be seriously threatened or even superseded. For the first time in our history, we may have to conduct national political business through a continuing multi-party scramble, with all the confusion this would entail. As 1972 approaches, the issue hangs in the balance.
Several well-known "third" parties received less than the average of 5.5 per cent of the total popular vote, including the Anti-Masonic party of 1832 (2.7), the Greenback party of 1884 (3.4), the Henry Wallace Progressives of 1948 (2.4), and the Dixiecrats of 1948 (2.4).

### TABLE 1

<table>
<thead>
<tr>
<th>Election</th>
<th>Significant &quot;Third&quot; Parties</th>
<th>Per Cent of Popular Vote</th>
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<tbody>
<tr>
<td>1848</td>
<td>Free Soil</td>
<td>10.2</td>
</tr>
<tr>
<td>1856</td>
<td>American (&quot;Know Nothing&quot;)</td>
<td>21.5</td>
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<tr>
<td>1860</td>
<td>Southern Democratic</td>
<td>18.1</td>
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<tr>
<td>1892</td>
<td>Constitutional Union</td>
<td>12.6</td>
</tr>
<tr>
<td>1892</td>
<td>People's (&quot;Populist&quot;)</td>
<td>8.5</td>
</tr>
<tr>
<td>1912</td>
<td>Progressive (Roosevelt)</td>
<td>27.4</td>
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<tr>
<td>1924</td>
<td>Socialist</td>
<td>6.0</td>
</tr>
<tr>
<td>1924</td>
<td>Progressive (LaFollette)</td>
<td>17.1</td>
</tr>
<tr>
<td>1968</td>
<td>American Independent</td>
<td>13.5</td>
</tr>
</tbody>
</table>

### TABLE 2

<table>
<thead>
<tr>
<th>Period</th>
<th>Persistence, Two-Party Contests</th>
<th>Number of Elections</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>1796, 1800-04-08</td>
<td>4</td>
</tr>
<tr>
<td>2</td>
<td>1816 (Non-Party, 1820-1824)</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>1828-32-36-40-44</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>1852</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>1864-1868</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>1876-80-84-88</td>
<td>4</td>
</tr>
<tr>
<td>7</td>
<td>1896, 1900-04-08</td>
<td>4</td>
</tr>
<tr>
<td>8</td>
<td>1916-20</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>1928-32-36-40-44-48-52-56-60-64</td>
<td>10</td>
</tr>
</tbody>
</table>

33
Art Vervack, Washington University's director of personnel, is back on campus this fall after a year's leave of absence to serve as the first head of a new and highly successful volunteer job placement agency for disadvantaged workers. In that first year, BYU, Inc., placed 1666 "hard-core unemployed" in jobs, proving in Vervack's words, "disadvantaged workers can stand on their own feet if an employer will just give them a chance."

BYU, Inc.'s three offices, located in the heart of the St. Louis black ghetto, offer disadvantaged workers, black and white, assistance in finding jobs and, through followup counseling, in keeping them.
HELP WANTED

Jim was walking down the street with two of his friends when he saw a sign reading “BYU” on a storefront in the heart of the Negro ghetto in St. Louis. He had been looking for a job for four months and had about given up hope. Because of poor eyesight, even the Army had rejected him.

Jim is a nineteen-year-old black youth with only an eighth-grade education. He started high school, but dropped out because he couldn’t do the work. Although Jim didn’t know what BYU stood for, he read the word “Jobs” underneath. So he and his friends, also jobless, walked in off the street.

BYU, Inc., which finds jobs for the hard-core unemployed, black and white, in the St. Louis area, stands for Business, YMCA, and the Urban League, co-sponsors of the agency. BYU is not the only agency in the area trying to place disadvantaged workers in jobs, but it has produced remarkable results in its first year of operation.

The agency, headed by Arthur V. Vervaeke, personnel director of Washington University, placed 1666 persons its first year—two-thirds more than its original goal. Its retention rate was an impressive 54 per cent.

When Jim and his friends entered the BYU office, they were given application forms and asked to list their education, job histories, references, hobbies, and police records. Jim filled out the card, and waited. “I wondered if I was ever going to get a job,” he said. “I was tired of sitting at home doing nothing.”

Counselor Gus Brown, who interviewed Jim and his friends, said: “I’ll tell you right now that Jim impressed me the least. He was slow and withdrawn, while the other boys were much more extroverted.”

Brown told the boys to report back to the BYU office at 8 the next morning, when a van would transport them to a vending machine assembly plant for job interviews.

Jim was happy when he told his mother what had happened that day. “She told me not to get my hopes too high,” he said, “But I couldn’t help it. I was so excited I could hardly wait for the next morning.”

Jim is the eldest of seven children. His mother and father are separated, and his mother does clerical work in an office. Two of his younger brothers also work.

The next day Jim suffered a temporary setback. Although he scored the highest mark on the manual dexterity test, his friends got jobs and he was rejected.

“I wasn’t surprised,” Brown said, “Jim didn’t do too well in the interview. He was so quiet that the personnel man had to pull the responses out of him. But I told Jim to keep in touch with me in case something else turned up. When Jim left the office, I didn’t think I’d ever see him again.”

The next week, Jim sat around the house watching television. It was one of the worst times in his life. His friends were working and he wasn’t. He was feeling his lowest when Brown called him.

“Jim, that personnel man wants to hire you. Your buddies didn’t work out. They were absent from work half the time. Are you still interested?”

Jim couldn’t believe his ears. “Yes, I am, Mr. Brown.”

Brown talked with Jim’s mother, who arranged transportation for him. Brown still had his doubts that Jim would make it. “However,” he said, “in this business the least likely guys sometimes make it. You never know.”

Although Jim had never worked in a factory before, he was confident that he could learn the job, which consisted of checking timing devices on vending machines.

“It took me about a day to learn everything,” he said.

In four months, Jim has had no problems on the job. He earns $2.79 an hour and in some weeks grosses $140 with overtime. He gives half his wages to his mother.

“I really don’t know where the time goes now,” Jim says. “I hardly have time for anything but work. I go to the movies on Sunday, but that’s about it. I always try to get to bed by ten o’clock.”
While Jim seems to have no time for anything but work, many of the disadvantaged have a hard time fitting regular work into their lives. "If I knew the causes of absenteeism and tardiness, I'd be a millionaire," one job counselor said.

Most of the applicants are black, but BYU works with poor whites also. A wino who quit his job after one week told the counselor: "I got almost nothing from my paycheck after the 'deducts.' I can make more money begging nickels and dimes on the corner and I can drink wine all day too."

Unfortunately, far too many men return to the so-called "good life" on the corner after they have quit their jobs. But BYU counselors make strenuous efforts to keep them on the job.

An example is Bob, a black youth of twenty-three who was on probation, after being arrested for carrying a gun, when counselor Eugene Hendricks found him a job in a chemical plant.

"For the first few weeks he was on the job, I'd get a call nearly every morning from the personnel office," Hendricks said. "They'd ask, 'Where is Bob?' I found out where he was: sound asleep. I had to get him an alarm clock. Before that, I'd phone at 5 a.m. to get him out of bed. Of course, the problem was that he was used to staying out all night and it was hard to break the habit."

Hendricks and other BYU counselors kept after Bob. They convinced him that he should get to bed earlier. They rode herd on him.

"Gradually," Hendricks said, "I noticed a change in Bob's attitude. He decided that he was going to stand on his own feet. We stopped receiving the calls from the personnel office. We stopped hearing from Bob. When we called him, he was doing fine."

Bob has turned out so well that his employer rates him as one of the best men BYU has placed at that plant. He was drafted into the Army recently, but there will be a job waiting for him when he returns.

"BYU goes that extra step," said E. A. Smith, personnel manager for American Air Filter Company in St. Louis. "The worker is counseled before he is interviewed, while he is applying, and after he goes to work. Other agencies do not normally counsel this extensively."

Personnel managers like the added service that BYU gives them. This doesn't mean that other agencies are not doing the job, but that BYU has zeroed in on the problem of the hard-core unemployed and has offered the employers better service. The BYU counseling service, of course, is free to both applicants and employers.

Charles DeLargy, St. Louis manager of the Missouri State Employment Service, remarks, "We do follow-up counseling, too, but we don't apply it to everyone as BYU does."

DeLargy, who endorses the BYU effort, said that the hard-core unemployment problem is so serious that there is room for duplication of effort. "We can't do the whole job," he said. "We need the cooperation of organizations like BYU."

Mainly the creation of W. R. Persons, chairman of the board of Emerson Electric, the BYU concept was developed in late 1967 and put into operation as a demonstration project by the following June. He and other businessmen wanted to see if a privately funded agency with strict budget controls could do a better job at less cost.

Vervack, a veteran personnel man, was asked to serve as BYU's first executive director. Although he had been personnel director of the University for only two years, his year's leave-of-absence to help get BYU started was approved by Chancellor Thomas H. Eliot.

"Without the University's commitment to community service, I would never have had this opportunity," Vervack said.

Vervack's record in personnel work made him almost the ideal man for the job, although he never imagined he'd be working in that field when he received an engineering degree from Washington University in 1949. After graduation he went to work in the plant design department of Ralston Purina Company. A short-time later, a personnel man convinced him that he should take an opening in the firm's personnel department. He has been handling personnel problems ever since. In 1966, he ended seventeen years with Ralston Purina to rejoin his alma mater as director of personnel.

Vervack was already well known in the St. Louis business community when he joined BYU. He has served as a United Fund loaned executive in three campaigns and has made hundreds of talks as United Fund Ambassador. He originated the popular Gateway to Careers program,
Arthur V. Vervack, director of personnel at Washington University, served as the first director of BYU, Inc.

which has served more than 6000 St. Louis area college students since it began in 1965. A past president of the St. Louis Industrial Relations Club, he still serves on the club’s executive committee.

“There isn’t a personnel man worth his salt who doesn’t know Art Vervack,” said A. L. Depke, another veteran personnel manager and a member of the BYU executive committee.

“We chose Art for the job for a number of reasons,” Depke said. “For one thing, he is a seasoned executive who is familiar with personnel and employment problems facing the metropolitan area. Second, he is well known in the business community and has demonstrated leadership in similar projects before. Finally, Art is exceedingly personable and is able to get through corporate doors to put the BYU message across.” Persons said Vervack was “amazingly strong” in providing guidelines and direction to get BYU started.

Funding was one of the big problems that Vervack faced in the first year of operation. “We were prepared to spend up to $500,000 to operate the project,” he said. “We received $250,000 from Civic Progress, Inc., and $150,000 from the Danforth Foundation.”

First year expenses totaled only $320,000. The remaining $80,000 went into the budget for the second year of the project. That, plus $300,000 more ($150,000 each from Civic Progress and the Danforth Foundation) will enable BYU to operate through next August.

Vervack is especially proud that it costs BYU only $167 for each job placement. “The best previous figure for job developers in this area was about $360 per placement,” he said.

As soon as the doors of the three BYU offices opened, applicants started streaming in. The word spread through the ghetto grapevine that BYU meant business—that you could get a job there if you wanted to work.

“We didn’t advertise,” Vervack said. “If one man got a job, he’d tell his friends and on down the line.”

It is a challenge for BYU counselors to place men in jobs, because traditionally the woman has been more stable in poverty areas. The men often have prison records or suffer from narcotic addiction or alcoholism. But BYU counselors have placed some of these men in jobs and they turned out to be dependable workers.

Counselor Dunbar Gilson remembers an ex-convict
who charged into the BYU office packing a revolver. He
wanted to even the score with a man who had stabbed
him the previous day during an argument on the job.
Just out of prison, Bill had worked at a factory just one-
half day before he lost his job because of the fight.

On Bill’s application, Gibson wrote “hot temper”—
probably the understatement of the year. “I calmed him
down some way and then we started talking about his
background,” Gibson said. “I believed in him from the
beginning because I knew he had something on the ball.”

Gibson took the man to a factory, where he was hired
despite his prison record. He worked there for six months
and then quit to become a mechanic in an auto repair
shop. Since then, he has been working steadily, married,
bought a house, and now is about to become a father.

Less spectacular is the case of a man and wife who
both got their jobs through BYU. The wife works as a
clerk-typist at a chemical company and the husband as-
sembles air conditioners at another local plant. The hus-
band, Curtis, says he would like to be a welder and has
been promised a chance when a vacancy occurs.

“BYU is the hardest working outfit I’ve ever seen,”
Curtis said. “They really work for you if you want a job.”

Although 77 per cent of the first year’s placements
were men, BYU has also been successful in placing
women. One girl has been extremely successful. Sandra, who
had worked at a variety of jobs, was placed in a training
program of a large company. “I resented the fact that I
was placed in a training program, because I had held
other jobs before,” she said. “But I didn’t protest and took
part in the program.”

The personnel manager of the firm, realizing Sandra’s
potential, created a new job for her. She now counsels
other girls going through the same training program.
Sandra, who had quit many dead-end jobs, now has a
career unfolding before her. “It is the most challenging
job I’ve ever had,” she says.

For all the Sandras and Curtises, there are many fail-
ures. You have to be optimistic to be a BYU counselor.
“I’ve supplied clothing, a place to live, transportation to
the job, and even spending money for some applicants,”
a counselor said. “Yet after the first paycheck I never
see them again. It takes a lot out of you, but you’ve got
to keep trying.”

At a BYU office, Vervack confers with a job counselor. All
BYU applicants are counseled before their job interviews,
while they are applying, and after they go to work.
Other agencies have been less successful than BYU with the problem. An official of another agency said that a special program to place 600 hard-core unemployed in jobs has resulted in only ninety-seven placements. “Of that number, we really don’t know how many are still on the job because follow-up counseling is not done.”

Many employers are reluctant to hire disadvantaged workers. When BYU opened its doors, some of them complained, “Why another agency to help the hard-core unemployed?” BYU’s service soon persuaded some employers to hire disadvantaged workers, but many others still offer resistance.

“Some employers say, ‘Well, we won’t go on record as saying we won’t hire anyone,’ but when we bring an applicant to them they aren’t interested,” a BYU official said. “It’s discouraging. And there are employers who hope that an applicant won’t make it on the job so they can say, ‘We told you so.’”

Another complaint the counselors have is that some firms require too much education for entry jobs. There’s no reason why a janitor has to have a high school education, yet some firms require it. One firm maintains that all employees should have the potential to be promoted. That could be valid reasoning, but too many firms use education as a club to screen out disadvantaged workers from entry jobs.

BYU counselors also ask that employers be realistic when considering the police records of disadvantaged applicants, because it’s so easy to acquire a police record in the ghetto. The ghetto-dweller who doesn’t have a police record is the exception, not the rule. They advise employers to study the police record with care. “Many times these people have been picked up on suspicion,” Vervack said. “What counts are the convictions. Has the man actually been convicted of any crime?”

Some companies have a rule against hiring anyone who has committed a felony. Says Vervack: “I think they could waive that rule in the case of a forty-year-old man who was convicted of a crime when he was seventeen years old and whose record has been clean ever since. Such a man has paid his debt to society and deserves serious consideration for a job.”

Several months ago, Vervack met with St. Louis leaders of the National Alliance of Businessmen program (NAB) which spearheads a nationwide effort to hire minority workers. He presented them with the results of BYU’s efforts at the one-year mark. He remembered a similar meeting the year before when he sought job-pledge sharing from NAB but was turned down because BYU was then another untried agency and NAB was already committed to a working arrangement with the state employment service.

Out of the recent meeting a new agreement was reached in which BYU now receives one-third of the total number of job pledges from the twenty-seven St. Louis companies which belong to Civic Progress. This amounts to about 400 job pledges for BYU.

When current BYU funds run out next August, the future of the organization will be in question. However, BYU leaders feel confident that it will not suffer the fate of so many hard-core employment programs which started with a lot of money and fanfare but collapsed when the original funds ran out.

For one thing, the U.S. Department of Labor is greatly interested in the program, according to BYU’s founder, W. H. Persons. “I don’t think there is another program in the country as complete,” he said. “Other programs provide partial services, but no one else offers the package approach.”

Both Vervack and Persons would like to preserve the private character of BYU, as they believe that this is one of the reasons that it has been so successful. Vervack’s personal opinion about the long-term future of BYU is that funding could come from the St. Louis companies who benefit from the service. “If we came up a little short, I think Civic Progress and the Danforth Foundation would make up the difference,” he said.

There is also a possibility that the BYU approach could be extended to other cities. Inquiries have come from businessmen in several cities who have expressed interest in starting similar private programs based on the BYU model.

Looking back over the experience, Vervack said, “I’m grateful that I played a part in starting BYU. I’ve learned that disadvantaged workers are people with unusual problems. They can stand on their own feet just like the rest of us, if an employer will just give them a chance.”
Dr. Calandra began his career as a professor of chemistry at the City Colleges of New York and the University of Chicago before joining Washington University in 1947. During those years, he metamorphized into a physicist and developed a strong interest in education. He has served as a consultant to the St. Louis Public Schools, the American Council on Education, the Thomas Alva Edison Foundation, the Xerox Corporation, and the National Science Foundation. He was one of three delegates from this area to the White House Conference on Education, joining Father Paul C. Reinert, president of St. Louis University, and Jacqueline Grennan Wexler, former president of Webster College. Professor Calandra's unorthodox background makes him relatively free of the conventional biases in educational matters, a point well made by the following article.

In his role as consultant to the St. Louis public schools, Professor Calandra frequently gave demonstration lessons like this one a few years ago before a fifth-grade class. An interested spectator in a back row is Dr. James B. Conant, former president of Harvard.
THE NEW MATH:
Why Johnny Can’t Add

When future historians look back on our times, what developments in education will they be most apt to regard as a wanton waste of our energies, talents, and resources? One of the most likely candidates for this unhappy distinction is curriculum reform, and within this field it is highly probable that the teaching of the “new math” will be considered a national disaster.

To the struggling student, the frustrated parent, the dedicated teacher, the harassed administrator, and the supporting philanthropic foundations, all of whom have been victims of a monstrous if unintentional hoax, this statement will be unbelievable. It is nevertheless literally true, and only the passage of time and the usual face-saving devices will make it generally acceptable.

“New mathematics” or “modern mathematics” originally meant the content and style of those branches of mathematics that were developed since the turn of the nineteenth century. The occasion for the adoption of this type of mathematics by American schools was, in large measure, the trauma associated with the revelation, in the wake of Sputnik I, of very substantial scientific and technological progress by Russia—a country that had been regarded as far behind the United States.

The logic leading to the adoption of the new mathematics began with the plausible inference that some changes in the teaching of science and mathematics were needed to cope with modern problems. Unfortunately, since the word “modern” also appeared in the expression “modern mathematics,” this trivial linguistic coincidence was mistaken for a thoroughly justified and extremely urgent pattern of reform.

The confusion resulting from this mistake was so great that future historians will probably note that in the last decade the expression “modern mathematics” really referred to something that was neither modern nor mathematics, but was mostly a status symbol invoked by mathematicians applying for grants, educators looking for prestige, and publishers trying to sell books. The prestige of the mathematicians, the anxieties of the educators, and the merchandising skills of the publishers led to the widespread adoption of a pretentious pedantry whose commercial motivation was obvious to knowledgeable individuals.

Most of these individuals were reluctant to criticize the movement openly, partly because of misguided considerations of professional ethics and partly because of a fear of jeopardizing the acceptability of their own grant applications by the very agencies which funded the development of new math programs. So it came about that ideas that were once the butt of jokes by professional mathematicians became enshrined as the epitome of pedagogical wisdom.

There were, however, a few courageous individuals who reacted openly and strongly to the bizarre evangelical enthusiasm which, in the absence of substantial opposition, the new mathematics aroused. Leading the dissenters was Dr. Morris Kline, chairman of the mathematics department of New York University. Although Kline’s attacks on the movement shook up quite a few of the new math devotees, the vested interests involved were far too great to stop its forward march. Said Kline, “All of the changes amount to no more than a minor modification of the existing curriculum and all talk about modern society requiring a totally new kind of curriculum is sheer nonsense.”

Kline’s views, however, were generally ignored by the large group of administrators, teachers, and parents, who had been mesmerized by the glittering claims of the innovators and their sponsoring foundations and publishers. Many of them are still enchanted, even after some of the original leaders of the movement have had second thoughts on the wisdom of their actions.

A strong source of opposition to the movement was the mathematics department of Western Reserve University. Spearheaded by the chairman, Walter Leighton, the department sent a scathing indictment of the new math movement to school administrators of Ohio. It included such statements as: “Sophistication in trivial matters and
superficial treatment of difficult ideas making a fetish of logical perfection."

As the idiocy of much of the new mathematics movement became more generally recognized by professional mathematicians, a committee of seventy-five of the most eminent mathematicians in the country produced a revealing commentary, which said in part:

"The need to learn much more mathematics today may cause us to seek shortcuts which, however, could do more harm than good. To offer such subjects to all students as could interest only the small minority of prospective mathematicians is wasteful and amounts to ignoring the needs of the scientific community and of society as a whole."

But most such comments were quite isolated and appeared mainly in professional journals rarely read by teachers or administrators.

This state of affairs induced some of the innovators to behave like those fanatics who redouble their efforts every time they lose sight of their objectives. Convinced that their efforts were bringing the millennium of mathematics education, the promoters attempted to infiltrate the Canadian school system. Professor Alexander Wittenberg of York University, in reviewing a new mathematics textbook for consideration for Canadian adoption, noted:

"For the student and sometimes, I am afraid, for the teacher as well, this approach amounts to an education in pseudo-sophistication. Our findings might be summed up thus: there is much less in this enormous text than meets the eye."

As would be expected, European commentators were, on the whole, capable of making reasonably astute and unbiased evaluations. E. B. C. Thornton of England commented after a visit to this country:

"The general reception of these new ventures seems to have been favorable. How much of it is due to the intrinsic merit of the texts, how much to the badness of the courses they have replaced, and how much to the excitement and enthusiasm of the teachers, it would be hard to establish. The American's delight in everything new also plays a part, no doubt."

Perhaps the most significant observation on the value of the teaching of the new mathematics comes from L. S. Goddard of the University of Tasmania:

"During the last decade or so, there has been a strong trend, particularly in America, to push back into the schools some of the abstract notions of mathematics, together with the appropriate terminology. The fashion spreads and carries with it a social obligation to fall into line and follow the crowd. It is a dangerous experiment, and may lead to a generation mathematically illiterate."

Not only has the new mathematics movement as a whole been subjected to severe criticism by distinguished critics but the specific items recommended have been attacked with equal vigor. W. W. Sawyer of Wesleyan University has ridiculed the pretentiousness of introducing set terminology into the schools:

"One writer urges that the students 'become active participants in an adventure in the learning of concepts.' And what is this adventure? The students give the teacher their own examples of sets. They begin with sets of rather similar things; but soon the adventure has risen to the pitch where they can contemplate such sets as 'the nose of the notary, the moon, and the number 4.' The students have been led with great pedagogical skill to the breathtaking conclusion that any collection of things is a collection."

R. A. Staal of the University of Waterloo (Canada) mimicked modern elementary mathematics texts with:

"Oh, see, Johnny has a set of marbles. See Johnny's set. Look, look, Billy has a set of marbles. See Billy's set. Here comes Mary. Mary gets all the marbles. Mary gets the union of Johnny's set and Billy's set."

Nobel Laureate Richard P. Feynman, professor of physics at California Institute of Technology and former member of the California State Curriculum Commission, had occasion to select mathematical textbooks for the California schools. His description of the merits of the introduction of sets into those schools is a good summary of the nonsense associated with this development:

In almost all of the textbooks which discuss sets, the material about sets is never used—not is any explanation given as to why the concept is of any particular interest or utility. The only thing that is said is that "the concept of sets is very familiar." This is, in fact, true. The idea of sets is so familiar that I do not understand the need for the patient discussion of the subject over and over by several of the textbooks if they have no use for the sets at the end at all.

It is an example of the use of words, new definitions of new words, but in this particular case a most extreme example, because no facts whatever are given at the end in almost all of the books. A zookeeper, instructing his assistant to take the sick lizards out of the cage, could say, "Take that set of animals which is the intersection of the set of lizards with the set of sick animals out of the cage." This language is correct, precise, set theoretical language, but it says no more than, "Take the sick lizards out of the cage." People who use mathematics in science, engineering, and so on, never use the long sentences of our imaginary zookeeper.

If we would like to, we can and do say, "The answer is a whole number less than 9 and bigger than 6," but we do not have to say, "The answer is a member of the set which is the intersection of the set of those numbers which is larger than 6 and the set of numbers which are smaller than 9."

It will perhaps surprise most people who have studied these textbooks to discover that all the elaborate notation for sets that is given in these books almost never appear in any writings in theoretical physics, in engineering, in business arithmetic, computer design, or other places where mathematics is being used. If you see no need or reason for this all to be explained or to be taught in school, it is not a useful way to express one's self. It is not a cogent and simple way. It is claimed to be precise, but precise for what purpose?

The idea of sets is, of course, not the only defect in most of the new mathematics programs. The materials are generally ridden with a labored, prissy pedantry which
is used to give the impression of deep mathematical insight. The emphasis on the distinction between number and numeral (the name of a number) is an example. The nonsense in the emphasis is obvious when verbal language is used with the same affected precision:

Teacher: Who are you?
Student: I am Robert Jones.

Teacher: Oh, dear. You must never say that. You should say that you are the boy whose name is Robert Jones. After all, you do not mean to say that you are made of letters.

Innovators, administrators, and teachers who become ecstatic about this distinction between number and numeral are in much the same position as Molière’s Monsieur Jourdain, who was thrilled to learn he spoke prose.

Evaluations of the modern mathematics movement by the promoters themselves are occasionally quoted to show that this approach does not lead to deficiencies in routine skills. This type of evaluation is subject to the kind of weakness that was inherent in the evaluation of Krebiozen by its developers.

A most interesting evaluation of the effectiveness of instruction in mathematics appeared in the *International Study of Achievement in Mathematics*. On March 7, 1969, the *New York Times* stated that this study showed that:

"Students who had studied the new mathematics with its stress on the early understanding of theories rather than traditional problem solving scored higher."

This statement is based on a most unusual interpretation of a rat's nest of some shaky statistics. The report itself recognizes this:

"In view of the rather limited basis which could be devised for distinguishing students who had 'New Mathematics' from those who had not, the conclusion may be surprising; it should, however, be recognized that if only the more able students have had experience with the 'New Mathematics' that this alone could account for their superiority. Since many schools are known to give new mathematics only to their more able students, this observation is a very significant one."

Not only do this and related factors show that the conclusion in the *New York Times* is completely unjustified, but an interpretation of the data presented in another section of the report shows that there is a very strong negative correlation by countries between the amount of new mathematics studied and the total test achievement. Thus, the students from Israel and Japan, countries which did not teach new mathematics, scored first and second in the section of the test where the American students were quite comparable to those in other countries in this study. On the other hand, the United States, which taught a substantial amount of new mathematics, scored tenth among a group of twelve countries that took the test.

The manner in which the IEA report came to be used to justify the teaching of the new mathematics is an excellent example of the way educational innovation sponsored by government agencies and philanthropic foundations creates such a vast network of incidental vested interests that it is almost impossible for adverse results to filter through such a network without being progressively distorted until they appear favorable to the innovation.

The most serious criticisms of modern math are inadvertently made by the promoters themselves. One of these is the effort to train the parents to teach what the teachers themselves, in a much more suitable environment, cannot. Another is the pious reference to the "new, new mathematics," or the second wave of mathematical reform. For the most part these appear to be euphemisms for saying that the original reform was grossly misdirected. Still another is the cavalier admission of educational brinkmanship by Professor Edwin E. Moise of Harvard University: "One thing was obvious, however, as soon as the books were written, and before they were tried: the improvement in intellectual content was so great that they surely would produce either an educational improvement or a collapse of classroom morale."

In fact it is by no means clear that there has not been a collapse of classroom morale in a substantial number of cases. Some candid comments to this effect have appeared in the *New York Times*:

"Dr. Max Beberman, the noted University of Illinois pioneer in the field . . . told mathematics teachers in Montreal last month that 'a major national scandal' may be in the making because of hasty introduction of the new mathematics in the elementary schools. He said this was harming the teaching of arithmetic to children who would need its skills for the tasks of adult life. A survey by the *New York Times* of other leaders in mathematics education found this concern widely, though not unanimously, held . . . Prof. Paul Rosenbloom of the Minnesota Mathematics and Science Teaching Project said: 'I have seen some very shocking things taking place. Certain kinds of nonsense have been spreading very rapidly.' He assailed some commercial textbook publishers who have been hiring 'hacks to do the same old rote job' on the new math as was done on the old mathematics."

*In many ways the new math movement has the character of the Children's Crusade of the Middle Ages. It is recognized as such by many responsible educators, but it is difficult to stop because of the very large and tightly knit web of vested interests preying on the mathematical unsophistication of the press, the public, and the foundations themselves. Under these circumstances, I urge administrators to forget the prestige of the sponsors and view with restrained enthusiasm anything which does not really make sense to them, rather than be Sputnik-panicked into the hysterical adoption of new programs. Administrators might consider opening and closing each curriculum meeting with the following quotations from two famous mathematicians:*

"It is a safe rule to apply that when a mathematician talks with a misty profundity he is talking nonsense." — A. N. Whitehead.

"It is very easy to be impressed by something you do not understand too well." — G. H. Hardy.
On first looking at the moon

ONE AFTERNOON last month, we had a closeup, firsthand look at some pieces of the moon. They were tiny samples of lunar dust and "gravel" and they looked to us like nothing so much as fragments of charcoal. The thrill came in realizing that they were not charcoal but actual pieces of the moon more than three billion years old and that it cost about twenty-five billion dollars to get them here.

The moon material was displayed during a press conference held at Compton Laboratory of Physics and presided over by Dr. Robert M. Walker, McDonnell Professor of Physics and director of the University's Laboratory for Space Science.

Washington University is one of 142 science centers to receive a portion of the lunar material brought back from the Sea of Tranquility by the Apollo 11 astronauts.

Flanking Dr. Walker at the conference were members of the outstanding team of international experts assembled at Washington University to study the moon material with a variety of techniques. Included on the team are scientists from France, Belgium, Germany, and Japan.

In his opening remarks, Dr. Walker stressed the fact that no detailed reports on what his team is finding will be released to the public at this time. To give all scientists a chance to make a fair appraisal of their work, the 142 participating teams have agreed to make a joint report sometime around the first of next year.

He did say, however, that the first studies of the lunar samples have shown that the moon is "a more varied and interesting place than scientists had reason to hope." From the initial studies by an examination team at Houston, already made public, Dr. Walker cited three findings that are, in his view, of the greatest interest.

Most important, he says, scientists have been surprised to find that the moon rocks are very old and have had long exposure to cosmic radiation, a fact which doesn't support some recent thought that the moon was much younger and its cosmic age shorter. "The older theory—that the moon has changed little since its formation—now seems to have substantial validity," he says.

A second surprising finding, Dr. Walker says, is the tremendous variety and heterogeneity of the material. Under the microscope the samples show an amazing variety of shapes and colors. "It is clear," Dr. Walker says, "that the dust and gravel are a rich harvest of all sorts of different things."

Thirdly, the chemistry of the moon material studied is strikingly different from that of earth—the remarkably high titanium content of the samples being just one example.

Dr. Walker is one of the developers of one of the techniques being used to study the lunar material. Called the "fossil track" method, the technique detects "scars" or tracks left in the crystals by the action of nuclear particles. The tracks can provide fundamental information about the history of the solar system and about the way in which it works.

Working with Dr. Walker on the track studies are Michel Maurette, from the University of Paris; Udo Haack, from the University of Gottingen; and Ghislaine Crozaz from the Free University of Brussels.

Using other techniques to study the lunar samples are three teams headed by Dr. Misuhiro Miyajima of Waseda University in Japan, Dr. Mark Wittels of the Atomic Energy Commission, and Dr. John Kardos of the University's Chemical Engineering Department.

To the naked eye, the pieces of the moon displayed at Compton Laboratory might resemble charcoal or coal dust, but when examined by the various techniques being used to probe their secrets, they turn out to be something quite different.

"All in all," Dr. Walker says, "they are objects the likes of which have never been seen on earth."
When the St. Louis Cardinals played host to the World Champion New York Jets in an exhibition game in August, the encounter matched two coaches with strong Washington University ties: Weeb Ewbank of the Jets, who coached the WU Bears in 1947 and '48, and Charley Winner, AB 53, of the Cardinals. It was also a happy family reunion, as you can see from this picture of Mrs. Charley Winner greeting her father, Coach Ewbank.

Coach Ewbank confers with his quarterback, Joe Namath, who led the Jets to victory over the Baltimore Colts in the Super Bowl last year. Ewbank is the only coach in professional football history to win the championships of both the National and the American leagues. In the late 1950's, he led the Baltimore Colts to two NFL titles.

Coach Winner confers with his quarterback, Charley Johnson, MS 63. Johnson, who is finishing up work on his doctorate in chemical engineering at Washington University, outdueled the fabulous Broadway Joe Namath to lead the Big Red to a 13-6 victory over the Jets and to put Coach Winner one up on his famous father-in-law.