FLORENTINE ART . . . Barbara Murphy and Rosalind Schwartzberg, seniors in the School of Fine Arts, hard at work on the 3000 woodprints they produced as part of a volunteer project for Florentine flood relief. Prints were sold at Wohl Center, the Campus Book Store, and Block's Bookstore, with all profits going to help victims, both human and artistic, of the recent floods in Italy.
For many a freshman, the transition from secondary school to a university campus can be a difficult and tumultuous experience. To make the climb up the "Hill" a little less rugged for those in the class of '70 enrolled in the College of Arts and Sciences, Washington University last fall introduced a new freshman advisory program. Fifty-six faculty members are serving as their mentors in a project which is proving mutually rewarding for both scholars and students.
THE SOUTH FORTY'S TURF, burned brown by the summer's sun, bruised easily as it bent under the weight of footlockers, mounds of suitcases, and bulging flight bags heaped in wild disarray around the dorms. In front of Wohl Center a rock 'n' roll Robin Hood with a long bow over one arm and a record player under the other perched atop his possessions as dear old dad unloaded a stock of stereo "platters"—mostly Beatles, a little Bach. Not far away, a girl whose straight, streaked hair fringed the top of her mini-skirt guarded a Gargantuan print of a Campbell Soup can, which was either way "in" or "out," depending on whether you like Warhol or Wyeth.

At some other time and in some other setting, they might have stood out from the crowd. But on that muggy September day when these two and hundreds of other freshmen from all over the country arrived to take up residence on campus, neither they nor their bizarre "treasures" looked out of place. Confusion, commotion—a kind of controlled pandemonium—enveloped the Forsyth Houses as their occupants brightened up the corners with Bates bedspreads, University pennants, and corkboards thumbtacked with snapshots of those they'd left behind.

But theirs was not the only busy place on campus that weekend preceding "F.O.W." (Freshman Orientation Week). On the second floor of north Brookings in a small, squat room with two worn desks, a slim, auburn-haired graduate history student, Mrs. Karen White, and her assistant struggled to put the finishing touches on a project that was to involve not only a good many of those moving into the dormitories, but many student commuters as well. For these two young women were part of a team which had labored all of that long, hot summer of 1966 to organize a freshman advisory program.

The idea of freshman advisors was not new—from time to time various groups of faculty members had advocated such a system. In the late fifties, Edward D. Lambe of the physics department felt so strongly about the matter that he and some of his colleagues set up a kind of informal "F.A.P." (freshman advisory program). Dr. Michael W. Friedlander, associate professor of physics, and a participant in this pilot scheme, remembers it well. "Ours was really an amateurish effort," he recalled. "We didn't do any detailed course advising, and only about ten per cent of the incoming freshmen were involved." For these and other reasons—because it was not "properly structured," as a knowledgeable dean put it, and because it lacked official University backing, this pioneering effort failed. But the ghost of the so-called Lambe plan haunted the corridors of Brookings.

In 1963 a committee was organized by the Liberal Arts Faculty Council. Its task was to explore the idea of establishing a workable advising program, but no concrete plan evolved from its proposals. Finally, however, as the result of recommendations of the College Planning Council, established in 1965, the freshman advisory program became a full-fledged project of the University.

That it did reach fruition is attributable in great measure to the driving energy of Barry D. Karl, its chairman, and Peter N. Riesenborg, head of the Council's subcommittee on advising and counseling. Through the efforts of these members of the department of history and the help of Lattie F. Coor, Jr., assistant to Chancellor Thomas H. Eliot, the idea of freshman advisors was transformed from a "gleam in the eye" into a viable program that was officially launched this past fall.

Its purpose, according to a Karl-Riesenborg memorandum, was "to enable students entering Washington University to sit down with someone who has reason to be concerned with intellectual life at the University and discuss their present and future academic careers." Few at the University quarreled with this lofty aim, but there
My advisor asked me to try and raise half of my C's to B's, and he told me he had faith in me. That kind of interest sort of gives you an extra push to go back and try a little harder.

ANN HIRSCHI
students and faculty members with similar interests. The scheme didn't always work out for two obvious reasons: some students didn't have a definite subject preference; and of those that did, a top-heavy proportion signed up for pre-medicine. With 739 freshmen in the College of Arts and Sciences to be divided roughly into baker's dozens among 56 advisors, it was not possible to pair every potential physician with a scientist.

Is this necessarily bad? Dr. Guido L. Weiss, professor of mathematics, is one of those who wonders. "All but one of my advisees are pretty well committed to doing something with mathematics," he explained. "It's not clear to me that this is necessarily good. I'm not against it, but I'm not sure that it's a beneficial thing either. It seems to me that a student at the freshman level should be exposed to many disciplines. He should not choose his major at the beginning of his college career. He might discover completely new interests. My own experience convinces me that this can happen. I started out in college wanting to be a sociology major. I didn't even know mathematics existed as a topic. Then I vascillated among many subjects. It's only because I was accidentally exposed to it that I eventually became a mathematician."

There is a difference of opinion, also, as to exactly what the role and functions of an advisor should be. Some, like Dr. William M. Sale, associate professor of classics, view the job as primarily an academic one. "I don't think at this point that I would want to get involved in any other role than that of academic advisor—unless the student really felt that he had to turn to me. I'd offer help if help were necessary, but I wouldn't want to encourage a more social relationship. I don't think of that as being appropriate."

At the other extreme are those who consider advising to encompass very broad responsibilities. One such faculty member is Dr. James M. Vanderplas, professor of psychology. "One of the things that I should like to see fostered," he declared, "is the idea that the faculty advisor is—I hate to use the word—a sort of 'mother-hen.' But that's essentially the role he's trying to play. I told every one of my freshmen to feel free to call on me for any reason. If they are having personal adjustment problems on the campus; if they're having fights with their roommates; if they're accused of a crime; if they find themselves in jail on Saturday night—call me up. I don't know what I can do about it, but at least I think I ought to be involved."

Somewhere in between in this debate is Dr. Thomas S. Hall, University professor of biology. "This question of whether it should be strictly an academic process or something broader is very interesting," he confessed after pondering it several minutes. "I think I'd be inclined to play that by ear. I'd like the students to feel free to raise all kinds of problems and if I didn't feel capable of solving them, I could certainly quickly direct the student to the place where he could get help."

On one point, however, nearly all the advisors are agreed—the freshman advisory program is a good idea. For some, the fact that it brings them into closer contact
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DR. JAMES M. VANDERPLAS
placing in a 211 or 212 course after three or four years of high school study will receive credit. But the 101 and 102 courses are still considered remedial for students who earned two years of modern language credit in a secondary school. The purpose of the stipulation is to prevent students who are new to a language from having to compete with students who have had two or more years.

Like most compromise solutions, this one does not satisfy everybody, but most advisors view it as a step in the right direction. Nearly all are careful to point out that this sticky subject should not be permitted to blur the very real contributions of the freshman advisory program, for these regulations preceded the latter’s development by some years. What the “FAP” did do, however, was to focus attention on the individual inequities of the system.

Concentrating on the student as an individual is, after all, the basic purpose of the freshman advisory program. Dr. Hall made this point cogently when he remarked, “I think such a plan is very much needed on a campus like this. We have such a big university here. True, it’s not so big as the large state universities, but still it’s big enough so that a student can get a sense of loneliness.”

But is the program actually working? Have the first-year students really turned to their advisors for help with specific problems? It would be naive to pretend that all the freshmen are satisfied with the plan, or even believe that it is necessary. David Hadas, assistant professor of English and a residence hall master, emphasized, “There are many students who don’t want to go and see their faculty advisors—they don’t need to, they don’t want to—and I think this is fine. On the other hand, there are students who have real problems and who are in large classes. Often they don’t have faculty members whom they are close to—they need someone to talk to and I think the faculty advisor may turn out to be that person.”

Talk to professors and students and you will come away with a notebook full of examples of how advisors have helped make the road a bit smoother for their advisees. One youngster had to have an appendectomy. He immediately called his advisor, who hastened to talk with the boy’s teachers. Arrangements were made for the student to hand in his homework late, and a difficult situation for a freshman was made a bit easier.

Another advisor had two students who needed jobs. He was able to get one a position as a research assistant and has bright prospects of placing the other in a laboratory during the second semester. There the boy will make meter readings and work with various kinds of scientific apparatus—experience he needs to qualify for an oceanographic expedition this summer. This same advisor personally found a tutor for a pre-medical student who was having trouble with German.

One girl from the deep South found it difficult to adjust to her language teacher who had a thick European accent. Embarrassed to tell the professor about the problem, she confided in her advisor. “I understood how she felt,” he explained. When I was her age, I would have found it impossible to handle the situation. I’m sure I probably

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TERRENCE MURPHY
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DR. THOMAS S. HALL
he saw to it that I took a rather broad course, and I'm learning about many different subjects."

Ann Hirschi, a tall blonde from Oklahoma City, had a similar experience. "During the summer," she recalled, "we had to fill out a schedule and send it in. That was a terrible job, because I didn't know what to put down or anything. When I got here my advisor suggested that I vary my schedule a little more, and I followed his suggestions. At mid-terms when I went to talk to him, he was most encouraging. He asked me to try and raise half of my C's to B's, and he told me he had faith in me. That kind of interest sort of gives you an extra push to go back and try a little harder."

Geoffrey Lowe, from a suburb just outside Chicago, also found his mid-term advising conference helpful. "My math grade wasn't too high," he confessed candidly, "but my advisor comforted me a bit by telling me that he had received the same score his first term. That made me feel better. I figured if he made it through, so could I."

Some of those freshmen who were most enthusiastic about the program, however, thought that it could be improved. At present, first-year students are required to see their advisors twice each semester—during registration and at the end of each term to get their schedule approved. They are also encouraged to discuss their mid-term grades with their faculty counselor. Quite a few students favor more formal advising meetings, and some thought the sessions should last longer. But the overwhelming majority favored the program for one primary reason. Because of it, they felt they had contact with somebody on campus who cared.

"It's sort of like having a father-image there to show you which way you should be going," said Joan Bibbero of San Francisco. "I don't see how the kids last year did without it," Ann Hirschi exclaimed. "You always hear how things are so impersonal at college," a Denver coed, Honoria "Honey" Niehaus, added, "but that's not true here—from the beginning I've had my advisor to talk to, and I know that if I ever need anybody I can go to him."

Articulate, studious Terrence Murphy from Clayton, Missouri, summed it up: "I found my advisor a nice guy to chat with, and I've been back two or three times to see him. We seem to have a lot in common and he's given me some sound and helpful advice."

Most students made it clear in their comments that they were sincerely appreciative of the help they had received from their advisors. This attitude struck Dr. John Sprague, assistant professor of political science, as remarkable. "The students," he marvelled, "were absolutely delighted to get so much extended attention from a member of the faculty."

Such a response, of course, is one of the reasons why so many faculty members have found the freshman advisory program such a satisfying undertaking. For some, however, it is more than an enriching experience, it is a rewarding one. Such a person is Dr. Gaspar, who observed with disarming candor, "Perhaps at this stage of the game the students are doing more for us than we are for them."
Sarah
Sarah sings at Homecoming. For two years before coming to Washington, she played the guitar and sang folk songs on a regular television show in Nashville.

**Sarah Stifler is a freshman.** She is one of 1038 freshmen who came to Washington University this fall from all over the country. We've picked Sarah from among all these hundreds of freshmen for many reasons. Obviously, she is photogenic; but more than that, she typifies the fact that today's students aren't typical. They come in all shapes, sizes, flavors, inclinations, talents, and outlooks on life.

Sarah is one of those students who fits into no preconceived category. She zooms from class to class on a motorcycle, wearing boots, crash helmet, and all the accessories. When she gets to those classes, she is a serious and talented student—a girl who has wanted to be a painter from earliest childhood and is determined to be one.

She is also an accomplished musician. She plays the guitar and the piano, sings folk songs, and even writes songs. For seven years, she produced marionette shows for children and was booked solid for birthday parties.

Most of the students at this university today are multi-dimensional personalities—hard-working, involved in the campus and the community, deeply interested in making the most of the years on the campus. Sarah is just one of many.
Sarah goes feminine. Discarding the motorcycle togs, she shops for additions to her dresser wardrobe at a store near campus.

Metalwork shop takes a lot out of a girl.
Sarah
In this article, Nicky Nystrom, fine arts senior, and Len Batterson, second year law student, give their impressions of their years at Washington University, and make a few gentle suggestions about how things might be.
THE RINGS OF DIVERSITY

Most of us arrive at this University still trailing clouds of high school glory. Our slates are clean and life has yet to draw her circles around us. When we leave Washington University, we do so with some circles around us, a few more people part of us, and a different climate within. The University experience is one of expansion and contraction. There are moments alone with books, and thoughts, and laws, and chemicals for some—moments in a quiet corner of Olin Library, in a zoology lab, or in a dusty hole in Ridgley. These are moments of solitude, but not of silence.

There are also the moments of shouting—of a dash to the park on an impulse, or with an impulsive friend; of disorganizing a “free university”; of lunch in the quad or water fights in the dorms; of class and non-class. There are unique choices, activities, and relations, when life is colored as we wish it and we create our own substance. Perhaps all the alternatives are not equally worthwhile, but this is ours to discover. We spend a lot of time just finding out and there is no reason to feel guilty for not always studying. We stumble toward our ends, set our own standards, find some purpose or place where we can live in the reasoned or unreasoned confidence that we have some being or worth.

The administration tries to keep us from being totally degenerate, to keep us thinking, and at the same time to keep their jobs and the campus intact. We have times of rest and times of active tension. We crave points from which we can counterpoint. We judge more frequently than we diagnose, preach incessantly about respect for each other’s ends and standards, and yet infringe on them at whim. We are sometimes students, sometimes lovers, generally moving, often reflective, value-judgers uncertain of values.

Several years ago there was an undergraduate controversy over the value of the fraternity system. One faction was for storming the fraternity houses and establishing in their stead a shrine of Independence—another faction was for “clean hands and clean shaves.” The combatants were dogmatists and the language was generally invective. There were a few sophisticated arguments. Some were asking for change without labels.

We were a smaller campus then and the issues and alternatives were narrower. We are broader now and we have more to argue about. There is the war in Vietnam, which seemingly no one can figure out. There are new shades in religious, ethical, and moral thinking—not only thinking, but bringing our thoughts to life.

A silent community has gathered before Olin Library for several months now. They appear intense, concerned, and involved. In this weather, they also appear cold. They are individuals standing together, each with his own feelings and motives and conceptions, joined by the idea of “making love, not war.” Theirs is a quest, and yet some will argue that if life is one long quest, it isn’t worth much. Those who found the Holy Grail left the world, and those who failed were little better for the effort. Some would sing that each man should live his life with joy and zest and lack of guilt—a combination of Zorba and Zhivago. If we did not quest for peace perhaps others would not quest in arms—perhaps our flaw is in our ceaseless questing. Should we be judges or diagnosticians? Do we choose meaningful alternatives: those which heal?

We may judge and refuse to heal because we are incapable of resolving our own frustrations, balancing our inner conflicts, and selecting alternatives which give meaning and shape to our person as we wish it. Some seek balance and resolution in religious communities; some are happy in nothing; others turn to humanism, agnosticism, or atheism. There are those of us who believe in Hell and those who live in it. Some seek the security of a community
because they cannot grow alone. A few want the security of never fearing both for doubt and alternatives. The path of fleeing for one is the path of finding for others.

We live at the University in an easy belief that the tendency for final answers is the essence of stupidity, and yet for most it is difficult to live in internal peace without at least a few temporary refuges: mental, emotional, and physical waysides from which we can move up.

Many are the places of rest on this campus. They may be nothing more than plunging into an activity, fighting out an idea, being absorbed in an intellectual discipline, or moving and being moved by another. We may know that our efforts will disappear as new faces and forces appear, but we are content in our appearances and contributions, relying not on a notion of omniscience, but on a personal psychology which is equal to our technology—no struggle for firstness, but a finding of personal completeness. Life demands only growth. Perfection is an elusive something, not to be consciously rejected, nor to be unconsciously embraced. We may always try harder, but there must be times of rest, so we can see the alternatives and choose with some meaning.

Alternatives do not have to be mutually exclusive, but we can make them so. We may force a dichotomy between professionalism and personalism. Here we mean professionalism in the sense of a dedicated pursuit of goals: the undergraduate striving for a base for the move to advanced study; the graduate student preparing for the larger world; and the teacher-researcher attempting to hold some of the spectrum of truth. By personalism we mean acting ourselves: becoming authentic and thus capable of filling the voids among us with trust, affection, and warmth, of becoming something more than merely present.

Professionalism and personalism are polar alternatives only if we choose to make them so. The demands which this University makes on our time, energy, and emotion are obviously increasing. Its mission is increasingly one of professionalism, and justly so. Competition can make for more time at people than with them. We are busy with ideas, with turning inward. Perhaps for a time personalism must be sacrificed and a minimal base developed from which we can encounter others and make a significant contribution. The danger is that in becoming accustomed to manipulating ideas, we may never discover people. We may place ourselves in an intellectual monastery for years. Perhaps at the graduate level, this is necessary for a while, but it is important that our monastery does not mule us for life—that we do not develop the habit of making personalism and professionalism mutually exclusive. When we come out, we must still have something to say, and while we are here, we must communicate our ideas and research so that both our learning and our lives may grow as one.

There is one area of University life in which we are beginning to grow as two in one. Most of us have managed to notice that there are two sexes on this campus. But is the University community conscious of more than a biological distinction? Both sexes are exposed to the same intellectual diet and performance ratings are similar—the suffragettes won these battles picket-lines ago. However, there are a few telltale signs of distinction outside of class. Often we hear men, and coed groups too, exchanging ideas for hours—in a dorm bull session, over a beer at Santoros, over coffee in Unrath; but rarely do we hear a group of women discussing anything of higher concern than dress and social life. Perhaps this is due to women's jealousies; perhaps women have not been trained to communicate as they have been to speak. Programming on the South Forty has mitigated the problem somewhat and sorority life makes a contribution, but lack of meaningful contact is still apparent. We congratulate the women on campus for enjoying the pleasure of his company, but we wonder if they know each other.

One further note on the distinction between men and women—in an area where we seem to be losing it. One of the unfortunate developments at Washington University in recent years is how completely informal the campus has become—in dress, speech, and behavior. We don't believe that external are necessarily reflective of internals, but there is a danger that slovenly habits may lead to slovenly thought. There are few University traditions left which require any more formality than a sweater and a pair of slacks. Homecoming tossed out one of the last elements of formality this year and the dorms stopped Sunday dress rules two years ago. Granted, the University cannot force an individual to show concern for his appearance, but the desire should be present. There needs to be concern for the person who uses his slovenly dress as an excuse for not dating, for seeking the comfort of fanatic and minorities, or for hiding his personality problems.

There is one place at this University where we may choose not to face ourselves, but we must face others. To some it is the South Forty, for others the “pad” or the apartment. It is the place where we turn with weary mind after the day’s academic life. How has Washington University equipped the student for this community life, and how has the student reacted when placed in this community environment? In the past five years, a strong foundation has been laid in the residence halls—a foundation built by students who felt that they really were living somewhere and wanted a voice in this living.

Five years ago, community living in the South Forty
was a farce, and the Congress of the South Forty ineffec-
tual. Upperclass students living in dormitories and their
programs and policies were viewed as demented by the
in-town student, the apartment dweller, and the men on
fraternity row. A few students had the foresight to see
that a community could be developed and they gained
the influence and power to build it—in the midst of constant
construction. The dorms began to participate effectively
in Homecoming, Thurtene, Bearskin, and other campus
activities, and they developed their own spirit group, "El
Loco." Citizens of the South Forty began to contribute
action and enthusiasm to the campus.

The University community was not really prepared for
the dormitories. Fourteen dorms in eight years with 1,800
young adults is enough to tax the best preparation. Only
today does the administration realize the potential and
see that the resident has something to say. It will continue
to see this, and it will use resident opinion. The resident
must first voice that opinion with a semblance of grace
and then scream if necessary. Washington University
provides avenues of communication—varied committees
where even if there are few concrete results we can un­
load some tension, and once in a while opinion will be­
come fact.

The class or seminar room is the center of our little
world. It is essential that there be a feeling of mutual
respect in these incubators of thought, a sense of free
communication between the learned and the learner, an
air of reciprocity. If the classroom air at this University
is clean, then a student will be better equipped to meet
his roommate, his family, or the crew at Kruegers. The
apartment dweller has even broader streets to travel. He
rides buses, meets neighbors, shops in stores, eats in
restaurants.

Our air must be free of the competition for academic
merit badges. We are sure that the truth and the Univer­
sity will manage to survive the pressure of grading, but
such quantification leaves much to be desir­
ed in measur­
ing our efforts, evaluating our worth, and guiding our
selections. Recent University consideration of the “pass­
fail” system is an excellent first step toward more mean­
ingful evaluation, but we must do more than just consider
this proposal—we must implement it. The University com­
munity must also undertake a continuing evaluation of the
present course structure. This must be more than a faculty
effort. The curriculum must be flexible enough to admit
new areas of student knowledge and interest. Students
should not only be represented at the proceedings of the
faculty and Faculty Council, but should be called upon
for an expression of current interests at these meetings.
Because of the fluctuating nature of student interests and
the problem of balancing current student interest with
faculty expertise, effective curriculum implementation will
take some effort, but we must begin. We often work best
when we are excited. More of the immense talent of the
faculty must be directed to current student needs and in­
terests. We need technical and professional knowledge,
but we also need stimulation and intellectual adventure.

There is a wailing need for an increase in student, ad­
ministration, faculty, and alumni dialogue about University
planning, functioning, and policy. Student Assembly
has managed to gain a larger voice in University affairs.
Policy in student affairs has progressed from administra­
tion-student control (the Board of Student Affairs) to a
strengthened student government. This government needs
a new political base. We must build a governmental struc­
ture which has direct representation from every major,
active, organized group on this campus—from the sailing
club to the organization for a free university. This govern­
ment must have a substantial increase in its funding and
must be flexible enough to include new groups when
organized. This government should have representation at
the meetings of the Faculty Council. It should serve as a
crossroad of ideas and a forum for debate. The President's
Council, started several years ago, was a useful step in
this direction.

Further dialogue is also necessary between students
and alumni. Alumni mean more to this University than
just their part in the fund-raising campaigns. The students
as well as the University can benefit from alumni experi­
ce. Closer relationships might be achieved through the
effective re-activation of the Student-Alumni Committee,
the extension of invitations to alumni to act as advisors to
various student organizations, and the formation of an
alumni group similar to the Faculty Fellows. Students
should also be able to obtain career guidance from alumni
in various professions.

There are at present several examples of effective com­
munication on this campus, among which the residence
hall organization and the Mary Brooks Holmes Lounge are
outstanding, but there are other worlds of silence. On the
whole, the faculty and the administration are concerned
about student affairs, and they do listen to student criti­
cism and suggestions when they are voiced with patience
and determination. They will bear the reasonable as well
as the unreasonable, but we must discover and present the
alternatives.

This is a big campus and a little world. Like our larger
world there is uncertainty, alteration, separation, and joy.
Life and mood change often here. It is always so when
there is freedom to act and to think and to select ways of
being. There are the times of quiet dignity and the times
of shouting. Whatever our moments, let us put on the
rings of diversity and dream of things that never were. Let
us still have the courage to ask: Why not?
There are many hyperactive children, perhaps one in every grade school class. They are in trouble at home and at school. Sadly, their parents and teachers often don’t know that they can be helped. Dr. Mark A. Stewart of Washington University’s psychiatry department directs a clinic in Children’s Hospital in which many hyperactive children are treated. He also is doing research to determine the natural history of the condition. A Cambridge University graduate, Dr. Stewart trained in psychiatry at Renard Hospital; he works as a biochemist on carbohydrates in brain and nerve tissue when he is not being a child psychiatrist.

HYPERACTIVE CHILDREN

By ROGER SIGNOR

Tommy was a mystery to his parents. Basically, he was well-meaning and generous. But when he was with a group of children he tended to become over-excited, throw tantrums, or get into fights. He was bright and curious, but he had difficulty with finer motor coordination such as painting and printing. His restlessness and short attention span had become a problem in kindergarten. He didn’t finish his work, and he roamed about the room, distracting the other children.

Tommy’s teacher felt that he needed more firm discipline at home. But no amount of reasoning, sending him to his room, or spankings had a noticeable effect. His father (whom we shall call Mr. Stevens) had a theory that since Tommy was one of four children he needed more individual attention. Mr. and Mrs. Stevens tried to give Tommy more time, but while he calmed down somewhat when he was alone, his restlessness always returned when he was in school or with other groups of children.

At first, the family’s pediatrician had thought that Tommy needed only some time, perhaps a year, to grow out of his undesirable behavior. This was when Tommy was four years old and his parents had expressed concern over his restlessness and tantrums. “Take care not to give in to his tantrums, but give him all the support you can; I think that this should blow over by the time he enters school,” the doctor had speculated. But it didn’t blow over, and the pediatrician changed his mind when the Stevens returned to him a year later, bewildered and fatigued from unsuccessfully trying to allay Tommy’s symptoms, which had intensified when he entered school.

The doctor then suspected that Tommy was exhibiting the so-called “hyperactive child syndrome.” He referred the Stevenses to a child psychiatrist, who verified this diagnosis. Tommy was placed on one of a family of stimulant drugs, which curiously have helped many hyperactive children. Very shortly, Tommy’s restlessness subsided. (At first, the psychiatrist followed the boy’s progress closely through bi-monthly interviews.) Tommy is six now and his symptoms have lessened considerably and he is doing well in school. In fact, his teacher is amazed at his improvement.

Tommy’s psychiatrist, Dr. Mark A. Stewart, assistant professor of psychiatry and pediatrics at Washington University, has treated a large number of hyperactive children over the past four years in clinics and in private practice. Since 1964, he has directed a research group in gathering detailed information on hyperactive children and their families. This research already has helped to clarify the syndrome; long-range goals are to provide definitive information on whether the condition “burns itself out” when a child reaches ages eleven or twelve, and whether the condition may be hereditary. Many clinicians believe the answer is yes in both instances, but careful studies such as Dr. Stewart’s investigation must be carried out over a period of several years in order to check the scattered observations which point in these directions.

A number of researchers in this country and in Europe
Curiosity overcomes a six-year-old patient of Dr. Stewart. This little boy was particularly restless, which is a part of the hyperactive child syndrome. Dr. Stewart is helping to clarify these symptoms in his current research.
have turned their attention to the hyperactive child in recent years. The syndrome has been fairly well known to psychiatrists and pediatricians for some time, but the public is still largely unaware that it is a distinct medical problem which can be successfully treated. Articles on the subject are only now reaching wider audiences through newspapers and magazines. Some of this information, however, has been misleading, if not entirely inaccurate. Hyperactive children frequently are lumped together as "brain-damaged children." While it is true that brain damage may generate the symptoms in some children, Dr. Stewart points out that it is also a fact that most hyperactive children do not have histories of brain damage. The most promising theory at present is that the children suffer from a delay in the physiological development of the brain due to an unknown cause.

Tommy and his parents belong to a lucky minority which receives early diagnosis and avoids perhaps years of anguish. Although Tommy was a great concern to his family, he actually is mildly hyperactive.

In a recent report, Dr. Stewart gave a sketch of a typical hyperactive child:

"Charles was nine years old when first seen, and the chief complaint was that he was doing badly in school. He vomited a lot as a baby, banged his head and rocked in his bed for hours, and cried much more than his sister. At eleven months, walked at two and a half years, didn't talk in sentences till four. Always very active, he has broken a bed and a trampoline and wears out the double knees in his jeans before the second washing. Has not talked in sentences till four. Always very active, he has broken a bed and a trampoline and wears out the double knees in his jeans before the second washing. At age five, he was constantly turning off the furnace and water heater. He does not learn from punishment, is afraid of nothing, wanders from home and gets lost, dashes into the street without looking. He never completes projects at home and never finishes work at school. Hard to get to bed at night, he takes two hours or more to go to sleep and gets up at six a.m. Neighbors 'live in quiet terror' because he has run water into their basements through the hose, ridden his bicycle over their gardens, and blocked their sewers. He fights all the time with the neighborhood children and has no friends. In school he is 'creative' in avoiding work, he hides his books, eats crayons, tears papers, and pokes the other children. Every teacher reports that she has to stand over him to get him to do any work. Though bright, he has had to repeat second grade twice and is now in a special school."

One of the stimulant drugs had a dramatic effect on Charles, Dr. Stewart reported. This, too, was typical. Drugs have the most marked effect on children in the broad, middle range of intensity of symptoms. Unfortu-
some hyperactive children are physically immature. They are smaller and less well coordinated, and their speech isn’t as clear. The brain just isn’t functioning at the level you’d expect. The idea of delayed development also is strengthened by observations—although we haven’t proved it yet—that most hyperactive children grow out of their symptoms when they are eleven or twelve.

“We do know that there isn’t another condition in psychiatry that responds so dramatically to drugs. It happens in about half of the children, but it is an obvious change: the children simply turn into different beings. This suggests strongly that there is a specific biochemical imbalance in the brain that’s being set right by the drugs.”

There also is a negative factor that tends to confirm the idea of physiological delay. “When you see a child who is psychologically disturbed by parental mistakes or emotional problems, it is almost always transparently obvious. But when you talk with the parents of hyperactive children, you find that their ways of raising their children are about the same as a given normal group. I believe that if there were a psychiatric determinant it should be fairly obvious and it isn’t.”

At first various barbiturates were used to treat hyperactive children. But in the 1930’s psychiatrists realized that the drugs tended to aggravate the children instead of helping them. Charles Bradley, director of a home for disturbed children in East Providence, Rhode Island, tried stimulants on hyperactive children, and, oddly enough, the drugs had a calming effect. The drugs have been used successfully since Bradley’s first report in 1937. In addition, recent studies by Dr. Leon Eisenberg of Johns Hopkins University and others show that psychotherapy has little to offer these children in allaying their symptoms. “Despite the evidence to the contrary, many psychologists and psychiatrists feel that the basic problem stems from deep-seated anxiety and tension.” This is due to the fact that a majority of psychiatrists are analytically oriented, and tend to view all aberrations as attempts to satisfy an emotional need. (Although the research findings point to a physiological cause, the hyperactive child may develop personality disorders which are secondary to his basic problem.)

“It should be pointed out that there has been very little research in the field of child psychiatry—period,” Dr. Stewart said. “So it isn’t surprising that alternatives for a problem such as this just haven’t reached a very broad audience.” The only truly broad and comprehensive programs of research in child psychiatry in this country are being conducted at New York Medical College and at Johns Hopkins, he added, and the greatest concentration
About half of all hyperactive children respond dramatically to one of a family of stimulant drugs. This response suggests strongly that the condition has a physiological basis.
Parents can do much to supplement drug therapy. Dr. Stewart emphasizes that parents must first recognize that their child will not act in a completely normal way, despite the efficacy of the drugs.
of research in the world probably is in one city, London.

Ignorance of the problem of hyperactive children on the part of educators in general is abysmal. But Dr. Stewart (and most teachers) believe that the responsibility to enlighten rests with the experts—the child psychiatrists. A glimmer of hope has sprung up in the past few years as more of them are beginning to spread the word through talks and articles in the press. It also is encouraging that a growing number of psychologists and neurologists are taking an active interest in the problem.

A major factor contributing to misunderstanding of hyperactive children is that most fathers and grandparents of these children are fond of the notion that their “Charley” is simply “all boy, only more so than usual.” In addition, Dr. Stewart pointed out, most teachers and school officials stick to the theory that Charley simply needs more discipline. “They insist that the child just isn’t being disciplined at home; the father thinks that his son is all boy and that his wife is being too soft; so the mother is caught in the old squeeze play. It is almost always the mother who realizes that the problem is more complicated than this. She is immensely relieved when the school asks that the family seek medical help.”

In view of all of the above, it isn’t surprising that physicians and psychiatrists see only a tiny fraction of the hyperactive children, who probably number in the hundreds of thousands throughout the nation. One positive aspect of this rather bleak picture, Dr. Stewart believes, is that experienced teachers intuitively develop ways to handle the problem, although they don’t understand it.

“This probably also helps to explain why we see only the tip of the iceberg. The average teacher may do her best, and this may be a ‘good’ best. In some cases, she may tear her hair out trying to get the child to do his studies, but she still doesn’t refer the parents to a physician or clinic. She is convinced that the problem is due to poor discipline at home. Most parents and teachers probably just stay ahead of the game, and don’t realize that help is available.” (Teachers who are trained to handle special classes are largely aware of the problem; however, these teachers are a small minority in education and would have only a small fraction of all hyperactive children, because they deal primarily with retarded children or others in whom hyperactive symptoms are secondary.)

Dr. Stewart estimates that about 90 per cent of hyperactive children seen in the clinics don’t get treatment until they are in school, usually not until the first or second grades, and frequently not until later.

He also feels that a significant number of hyperactive children go on to be juvenile delinquents or exhibit other antisocial behavior. “A hyperactive child, say at eight years old,” he said, “is doing more than his share of lying, or impulsive acts, such as taking change from his mother’s purse. The child simply acts impulsively, never stopping to think about what he’s doing. Things become serious if he is inadequately supervised at home. Each time he gets away with these acts, his tendency for this behavior is reinforced. When he reaches twelve, the physiological problem behind his restlessness may have disappeared; but by then, he may be a budding delinquent. The child is vulnerable in a chaotic home situation. Children from more favorable environments tend not to become delinquent.”

There is much that a parent can do to supplement drug therapy.

Professor Stewart recommends that first parents must accept the idea that their child isn’t going to behave as a normal child and that it is harmful to push him to compete with normal children in school work or sports. Then they should make sure that he is observing the essential house rules and stop worrying about minor infractions—no amount of discipline will completely control the hyperactive child, and constant nagging will tend to convince him he is a failure and a bad boy. They must also make a special effort to find things the child can do well and thereby build his confidence (swimming often is an ideal activity, which is something the child can do alone, and doesn’t have to compete or wait turns). Finally, Professor Stewart recommends that parents cut down on the number of stimulating experiences for the child, such as being with large groups of children; steer him away from emotionally frustrating experiences, and keep him occupied with projects that he can handle.

“When we see these children they are flunking in most areas of life. They are discipline problems at home and at school. They’re unpopular. In other words, all-around failures. So if the parent spends a good deal of his or her time bugging the child, the child will accept the idea that he is a failure and will become demoralized. The parent has to try everything to help him out of this notion.”

Tommy, the boy discussed at the outset of the article, had formed a defeatist attitude at age five. He would say forlornly after a day at school, “My teacher doesn’t like me.” It was painful for his parents to see Tommy rejected by many playmates in favor of his more easy-going brother. Now, a year later, after proper treatment, Tommy is sought out by his friends and for the first time he proudly brings home completed papers from school.

But the sad fact is that most Tommys and Charleys are misunderstood. They are told each day that they are simply bad boys and failures. And, Dr. Stewart concluded, this is something few of them will outgrow.
Bill Kohn spent the academic year 1965-66 painting in India on a Fulbright grant. He and his wife covered thousands of miles on a motor scooter, visiting crowded cities and remote villages. Here are the Kohns' impressions, in prose and drawings, of their Indian year.
EXPECT THE UNEXPECTED

The limpid eyes of a water buffalo rarely focus beyond the tails of its fellow beasts, except on those singular occasions when we observed that the stolid animal could actually sprint... and did... at us! The brave motor scooter, which transported us through 4,000 miles of Indian countryside and as many cow and buffalo herds last year, provoked a few particularly sensitive creatures to combat. These challenges provided our only terrifying travel moments in India and thoroughly stifled any chuckles at the unusual road safety signs in English, advising the motorist to “Expect the Unexpected.”

A vivid example: After leisurely driving down a south Indian city street, we found ourselves suddenly surrounded by a single frothing cow, butting at us and stamping four determined hooves. It had pursued us for three blocks through thick market day crowds, unable to win our slightest attention; but now we were rooted to the stop sign, shivering captives. After a victorious froth, it snorted off about ten feet to observe our next move. Slightly shaken, we decided the beast had sated its tourist appetites and continued into the bazaar—a grave psychological error. Thoroughly angered by our boldness, it renewed the chase most effectively through the rest of town. You must join the delighted townspeople of Vijayanagar, the gallant gentry stampeding from their shops for the spectacle of two very pale foreigners in pith helmets (true signature of colonial intentions) speeding wildly on a strange white animal, waving and yelling on all sides before the onslaught of someone’s sacred relative! A wonderful tale to spill along the banks of the mighty, neighboring Tungabadhra.

By trial and future fleeting errors, we discovered that the buffalos considered us a two-headed massive monster when we moved among them. However, if I dismounted, raised a very visible stick high, and yelled “H U T” in true Gujarati tones, the poor beasts suddenly understood our human elements, and I could lead the scooter through the most awesome herds unscathed.

Shifting dust roads, frequent mechanical calamities, and intransient animals did not discourage us from exploring tribal country near Baroda, where Fulbright had loosely attached Bill to the university’s Faculty of Fine Arts. One Saturday morning we drove 50 miles east to Chota Udaipus, the scene of a fantastically colorful, infamous market. The fierce-looking Bhil aborigines gathered there weekly to trade meager harvests, court likely marriage prospects, and spend their energies on drinking, dancing, and demonstrating remarkable skill with the longbow. Stories circulated all around us as to the exact number of tourists lost during the demonstrations. In absolute incredulity, we watched brown, brown men, bamboo bows carelessly obvious, hunting through the bazaar for arrows or a new yellow and red handwoven loincloth. Their women, bodies swaddled in red and black printed cloth, were vying for heavy aluminum ankle, toe, and nose rings, with covered faces, but long sticks of legs showing naked to the thighs.

That enticing glimpse, and our chance meeting some weeks later with a man who has devoted his life to taming and developing the aborigines, sent us eagerly over five rivers and countless miles of oxcart trails to his Ashram in the jungle, just after the monsoon, for a longer, deeper stare. Harivallabh Parikh has spent the last eighteen years in the Panch Mahal District, attempting to apply Gandhi’s and Vinoba Bhave’s principles to economic development and the local murder problem. The Ashram, a self-sufficient economic community of workers devoted to Harivallabh’s ideals, is a spiritual laboratory experimenting with the agricultural, educational, and social problems of the 600 villages it now touches.

Drinking wild Jungli brew, marauding, highway robbery, and intricate love feuds were the basic ingredients in a murder rate of three to four deaths per week among the Panch Mahal Bhils. “Government,” that loose term meaning a kind of law and order in India, had never touched this unbridled area. However, the Ashram, working to gain the villagers’ confidence, has developed a unique institution, the “open court,” for solving feuds.
and has brought a remarkable measure of security into the area. Tribals will now travel many, many miles on foot to place their complaints before Harivallabh, who acts as judge and metes out voluntary “sentences.”

We witnessed one particularly memorable case. An extremely poor man with only one eye had married a woman who was both deaf and dumb. In the village it was considered a good match, as neither was desirable marriage material. But over the years, the woman, frustrated whenever she couldn’t communicate, vented her anger by violently beating her husband and father-in-law and breaking expensive clay and brass vessels. The husband, in return, beat her daily. Finally, he appeared in open court seeking a divorce. As the wife had no family and no money, the overriding concern of the village was for her future. The woman mumbled her story, with comments from the villagers who had all turned up to watch the proceedings. She was in an uncontrollable frenzy at her absolute silence and wept and thrashed to make desperate points. Her husband firmly demanded a divorce. The judge appointed a jury of four villagers, who disappeared into the crowd for an hour.

They returned with the decision that if the man divorced his wife, he must pay her 200 rupees settlement, a vast sum in this case. Then the judge counseled the husband to keep his wife as a service to their village, but agreed to divorce them if the man was willing to pay the money for her future. The young man, after long moments of consultation with the poor father-in-law, announced that he would keep his wife. The entire court ground, ringed with hundreds of spectators, broke into cheers. The efficacy of this system has resulted in an amazing decline in murders to three or four a year.

We visited villages where the aborigines have settled, given up their bows, and begun farming the land. Unfortunately the unschooled villagers inevitably fall prey to a local landlord or moneylender who bleeds them until an outside force, such as the Ashram, educates them to take advantage of rights now guaranteed by law in India.

Leaving the brilliant sunshine, we groped our way into a shadowy, cave-like house. The threshold separated dust path from well-swept dung floor. There were no windows; the cooking smoke filtered through holes in the tile roof and refugee light crept in the open door or an unintended crack. Chankiben, squatted on her kitchen floor, was patiently putting out the family’s bread while a mud utensil steamed vegetables in the cooking hole. Even in a semi-famine year, there was some pulse, a little rice, or wheat stored in bamboo containers, which Chankiben apportioned once a day among her five children and relatives. Her most recent baby, with one eye slowly going blind, was lulled by a swing suspended in the center of activity. The other children flickered constantly in and out of stray light, their naked bottoms and over-fat bellies differing in age
only. They were a year apart, and Chankiben was still a young woman.

To our wealthy Western eyes, the situation in Rangpur village was grim enough, but our host assured us that ten years before the village was mired in debt and hopelessness which the Ashram had helped alleviate. An absentee landlord had exploited the villagers for years with interest rates on loans, given for marriages and poor crops, ranging as high as 300 per cent. Learning of the situation, Harivallabh found the landlord one evening as he was gathering most of the village grain stocks and confronted him with facts of which the frightened villagers were unaware. The landlord’s actions were totally illegal under new laws of the Government of India. Harivallabh gently offered to turn him in to the authorities if he pursued his exploitation. The man, firmly persuaded, agreed to return the land to the farmers.

Production which had formerly all gone to the landlord is now marketed by the villagers through local cooperatives. The villagers are now able to save enough money to improve their homes and build wells. A primary school stands near the mud road, which will be replaced with a gravel surface by the state, and plans for irrigation from the large river running a half-mile from the village are definite. Even Hinduism has invaded the village and seeks to supplant the animistic religion of the developing tribals.

It was difficult to pull ourselves from that remote, primitive countryside on to an asphalt highway which carried us over rivers, rather than through them, back into the relative twentieth century of our university apartment. The late afternoon light was best for Baroda: the shapes of animals and humans, faintly obscured by dung-fire smoke, were intensified. The rawness, holes, and filth were just below the sinking sun and blurred into unimportance.

When the Saracenic domes, minarets, and strange wooden birdhouses of Gujarat were outlined in that light, the city looked like one in which we would choose to live a year. Purple bougainvillea formed fences along the streets, interrupted by roses and other reds and pinks. On festival nights, kites with strings of candle-lit lanterns floated and jerked in space. Every Friday a marvelous bazaar brought Baroda new life from miles outside. The cattle market boomed and we could never decide which buffalo baby was the newest born.

Each week Bill parked the scooter on side streets and tried to sneak to new vantage points with paper and paints. First, the children came running, and then the adults—a crowd suffocating him with kindness and attention. He sadly returned to the police station courtyard, week after week, peering through the fence at the innocent folk, just a little too afraid to peer back so close to authority. It is impossible to imagine the intense interest displayed by the Indian villagers in anything out of the ordinary. They will spend hours just standing and look-
Below and right: Scenes at the Friday bazaar in Baroda.
We filled the gas tank in Nagarcoil, a civilized and fair-sized city, and as usual were surrounded. As we lifted the seat and unscrewed the lid, everybody peered to see what wonders lurked in the gas tank. Then Bill measured and poured in the oil. Comments ran through the crowd and necks strained to see the measure lines—the big moment! How much gas? The attendant put the snake into our small tank—anxiety—heads at ping pong, unable to decide whether to watch the gas going in, or the numbers moving on the tank. Up, down, around, the big fellows in front, pushing, the small children closed the scooter completely in. Ah, finished! The transaction seemed quite normal until Bill demanded AIR! A great stir went through the crowd, which had grown to about seventy-five. We motioned them out of the way as the air tank was, of course, inaccessible in seconds. Another performance, wading through the children, and then, flash of red wallet as Bill payed and we could depart. The crowd vanished, melted away as thoroughly as our sighs of relief, to be lost again in the traffic of buses, goats, and cows.

Our most extraordinary experience of Indian curiosity occurred one night in a Gujarati village. We ate in a manger scene with beautiful cattle leaning near our shoulders in the dusky light, as we sopped up vegetables with chappatis from dried jungle leaf plates. The mud floors were immaculate, hardened by years of dung and mud application, swirling in designs around the room until it lapped at the walls and made ridges on our bare feet. The kitchen occasionally revealed a veiled form by cooking firelight. She worked in total darkness and quickly hid when light from our eating lantern fell into the door. The ceilings were strung with drying husks of golden corn, and housed all the grains for the coming year.

After supper, we prepared our bedding with the help of the host's entire family, which materialized for the event; a rope bed just large enough for one and one-half of us stood waiting. All the faces expanded with disbelief and wonder as our air mattress rose from a flat bundle to full size. A few friends of our host joined the party and everyone squatted near our bed over a kerosene lantern, smoking and rolling beedies.

We both climbed into the sleeping bag. The cows, about four feet from our heads, were totally uninterested, but tea was brewing and soon more and more villagers appeared. We said goodnight after declining tea and turned away from the rapidly expanding, chattering group. After feigning sleep for a few minutes, I could not resist a stealthy peek. Dozens of eyes beneath colorful turbans were staring and staring at us, watching us sleep. Unwilling to deprive them of such a treat we drifted with the beedie and kerosene smoke, rudely away into sleep.

A year in India: roaming in and out of kindness and generosity, remarkable color and variety from Himalayan foothills to the Southernmost vertebrate descending into three seas—a car pulling alongside to pass us cookies as we scootered through Kerala—musical chairs and races on camel back near Pushkar's holy lake—Indian men, who walked our scooter three miles at midnight to the repair shop while we slept soundly in their home—naked holy men smeared with ashes shivering against the dawn cold rocks on Mt. Girnar—broiling under summer sun into Bijapur, as wave after wave of heat shook us—a full Gujarati thalli—the man who cleaned his tongue in my pasteurized milk line—a bold monkey pulling the banana out of our scooter bag as I hit him with Murray's Guide—those buffalo eyes—and two staring sahibs on a sacred white steed.
For centuries, the female sex has concerned itself with beauty of form and adornment. Waist-cinchers and bustles have come and gone with the styles, along with five-foot-high powdered wigs and flapper beads and spangles. It would seem that no one is willing to put full confidence in the saying that gracious, graceful women, like stars, are born and not made.

Of course, beauty has never been achieved from the soft cushions of a chaise longue. Hard work has long been the key to achieving and maintaining an attractive appearance, and it is no stranger to several ladies of the Washington University community. Members of the Faculty Wives Club, they go through well over an hour of strenuous twists, turns, bends, stretches, and contractions each week in an exercise class led by Dorothy Quest, wife of Associate Professor Charles Quest of the School of Fine Arts and an artist in her own right.

For over two years, Mrs. Quest has achieved a rapport with her students that would make an Elizabeth Arden envious—despite the no-nonsense character of her exercises, members of the class do not hang up their sense of humor when they put on their tights and leotards, and laughter at themselves and each other sparks each session.

Music for the class, provided by phonograph, ranges from high-stepping marches to dreamy Strauss waltzes. Meanwhile, faces, arms, waists, hips, legs, and general posture are being sleeked and smoothed. Action, not technical skill, is all that is required of the class, and to assure that those muscles do not remain earthbound, each session is concluded with a few minutes of folk dancing.

The number of ladies present at any one session may depend upon the season. On the day before Thanksgiving, for example, only six were in the class, but a week later, fourteen women were jokingly making amends for the holiday feasting.

Because the campus gymnasium is in constant use, classes are held in the basement of the Chancellor's residence, where a large, fairly empty room provides the needed space.

For those who still remain sceptical, here's one of the weekly gems: position yourself on the floor on hands and knees; raise feet a few inches from the floor; pivoting on the knees and keeping the back straight, bend arms and rock forward to touch chin to the floor in front of you. For some, the trick may be to get back on your feet!
Washington University's distinguished embryologist Viktor Hamburger, at 65 is still active at the frontier of research in his field. He has earned an international reputation as a scholar, served as president of the American Society of Zoologists, and was elected to the National Academy of Sciences, one of the highest honors accorded to a scientist in this country. Professor Hamburger is now deeply involved in a new field of neuroembryology, involving the study of embryology of behavior.

**VIKTOR HAMBURGER**

"Right now he is looking at his chick embryos, and I'd hate to disturb him," said Viktor Hamburger's secretary on the morning of June 30, 1966. She added that it was Professor Hamburger's final day as chairman of the department of biology and he probably wouldn't have time for interviews.

But he did find time later that afternoon. He didn't mention the fact that it was his last day as chairman, a position which he has held for the past twenty-four years. His mind was more concerned with the future and he talked with quiet excitement about a new line of research which he began about five years ago. This is a study of the embryo's first primitive movements and how they are related to the maturation of the nervous system; it is a relatively unexplored field, called the embryology of behavior. "It connects the work of the embryologist with the behaviorist," Dr. Hamburger said.

Professor Hamburger has been collaborating with Dr. John Decker, a postdoctoral fellow in neuroembryology, and with two experimentalists in psychology, Dr. Martin Balaban, now of Michigan State University, and Ronald Oppenheim, who has just received his Ph.D. Dr. Hamburger praised the work of his associates and added that he owed a great debt to Dr. Marion Bunch, head of Washington University's department of psychology, who has given them laboratory space for one phase of their experiments. He explained that Rebstock Hall, which houses the biology department, has been bursting at the seams since the 1950s because of expanded research.

About seven years ago Professor Hamburger began the crusade to get additional facilities and this resulted in the new Monsanto Laboratory of the Life Sciences which will be dedicated this spring. The new building will be used for various research projects, ranging from ecological research to studies in molecular biology, and for the training of graduate students in these areas. Molecular biology, of course, has had a great flurry of activity in recent years and its new findings and concepts have captured public attention, Dr. Hamburger pointed out.

"An intelligent person should know that no one story in biological research is the whole story," he said. "The ideal is that phenomena on all levels, from the molecular level to populations, should be studied with equal efforts, no one at the expense of the others. Most people at least give lip service to this idea."

Professor Hamburger has a deep respect for research achievements of others in his field, past and present. This was quite evident from simply stepping into his office, where row upon row of file holders are labeled with great names in biology. The holders contained reprints of perhaps 75 per cent of all the investigations in his field—dating back to the classical European studies at the turn of the century. "If I wanted to write a book, I wouldn't have to run to the library, I could do it right here," he remarked. (As a matter of fact, one result of his overview of the field is a laboratory manual on experimental embryology, a classic text which is being reprinted this year to keep up with the demand.)

Dr. Hamburger's career was determined early in his life. At age six, he began his first collection of plants. "The first writing that I remember was putting down the names of my dried plants." At fourteen he held a public exhibition of the native amphibians and reptiles of what is now
East Germany. And, he kept an aquarium at his home, where he observed salamanders laying their eggs and the larvae hatching from their jelly capsules. At that time, he wasn't aware that salamanders left the water after the breeding season and one day his mother found salamanders crawling up the curtains in the living room; soon after, the aquarium was fitted with a lid.

In High School he was intrigued by both botany and zoology. He concentrated on botany for two semesters at the University of Breslau and then spent the next two semesters at the University of Heidelberg where he became greatly interested in geology. After nearly deciding on a career in geology, he returned to his old love, embryology, and transferred to the University of Freiburg in the early 1920's. "There I was able to fully develop my interests," he recalled.

The man who inspired and guided him was the great biologist, Hans Spemann. Spemann was involved in the then little known field of experimental embryology. "I spent ten years with him during the 'heroic' period of experimental embryology. There was one major discovery after another in his laboratory, culminating in the discovery of the 'organizer.' What impressed me most was his crystal-clear mind and the beauty in the logic of his writings. This was where I really got to know how to design an experiment and how to handle the data critically. I learned that if you're not sure of your conclusions, work another year or two if necessary."

Professor Spemann, who won the Nobel Prize in Medicine in 1939 for his discoveries, encouraged his student to be independent and to choose for his Ph.D. thesis a topic outside his own specialty. Hamburger wrote a thesis on the development of the nervous system, an area which has kept its fascination for him until the present time.

A frequent visitor to Spemann's laboratory was the experimental embryologist, Dr. Ross Harrison of Yale University, who was the United States' leader in this research. Harrison became a strong influence in developing young Hamburger's line of research. Then in 1932, Dr. Hamburger received a Rockefeller Fellowship to join Dr. Frank R. Lillie of the University of Chicago, in whose laboratory some basic experimental techniques for the analysis of chick embryology had been developed.

Three years later, after having been closely associated with the three men who put experimental embryology on the map, Dr. Hamburger accepted an assistant professorship at Washington University. In the years since, Professor Hamburger and his co-workers have continued to make significant contributions to the understanding of the development of the nervous system.

In 1961, he turned entirely to the problem of the beginning of motility, or behavior, in the embryo. Some work on the problem was carried out by various laboratories in the 1920's and 1930's, but, these efforts were muddied by disagreements and controversies, which led to a temporary abandonment of this field.

A new and unbiased look at the chick embryo by Professor Hamburger's group unravelled a story, which differed sharply from all ideas of the previous period. Many behaviorists had been inclined to assume that the embryo and fetus, while still enclosed in the egg or womb, received all kinds of stimuli, partly by stimulating itself; and that this information, which is a kind of "learning," was essential for its normal behavioral performances after birth. The recent work of Dr. Hamburger and his colleagues, however, has produced the first experimental evidence that the embryo's behavior is spontaneous and largely independent of such stimulations. "In the chick embryo at least, sensory perception before hatching has nothing to do with what the embryo does. It probably also has little to do with what the chick does after hatching," Dr. Hamburger explained.

This raises a basic question which preoccupies Dr. Hamburger's laboratory at present. If the embryo doesn't "learn" before it hatches, how does it acquire the potential for the highly coordinated activities of walking, pecking, food gathering, and so on, which it performs immediately after hatching?

One necessary first step in seeking answers is to refine already sophisticated techniques in neuroembryology by using the tools of the neurophysiologists. They have designed very sensitive techniques of electrical recordings of the activity of the nervous system. For instance, delicate needles with points only a few thousandths of a millimeter in diameter are inserted into the brain and register the impulses emanating from individual brain cells. By adapting these techniques Dr. Hamburger hopes to determine which types of cells in the nervous system...
are discharging into the motor cells of the embryo to bring about its movements.

Many people may ask whether the findings in the chick embryo can be applied to higher forms of life, including man. No safe predictions can be made, but it has already been found that turtle embryos "behave" almost exactly like chick embryos; hence, there is hope that some concepts derived from the chick may be applicable to other forms. It will be extremely important to work someday with mammalian fetuses and to get direct information from them, Professor Hamburger pointed out.

Recently Dr. Hamburger examined colonies of a South American marsupial, which is a rat-sized relative of the opossum and is much less difficult to handle. Marsupials give birth to their young while they are still in an embryonic stage. They crawl into the mother's pouch and while they are in this exposed position can be observed and experimented on. If experimental techniques can be worked out for these animals, or for mouse or rat fetuses, then Dr. Hamburger hopes to expand his research to mammals.

Embryological behavior is a small part of the entire area of neuroembryology, or neurogenesis, Dr. Hamburger continued. This is a field in which many new data are being gathered on a variety of interesting problems. For instance, how do embryonic nerve cells mature to the point where they are capable of conducting impulses? how do the nerve fibers find their ways to end organs such as muscles or skin? how are nerve centers formed and how do they establish the special connections with each other to guarantee the faultless operation of the most intricate organ in the body?

"Developmental biology, in general, is in for considerable advances, not so much perhaps in direct application to medical problems, but in the understanding of the whole process of differentiation," he added. In the past ten years, many of the most talented students who have entered the field of biology have gone into the specialty of molecular genetics. Mainly, the surge of activity in this area has been due to the importance and excitement involved in the attempts to unravel the genetic code, as a result of insights into the structure of the nucleic acids, DNA and RNA.

As these basic processes are clarified, Dr. Hamburger foresees a surge of talent into research on various problems of differentiation in the embryo. The link between these two areas is that DNA and RNA are involved in protein synthesis, and one of the major problems of the embryologist is to find out how one embryonic cell manages to produce nerve proteins while the one next to it produces muscle proteins. Therefore, "The training of modern developmental biologists must be grounded thoroughly in biochemistry, molecular biology, and biophysics," he added.

Professor Hamburger naturally is greatly interested in this broadening of horizons in biology. He is also one of probably a small group of scientists who speak out emphatically in behalf of strengthening the humanities. "Science has received very generous administrative and federal support in the past fifteen years, and I'm very appreciative to the University administration for what it has done for biology. I feel, however, that the time has come to pay more attention to the development of the humanities, including the arts and the performing arts. We must avoid a degrading of true education to a sort of technological training. The student should be assured of a balanced educational diet." The sciences and the arts endeavor to understand the universe from different vantage points, but a full understanding is possible only if one view complements the other, he stressed.

JAPANESE ART is one of Professor Hamburger's current interests. This brought to mind an essay which he wrote on biology in Japan.

The essay begins, "It was my good fortune to be invited to Japan in the spring, when the famous cherry and peach blossoms cover the countryside and invade even the serene temple gardens which symbolize the eternal life of nature and the spirit, and banish all other bright-colored flowers. Perhaps they remind you of the evanescent life. But this is not the mood of the blossom-viewing parties and picnics which have been popular for ages, and immortalized by poets and painters. As the Seventeenth Century poet Basho says in one of his famous short poems, or haiku, which are the classical form of Japanese lyrical poetry: 'Under the trees/A flurry of cherry petals/On soup and fish salad.'"

With a start, Professor Hamburger's talk of art and humanities was interrupted. It was 5:15 p.m., a critical point in an experiment. "You'll have to excuse me," he said. "I've got to go look at some chick embryos."
Arthur Osver (left) of the School of Fine Arts faculty confers with graduate student Dick Johnson of Minneapolis about his work. Faculty provides guidance and advice and critiques the work, but the student is expected to assume responsibility for his own progress.

As in the undergraduate program, figure drawing is considered a fundamental. One afternoon a week of drawing from the live model is required of all students in the graduate program.
GRADUATE ART

FOR THE FIRST TIME SINCE ITS establishment in 1879, Washington University's School of Fine Arts is offering a graduate program—a two-year course leading to the Master of Fine Arts degree. The new program is the first step in the long-prepared plan to expand the School of Fine Arts into the graduate area—a plan that will reach complete fulfillment when a projected new addition to the School of Fine Arts building is constructed.

In the interim, the graduate studios are located in three high-ceiling rooms formerly occupied by stores in a building immediately to the north of the main campus, across the old streetcar right-of-way. Additional space is provided in a skylight studio under the roof of Givens Hall, the School of Architecture building.

The purpose of the new program is twofold: to provide the opportunity for advanced creative work under the guidance of experienced instructors who are also first-rate creative artists, and to prepare graduate students for teaching. Study plans are determined on an individual basis, with reasonable latitude, and requirements may be met through a variety of combinations of learning experiences. As a professional degree, however, requirements demand that creative competence and technical productivity be the dominant goals. At present the program is restricted to painting, although the opportunity to work in printmaking, under Professor Fred Becker, as a secondary interest may be elected.

The major graduate instruction is being given by regular members of the School of Fine Arts faculty, including Arthur Osver, Fred Conway, and Edward Boccia, all highly qualified practicing artists widely recognized for their creative achievements. New York visiting artist David Lund is also working with the program this year. From time to time, artists from outside the faculty are brought in as visiting critics so that the program can be enriched by contacts with a variety of other points of view. In the second year of the program, each student will select a major project to be presented to the faculty in support of the qualifications for graduation.

Midway through its second year, the new program seems off to an excellent start. The converted stores and attic studio are only a substitute for badly needed new facilities, but at least they are in the artistic tradition.
Marilyn Oesch of Kirkwood, Missouri.

Sandy Sokoloff of Cambridge, Mass.

Edward Boccia and Marilyn Oesch.
GRADUATE ART

Jerry Wilkerson of Port Neches, Texas.

Ernest Smith of Hahndorf, Australia.
Alumnus Charley Winner made his debut as head coach in the National Football League. Despite the injuries that dropped the St. Louis Cardinals from title contention, Charley was chosen runner-up for Coach of the Year Award.

PRO COACH

Alumnus Charley Winner is one of those rare individuals who made up his mind early in life what he wanted to do and has managed to do it.

“All I’ve ever wanted to be is a football coach,” Charley says. “I never wanted to be a policeman or a fireman or a doctor or a lawyer, just a football coach.”

This year Charley finally realized his ambition when he was named head coach of the St. Louis Football Cardinals. Since his graduation from Washington University in 1953, he has served as assistant coach at the University, at Case Institute, and with the Baltimore Colts, but his job with the Cardinals is his first experience as head coach anywhere.

Charley had an exciting introduction to the big job. His Cardinals started off with a bang and were in first place or within reach of it until the last half of the last game of the season. A little past the mid-season mark, the Cardinals had compiled a record of seven wins, one loss, and one tie. Then Charley Johnson, their No. 1 quarterback, was injured and forced out of the lineup for the season. In the remaining five games, the Cardinals managed to win just one and ended up in fourth place.

There were consolations, however. The “Cardiac Cardinals” gave some 317,000 spectators in the new St. Louis stadium all the thrills and excitement any team could provide. Charley’s rookie running back Johnny Roland ended up with Rookie of the Year honors, his great defensive star Larry Wilson was runner-up for the Most Valuable Player Award, and Charley himself came in second in the balloting for the Coach of the Year Award.

In his first season with the Cardinals, Charley has learned first-hand that the job of head coach is an all-consuming one. It’s a job that requires constant work and effort, not just on Sunday afternoons, but every day and night of the week, the year around.

During the season, the coach’s week begins on Monday morning, when the staff studies the movies of the last game and begins to prepare for the next week’s opponents. On Tuesday, the coaching staff goes over the movies with players and then holds the first light workouts. Wednesday, Thursday, and Friday are devoted to more serious workouts, with some more movie watching thrown in. Saturday is the time for light workouts, short practice, and
PRO COACH

Cardinal center Bob DeMarco dwarfs his coach, Charley Winner. DeMarco, six-feet-three and 240 pounds, was a key member of the 1966 Cardinals. His knee injury at mid-season was a big factor in the team's season-end slump.

Before a game, the coach talks it over with his star quarterback Charley Johnson. Team was in first place until Johnson's injury. Johnson has an M.S. from Washington University and is working toward his doctorate in chemical engineering.
the final strategy meetings. Sunday is the all-important game and Monday it starts all over again.

Winner emphasizes the vital importance of knowing all the players thoroughly—their strengths, their weaknesses, their attitudes. A coach must know everything there is to know about the material he has to work with and make the most of it.

"To win a championship in professional football there are three things you must have," Charley points out: "A good team to start with, freedom from injuries in key spots, and the lucky play when you need it."

There might be some who feel that a football coach works on a pretty easy schedule. After all, he has all that time off from the end of the season in late December until summer training camp opens.

"Actually," Charley says, "the hardest work starts the day the season is over and continues right up to the opening of the training camp."

As soon as the season ends, work begins on the draft of new talent. Reports come in on all promising college seniors and these must be weighed and evaluated and pondered until a preferential list is made position by position before making the first draft choices.

At the same time, the current roster of players has to be evaluated in the most minute detail. Records are kept on every move every player makes all season long and each player is rated in every department. Movies are gone over and over again. From the game movies, training films are made for study by the coaches and players. Every off-tackle play all season, for instance, is clipped from the game movies and spliced into a complete film record, showing just how that play worked all season long.

By the time the training camp opens in the summer, Charley and his staff have complete statistical ratings on every player on the roster, and a complete analysis of every play the Cardinals made the previous season, whether it succeeded or failed, and why. Then begins the task of pruning the assortment of veterans and rookies down into the best possible squad before starting to plan the strategy and the plays for the new season.

It's a big job, a job that leaves little time for family or outside interests, a job in which the most carefully planned strategy can be ruined by an injury to a key player or a fluke of luck. But it has its rewards. As Charley Winner says, "I've never wanted to be anything but a football coach."
The coach gets in the game. Charley really didn't intend getting into the play, but he was forced out on to the field when an Eagle ballcarrier stepped out of bounds and then went back in, taking Charley with him.

In practice session, Coach Charley Winner goes into the huddle with his National Football League Cardinals.

Charley escorts halfback Roland back to the field.
Charley Winner disagrees with an official's decision during a NFL game.
Mild-mannered Charley had few run-ins with officials, despite the exciting season.

The coach bids his wife farewell before leaving for the stadium.
Mrs. Winner is the former Nancy Ewbank, whose father is Weeb Ewbank, now head coach of the New York Jets.

Much of a professional football coach's time is spent in travel. On this flight he confers with Arch Wolfe, secretary and business manager. In foreground is star place-kicker Jim Bakkken.
Comment / At the turn of the two-thirds century

Nineteen hundred and sixty-six was the 113th year in Washington University's history. It was an important and significant year, although it could offer nothing so dramatic as the two great events of 1965: the announcement of the Ford Foundation's $15,000,000 matching grant and the launching of the campaign to raise $70,000,000 by 1970 for advancement of the University.

Considerable progress was made during the year toward reaching both the Ford Foundation and the fund campaign goals. The campaign organization has been formed and many gifts of considerable magnitude have been received. Early in this new year, it should be possible to announce marked progress toward the campaign objectives.

The year 1966 was a significant one not because of any dramatic news, but because it is likely to go down in the records as the year when the University completed its transition from a good local institution to an excellent national one. The residence halls building program to house the thousands of students who now come to the campus from all over the country has been completed and the University's status among the leading private institutions of the nation has been attested to by many objective measurements. In quality, as measured recently by 4,000 leading scholars across the country, Washington University now ranks in the top dozen private universities of the United States.

In his annual report to the trustees, Chancellor Eliot stated that the past year "seemed to mark the conclusion of a long and arduous transition period at Washington University. Financial problems are far from solved, but the change to a national university of established high repute, begun twenty years ago, is completed." He warned, however, that "much remains to be done—in curricular improvement, in necessary construction, in adventure on the cutting edge of advancing knowledge."

This new year will see two significant University anniversaries: The School of Business and Public Administration will celebrate its fiftieth anniversary this year, and the School of Law will observe its centennial.

The Business School had its beginnings when the University, with the support of the St. Louis business community, established a School of Commerce in 1917 under the leadership of William Franklin Gephart, professor of economics, who became the first dean. Established in 1867, the University's School of Law is the oldest law school west of the Mississippi River.

Both schools have made lasting contributions to the St. Louis community and to the nation, and the roster of their graduates includes thousands of outstanding leaders in business, professional, and civic life throughout the country. Many special events and programs are being planned by both schools to commemorate their anniversaries, and it is hoped that the twin observances will bring back to the campus record numbers of the alumni of these two outstanding schools.

Soccer has always been a favorite sport in the St. Louis area and it seems most fitting that Washington University should be reinstating the game as a varsity sport. The Chancellor has approved revival of soccer on a three-year trial basis beginning next year. The sport had been eliminated from varsity competition in the summer of 1965 because of insufficient funds, but student interest in the game has not lagged in the interim. This year, a group of students and faculty organized a soccer club and managed to draw good crowds for a season of informal and unofficial competition.

A few years ago, the Washington University soccer team began to attract national attention, but that was really mainly due to the presence on the campus of a group of Tunisian exchange students. The WU Tunisians played a powerful brand of soccer, but they finally went back to Tunis and the sport has had to be rebuilt.

It is hoped that the University will reach many goals in the coming years.

The city of St. Louis received a Christmas present from Washington University students this year—a red ribbon, 200 feet long and 18 inches wide with a 15-foot bow, tied neatly around the waist of the McDonnell Planetarium in Forest Park. Bearing the legend "Merry Christmas St. Louis, Washington University School of Architecture," the ribbon and bow appeared shortly after midnight a week before Christmas. About thirty students, most of them aspiring architects and all of them remarkably agile, scaled the sloping Planetarium roof and hoisted their gift into place with ropes. Why did they do it? According to one of the students in the group, "Because it looked so good."

—PO'B
Designed to simulate the effect of sunlight on any spot on earth at any time of any day of the year, the School of Architecture's "artificial sun" gives student architects the ability to design structures with a clear understanding of the effects of natural light and shadow. The machine was designed by Norman R. Stoecker of the School of Architecture and Lee Trout, a cyclotron machinist. Architecture Dean Joseph R. Passonneau, shown here admiring the effect, suggested the idea as a means of simulating Indian sunshine for a project which involved designing housing for a city in northwestern India.