Junior premed student Marty Ruddock, who has been ranked as the greatest cross-country runner in Washington University history, lopes up a hill in Forest Park. For the story of Marty Ruddock and his outstanding career as an athlete and a student, see “What Makes Marty Run?”, beginning on Page 33.
COVER: "Everything You've Always Wanted to Know About Your Dog (but haven't been able to ask him) is the subtitle of Professor Michael Fox's new book Understanding Your Dog, excerpts from which begin on page 26. Our cover dog is one of thousands of canine class auditors evident these days on college campuses everywhere.

An Informal Session with B. F. Skinner

Noted psychologist answers questions from the floor

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By a former assistant secretary of the treasury

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University's first woman medical graduate

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On the best cross-country runner in WU history

Biography of a Bibliographer

Jamie Graham and her urban collection

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B. F. Skinner, Edgar Pierce Professor of Psychology at Harvard, is generally regarded as the most influential (and controversial) of living American psychologists. Inventor of the "Skinner Box," pioneer of the teaching machine, uncompromising behaviorist, Professor Skinner stirred enormous interest and controversy with his utopian novel Walden II. His latest book, Beyond Freedom and Dignity, has aroused an even greater storm. Dr. Skinner addressed an overflow crowd at Graham Chapel this fall, and after his formal talk, fielded questions from the floor. Below is a portion of the transcript of the spirited question and answer period.

AN INFORMAL SESSION
WITH B. F. SKINNER

Q. In applying your theory of behavior to social phenomena, who is to decide what values are to be conditioned into society? Who is to make the ultimate choice, and doesn't that lead to despotism in the end?

A. That is the question I hear most often. I'm sure you don't expect me to name someone who is going to make the ultimate choices. I'm not even sure it will be one person. But, whoever it will be, it will not be someone who jumps in out of the causal stream and takes over. I think that the only explanation here is an evolutionary one. I believe that cultures do advance when they discover better ways of teaching children, collecting taxes, inducing people to be more productive, etc. I don't believe a single person in the form of a despot or tyrant or a totalitarian dictator is going to emerge.

Q. You say that we have to change society and not the individual. How do you go about changing society—by getting some new laws passed in Congress or by some favorable Supreme Court decisions, or will it take a revolution?

A. In the first place, I don't believe it's quite true that I want to change the society and the culture but not the individual, because society and culture are nothing more than the behavior of individuals. I want always to concentrate on the behavior of individuals. But the question of how are we to change is really the question of who is to control. I would like to see those who are concerned with the education of the young become much more aware of what can be done in their field. I don't mean to say we should kick them all out and let some dictator move in and take over. I think they should be changed. There should be a certain number of people in our society who are concerned about the education of the young, and they ought to know everything science can tell them about improving the job they are doing. The same thing should be true of those who care for psychotics and retarded people.

We seriously neglect old people in our culture. If they have enough money, they
go to Florida or California and sit around, play shuffleboard, and talk about who
died since they saw each other last. It's a very dull world and nobody is doing
anything about it. It's the same with the whole question of leisure. What do
we do when we don't have to do anything? These are the kinds of things that
people will step in and do research on, but it won't be one person doing the job.
It will be many individuals who will take these things over and make a better
use of our knowledge.

Q. If you're going to institute a series of controls over people, there will be groups
of people who won't want to be changed. How would you cope with that problem?

A. In the first place, I'm not wanting to institute a series of controls. That's not
going to happen. We are going to improve the way we now control people.
Whether you want to be controlled or not is irrelevant. You are controlled.

Then, there is the problem of the rebel. What do we do with the rebel? In a
well-ordered society, there would be no particular use for rebels. There is a use
for rebels now because our society is defective, and nothing but rebellion at
times seems to be the way to change. But the question of what to do with the
rebel is like asking a physicist what you would do with a body that goes the
wrong way in a gravitational field. It just doesn't happen. If you have a well-
ordered society, you have no room for rebels.

Q. How do you go about illustrating to people what you mean by the statement
that we are already controlled by our environment?

A. This is not so easy to see because we have been controlled so long that we think
we are doing what we please. When we are under positive control, we are doing
what we have to do. I've used the example of states turning to lotteries to get
people to give money to the government. When you are a compulsive gambler,
you are not free. There are free buses that run from San Francisco to Reno, and
people cash their social security checks, get on those free buses, come out to
Reno, work on those slot machines all night long, and in the morning take the
free bus back and wait for the next social security check. No one is free who
does that. They are like the alcoholic who says he can take it or leave it.

Q. What role do you consider drugs and synthetic chemicals to play in the scheme
of things?

A. I was responsible for the published statement in 1953 or '54 that we are entering
upon the age of the chemical control of behavior. Taking a tranquilizer so that
you won't get mad at your boss is a way of letting yourself be controlled. The
boss putting something in the water supply is a way of controlling his employees.
This is going to go on and we are going to discover new drugs. All the drug
companies are looking for a drug that will really cut appetite. They would
make millions if they could develop a drug, with no side effects, which would
keep people eating moderate amounts of food. Nobody seems to want a drug
to suppress sex, although psychiatrists would be happy to prescribe such a
drug for many of their cases. We do have a drug to control aggressions. I don't
know how far it's going to go, but drugs do have to be taken into account.

Q. Following your theories, wouldn't the government impose its values on people
who have many different values? Wouldn't this be very negative for a society as
diversified as ours?

A. I think that this is a real worry, but I don't think it will destroy the present
structure. I think evolution is possible. I don't think we've reached the stage
where nothing but revolution is possible. I'm not happy about the use that can
be made of these things. However, that culture which produces much better
educational practices, even though the current government uses them to teach
what they want to teach, those people are better off. I don't believe the answer
Q. It seems very clear that there is a great deal of violence and aggression in the world. Do you think that through conditioning it would be possible to eliminate the drives for violence and aggression which we see so clearly?

A. I can’t set forth a program that would do that, but I do believe that the aggressive behavior we engage in has without doubt some genetic basis. It has been important to the human species to be aggressive, and there are things we have to overcome. I have no doubt that our culture can overcome this inheritance and produce non-aggressive people. Now, this isn’t going to solve the political problems. Suppose that we all became non-aggressive, but some other culture remained aggressive, what happens then? It would require a great deal of redesign not just at the national, but also at the international level.

But the behavioral processes, I believe, are relative. You can build a world in which children will grow up relatively non-aggressive. In the present world, aggressive behavior is built in, either by carelessness or intent. Take, for example, the television formula that if a man is bad you shoot him. That’s the solution people learn from television, and I think that is the solution many people will resort to. I think that kind of thing can be changed. But that will mean some kind of governmental control. We already have government control of obscenity, but none of violence. I was on a television program in New York a couple of weeks ago with Dennis Hopper and the head of an anti-pornography league. And Hopper finally put it to him. He said, “If you don’t want children to see people making love, do you mind having them see one man blowing another man’s head off with a shotgun?” And the head of the league had to say he didn’t mind. That’s a strange set of values.

Q. With so many people in the world, do you think that our convention of privacy will break down?

A. I don’t think that privacy will be infringed upon, and in fact, I think it will be vastly improved. In Walden II, you have a room by yourself in which you can go off and leave the group any time you want. It is easier to have privacy and private personal relationships. I don’t want a community in the sense of a big group of people milling around all the time in one place, bumping into each other all day long.

Q. After reading Walden II, I found myself upset because Frazier had made the people happy simply because they didn’t know of any other existence. He had given them no choice and that was it. Would you comment on that?

A. Don’t we enjoy our culture because we are ignorant of other cultures? If you want to explore a bit and discover other kinds of reinforcers, that’s fine. But I don’t see why there should be a complete coverage of reinforcers in one’s life. The dedicated musician may not care about pictures, the dedicated artist may not care about music. Bobby Fischer gets a big bang out of playing chess and apparently cares little about anything else in the world. The fact that someone is getting along on a current set of reinforcers seems fine. Leave them alone.

We had a similar problem with the Amish in Iowa a number of years ago. A law was passed to force the Amish to send their children to public schools, and it was implied that they were concealing the rest of the world from their children and therefore they ought to get out into the world and find out what life is really like. If the Amish are getting along all right, let them alone.

Q. When you talk of “reinforcers,” I am interested in how you isolate the forces in certain situations. What is your exact definition of a reinforcer?
A. I would define a reinforcer as any event which, when contingent upon the response, increases the strength of that response. There are two kinds: those which increase when they are produced and those that increase when they are removed or reduced. I don't know any way in which you can tell in advance that any event will be positively or negatively reinforcing. There are times when what most of us regard as positive seems to work as negative and times when what we regard as negative seems to work as positive. As far as I know, this is an empirical question.

Q. To what extent is self-reinforcement possible?

A. I don't think anyone can actually reinforce one's self, in the sense that you could put a candy bar as a reinforcer on your desk and only eat the candy bar if you finish your work. You would know perfectly well that you could eat the candy bar at any time.

Q. How does the point system change the behavior of individuals?

A. I don't think that people go through life getting points for everything they do. What happens is that people to begin with are very insensitive to contingencies of reinforcement. They are not reinforced by simple success, so you have to set up conspicuous rewards. This is necessary for psychotics who are out of touch with the normal reinforcements of daily life. So you use a token. When a psychotic gets a token for making his bed in the morning, it's quite clear that he got something out of it. If he simply made his bed and somebody said, "I see you made your bed," it would have no effect on the psychotic. So you set up a system which is conspicuous, immediate, and consistent over a long period. But then you want to taper off, to disappear, to wither away, because you want the individual to come under the control of the usual contingencies of daily life, which are deferred and not very conspicuous.

I don't want school kids to have to read only programmed textbooks all their lives. I don't want them to behave well because they're getting points. You put these things into effect to straighten the kids out so that the natural reinforcers will have a chance. If you take a destructive schoolroom, with everyone running around and the teacher out of control, you can then set up a credit point system and get the group quieted down for the first time in their lives. You can get the kids to appreciate the value of a quiet room. Soon, they start "shushing" each other and they all gain calmness. Then, the social reinforcers take over and you can forget about credit points.

Q. How far along the line toward critical parameters of behavior and reinforcement do you think we are and could you hint at what areas we should evolve toward in such research?

A. I wish we were further along toward a mathematical formulation of behavior, but I'm not in any hurry to mathematize it. I think that mathematics implies a false prestige, and I don't think that our facts are of such a nature that we get very far by mathematical theory based on them. I am perfectly satisfied with the progress that is being made in experimental analysis of behavior.

Q. In the past, you have been known to question the necessity of theories, at least in the areas of learning. Would you comment on the necessity of theories in the area of social behavior?

A. I am not really the grand theoretician that people will say I am. I have written a great many articles and parts of books which are essentially theoretical, including a paper called "Are Fields of Learning Necessary?" My answer was "No." My emphasis is on getting to the behavior of the individual, whether the theory has to do with some actuarial relationships between conditions of one kind or another, or not. I don't particularly like the current theories in the social sciences.
because I don’t think they get down to the nitty-gritty problems of the behavior of the individual. I have always been a theoretician. Even in that paper, in which I questioned the need for theory, I said that the main function of experimental analysis is indeed to develop a theory of behavior. What I mean by that is an overall formulation of behavior, giving the facts and dealing with those facts, rather than with some presumably explanatory facts in some other universe.

Q. To what extent do you think of yourself as an American psychologist in the tradition of William James and John Dewey? Another way to phrase the question: Could Walden II happen only in America?

A. I don’t think of myself first of all as an American. I think of myself first as a citizen of the world, then of America, then of Massachusetts, etc. But I do believe the American tradition is relevant to my work. As Americans, we are relatively free of the German psychology of the will, which I think steered Freud in the wrong direction. I would think that the whole movement of behaviorism and experimental analysis is in the tradition of American psychology. The American experience of a country that opens up new frontiers, of a country with a great emphasis on doing something new and doing it yourself, plays a very strong part.

Q. Would you comment on your criticism of psychoanalysis and personal psychology?

A. I think that Freud made some important discoveries. Because of Freud, we are all less likely to dismiss as accidents various features of our behavior. We are less likely to dismiss as caprice what we do, and we’re likely to look for connections between our behavior and what happened to us in the past. And that’s all to the good. But Freud found it necessary to mediate functional relationships between behavior and the past with an elaborate mental apparatus. Freud thought that his great contribution was the discovery of the mental apparatus and not the discovery of the law of relationships. I would salvage from Freud those inter-relationships between behavior and environment. In Science and Behavior, I reinterpret all the Freudian dynamisms as ways in which the individual avoids punishments.

Q. In your writings and lectures, you seem to me to have rejected interpersonal dynamics. Is this true?

A. Interpersonal dynamics means nothing to me, because I don’t know who these persons are who are so “inter.” I don’t believe that there is such a thing as making contact with the “inner” man. You can get to know the man well and get some glimpse of why he’s doing what he’s doing. You can make suggestions or, if you’re indirect, you can wait for him to make suggestions and then try to reinforce like mad. But the whole idea that this is a confrontation and a kind of intercourse between persons is misleading.

Q. This question has two parts: First, what do you think that the average man can get out of your book Beyond Freedom and Dignity? Second, what is your personal reaction to the kinds of response the book has received so far?

A. It isn’t an easy book. I don’t think that there’s an unnecessary sentence in it. It is a little hard going for the person who’s been reading Every Woman Can and expects that is how all best sellers read. I would suggest that if you are having a hard time reading my book, just read it twice.

The general reaction has been to review me and not my book. The New York Times has asked me to write a short article on the reactions to my book. I’m thinking of calling it “Are My Critics Mad?” My first sentence would be, “And I mean insane and not angry.” And then I would give Dostoevski’s prediction that man would never admit that his behavior is controlled. Rather than admit it, he would go mad.
Some 190 courses, ranging from "Philosophical Analysis of Theories of Mind" to "Marriage in the Seventies," have been sponsored by the General Studies Program since its inception in 1968. Designed to broaden the range of educational opportunities available to Washington University students, General Studies offers experimental, topical, and innovative courses, many student-initiated, that have brought both students and faculty new kinds of learning and teaching experiences.

One General Studies class, "Discovering St. Louis Architectural and Urban Design History," used the City as a laboratory. Students are shown in Tower Grove Park, with instructor architect Philip Cotton.
GENERAL STUDIES:
Experiments in Learning

Perhaps the least imaginative thing about the General Studies Program at Washington University is its elusive name. But what else would one call an innovative, free-flowing program, which has under one umbrella a course in Karl Marx, a seminar on ancient coins taught by both a chemist and an historian, student-faculty archaeological digs, and a non-credit course in plumbing?

The General Studies Program was initiated in 1968 on the recommendation of the College Planning Council of the College of Arts and Sciences. Its purpose is to broaden the range of educational opportunities available to Washington University students by providing innovative and experimental courses. Some are topical, others are interdisciplinary, many are student-initiated.

At any university, the formal scheduling of new courses requires a great deal of deliberation. Procedures are, of necessity, cumbersome and time-consuming. Within the College of Arts and Sciences at Washington University, a time-lag of one year from the inception of a course to its actual implementation is not unusual. Interdepartmental courses require even longer to coordinate. Through the General Studies Program, courses can be offered on a temporary or provisional basis, and they may begin almost as soon as a qualified instructor is located.

Since the program began, hundreds of course proposals have been considered by the General Studies Committee; 190 have become reality. Although a few courses have not lived up to expectations, the majority of them have been innovative and substantive, offering students and faculty totally new kinds of learning and teaching experiences.

Last semester, for example, undergraduate students were able to enroll in a class in "Criminal Corrections: Treatment and Detention," taught by a member of the faculty of Washington University's George Warren Brown School of Social Work. Formerly, this type of course was available only to graduate students in social work. Through a course on "Discovering the Architectural and Urban Design History of St. Louis," taught by a practicing architect, students visited local architectural landmarks and compiled research which will be incorporated into the City archives. Possibly the most unusual interdisciplinary course was a seminar, "Coins as Mirrors of the Past," taught jointly by a chemist and a classical historian.

This fall, in addition to offering fourteen courses and six seminars, General Studies sponsored a program of research assistantships, where students worked directly with faculty members on faculty research, and a Person-to-Person Series, which enabled students and faculty to visit with such prominent members of the University community as Chancellor William Danforth, philosopher and writer William Gass, psychologist Robert Williams, and artist Lucian Krukowski. For the semester break Intersession, General Studies offered a full complement of non-credit courses. These ranged from a graphic communications seminar, taught by faculty of the School of Fine Arts, to a course not entirely facetiously titled the "Metaphysical Problems of Plumbing," taught by the chairman of the philosophy department and dealing with the practical as well as the "profound" aspects of household plumbing.

Each semester the program also compiles a catalogue, which lists, in addition to its own offerings, departmental courses which have no prerequisites and are suitable for non-majors wishing to expand their horizons.

The General Studies Program is multi-faceted and perhaps the easiest way to fix on what actually does and does not come under the heading of General Studies is to understand that all of these activities have at least one thing in common. They have been considered and approved by the General Studies Committee of the College of Arts and Sciences, a committee composed of six students and six faculty members, with Dean Burton Wheeler presiding as a non-voting member. Essentially this committee has three functions and three sub-committees: a "big think" or "brain-storming" committee, which initiates (Continued on page 12)
As the General Studies class in St. Louis architectural history learned, St. Louis boasts an exhaustive list of historically and architecturally significant structures. Weekly field trips took students to Bellefontaine Cemetery, Tower Grove Park, Flora, Shaw, Portland, and Westmoreland Places, the Eads Bridge, Cupples Station, the Wainwright Building, the St. Louis Cathedral, and on an emergency mission to the Soulard neighborhood.

While class sessions were devoted to field trips, students pursued individual research projects, talking to people, measuring buildings, sifting through patent records and building permits, compiling research to be incorporated into the City's archives.

As instructor Philip Cotton and his colleague, architect Gerhardt Kramer, explained in early class sessions, in addition to the many famous landmarks in St. Louis, there are countless other architecturally significant buildings, particularly in blighted areas of the city, that need to be surveyed, documented, and photographed, so that they might ultimately be preserved.

An interesting feature of Tower Grove Park is this bandstand, built in 1872. Originally part of the estate of Henry Shaw, this magnificent park was planned by Shaw and English botanist James Gurney.

Cotton's General Studies class made a Christmas visit to the St. Louis Cathedral on Lindell. This St. Louis landmark was designed by architects Barnett, Haynes and Barnett. Construction was begun in 1907.
One day in mid-November, the class visited the Soulard neighborhood, where residents were seeking an architect’s advice about buildings the city planned to demolish but area residents wished to preserve.

Among the notable tombs in Bellefontaine Cemetery is that of St. Louis brewer Ellis Wainwright and his wife Charlotte Dickson Wainwright. Designed by architect Louis Sullivan, it was built in 1892.
programs like the Person-to-Person Series; a course formulation committee, which studies course proposals, and an evaluation committee, which constantly keeps a watchful eye on the entire program.

General Studies courses are of three basic types: experimental courses, where the approach or format is innovative; topical courses, dealing with current issues such as Asian revolution or women's liberation; and interdisciplinary courses that cross traditional boundaries between schools as well as departments.

The interschool courses are particularly revolutionary. According to Marlene Barrett, assistant dean of the College of Arts and Sciences and coordinator of the General Studies Program, “Before General Studies, to the best of my knowledge, Arts and Sciences students rarely, if ever, had an opportunity to take courses in fine arts, social work, law, or architecture. We have offered courses in social welfare, the legal profession, contemporary medicine, architecture, and painting. And now, partially through our efforts, students are able to take courses and do research in these schools, as well as in the survey courses offered through General Studies.”

The Forsyth House Seminars, another outgrowth of the program, are evolutionary, if not revolutionary. A continuing complaint of freshmen and sophomores has been that they rarely have the opportunity to meet informally with their instructors, as small research and discussion groups are most often reserved for upperclassmen. The Forsyth House Seminars, designed primarily for freshmen and sophomores, provide close contact between students and faculty. The courses deal with a wide range of academic subjects and involve group discussions and independent research projects.

How are General Studies courses born? The majority are suggested by students, some proposals are submitted by faculty members, and others come from the General Studies Committee itself. Although some proposals are clearly inappropriate or impractical, the vast majority have merit, and the Committee is committed to reviewing them with an open mind. The two most common reasons for rejecting a course are poor conception and the inability to find someone qualified to teach it.

In its hunt for instructors, the Committee begins with Washington University’s own faculty, but is willing and often does go beyond the University community to look for qualified instructors. Outside instructors must then be approved and given a courtesy appointment by the department most closely related to the subject matter of the course.

Spontaneity and flexibility are basic to the philosophy of the program, and one rule governing courses is that no General Studies course may be offered for more than two semesters. If, at the end of that period, the Committee feels a course should be continued, it presents a proposal to the appropriate department, recommending that the course be retained on a permanent basis as a departmental offering. To date, nine General Studies courses have been integrated into departmental curricula.

Possibly one of the most successful experiments undertaken by the General Studies Committee has been the undergraduate research assistantship program, where a student assists a faculty member with research. Each semester, the Committee invites faculty members to request assistants. Research proposals are bound into a book, where students may look for projects compatible with their interests. Last semester, fifty-five students participated, working on research projects in cancer biology, the Civil Rights movement, Guatemalan excavations, and a variety of other subjects.

Since the program was introduced in the spring of 1971, the response to it has been phenomenal. Mrs. Barrett has on her desk a stack of testimonials from students and faculty alike. Students value the opportunity to work closely with a professor and to learn methodology as well as content. More than one student has emerged from a semester of work co-authoring a major piece of research.

The faculty, too, is enthusiastic. In commenting on her three research assistants, one faculty member said, “They are doing excellent work, proceeding with diligence, sensitivity, and intelligence... challenging me where they don’t see my point. Perhaps the best way to sum up this experience is simply to say they are proving to be valuable colleagues.”

In those rare instances where the faculty-student relationship is not successful, faculty members most often report that a student does not have sufficient time to devote to the project. Conversely, students report that their responsibilities were poorly defined, too open-ended. One wrote, “The course was unstructured and practically unsupervised. For someone who was sincerely interested in learning the material, it would have been successful. I cannot recommend it for an interested dilettante, which is what I am.”

Completely separate from the research assistantships is General Studies independent study, where a student works alone on his own project, under the supervision of a faculty member. Independent study is not new to Washington University; it has and is being offered through numerous departments. But General Studies is often able to coordinate independent study projects for students whose areas of research do not fall within any one established department and for those sophomores and juniors who are ineligible for the senior level departmental independent study options.

Initially, any innovative endeavor experiences growing pains, and the General Studies Program has not been immune. Perhaps the most serious problem has been a ba-
sic misunderstanding among faculty members and students as to just what General Studies is all about. Many faculty members were, and are, skeptical of the Program's free-flowing format; they question the program's ability to provide both experimental and quality education. Among some students, the Program developed a reputation for offering interesting, but easy courses.

According to Mrs. Barrett, "We got a reputation for being three easy credits. In the beginning, General Studies was in part a response to student pleas for looser courses, in which students would actually help to develop the curriculum. This failed miserably. The students did not have the skills nor in many cases the motivation to carry this through. In answer to the question, How would you make General Studies better? the students' unanimous answer was, More structure."

In an effort to provide more structure, the Committee now requires that course proposals spell out exactly what the professor will expect of his students and how many papers and exams will be assigned. Course proposals with sound subject matter, but that fail to detail the work that will be involved, are rejected.

Continuing evaluation and improvement of the program are as important to the Committee as any other aspects of its work; just as new and innovative courses are offered each semester, new and innovative methods of evaluation have been tried, from questionnaires to open-ended tape recordings of student and faculty reactions. And most recently, the feedback has been largely positive.

Faculty members who have taught General Studies courses are generally enthusiastic, for with few exceptions, they have returned to teach additional courses. They appreciate the opportunity to teach new and different kinds of material and the opportunity to teach students who enroll in the course simply because the subject matter interests them.

But faculty members also note a number of phenomena peculiar to General Studies courses. General Studies courses are designed to provide students with a broad range of learning experiences. Most of the courses are taken outside of the student's major and many students opt for pass/fail rather than a letter grade. The courses have no prerequisites and draw students from a diversity of educational backgrounds. For the professor, this presents a challenge: Where to pitch the course? How to provide material relevant to a wide range of students?

A more serious problem arising out of these same characteristics is one of student commitment. In recent evaluations, faculty noted a tendency on the part of some students to place their General Studies courses lower than others on their list of priorities, cutting classes more often, failing to complete assignments on time, dropping the courses toward the end of the semester when the demands of their major courses became more pressing.

Student evaluations of General Studies courses range from unqualified praise, "The best course I've taken in three years at Washington University," to a more conservative, "Yes, the course was worthwhile. No, it didn't live up to my expectations. But then few courses ever have." But some students, too, felt they invested less of their time, energy, and imagination in General Studies courses than in other courses. Generally, however, students heartily endorse the program.

Both as Dean and as a non-voting member of the Committee, Dean Wheeler has been closely associated with the General Studies Program. Commenting on the program as he sees it today, he said, "The General Studies Program is an attempt to provide some means of addressing certain curriculum problems we felt were not being addressed by the departments. In comparison with similar programs at other institutions, it has been very, very successful. I don't know of any device at any other institution that is as adaptive as is the General Studies Committee. It can move with dispatch; yet relies on departments for the accrediting of faculty. We can, on the whole, maintain a high level of credibility with the faculty and a high level of offerings. The potential is great."

Looking ahead to the future, he cited three areas of concentration: the development of more interdisciplinary courses, a desire to involve more faculty members, and the need to establish a clearer sense of responsibility between student and faculty.

"At the time the program was conceived," Dean Wheeler continued, "it was assumed it would be experimental and largely concerned with developing interdisciplinary courses. We have been experimental, but we have been less interdisciplinary than we would have liked. A second problem is that of faculty involvement. It is difficult to find regular faculty members who have time to give to an additional course above and beyond their normal course loads. Although we recruit professionals, teachers from other schools, teaching assistants with excellence in a particular area, we do need ways of getting more of the regular faculty involved.

"Finally, the attitudes of some students have led them to commit themselves less energetically to these courses than others. Understandably they see their long-range futures resting upon the accomplishment of work in their disciplines. They take General Studies courses to extend their areas of interest. But one of the real goals and advantages of the General Studies Program is getting the student out of the role of spectator. If a student doesn't commit himself to these courses, he is losing that opportunity. Perhaps in General Studies, more than anywhere else, we have to have a clear-cut contract between faculty and students."

In spite of confusion about what General Studies is and some skepticism about its experimental nature, the program is successfully broadening the educational offerings at Washington University, providing students and faculty with an opportunity to experiment with new subject matter and format.
CONFESSIONS OF A
REPUBLICAN ACADEMIC

MY INITIAL inclination was to entitle this lecture "Two Years with the Enemy," in the spirit of Richard Dudman's recent book, Forty Days With the Enemy. As you may know, that distinguished correspondent of the St. Louis Post-Dispatch was referring to his experiences as a captive of the Cambodians. I really do not want, however, to draw any close parallels, particularly since my two years with the Nixon Administration were quite voluntary.

My wife, who usually allows me very considerable discretion in these matters, suggested that "Two Years Before the Mast" might be more appropriate. In any event, upon reflection, I felt that an accurate title for this report on a leave of absence would be "Confessions of a Republican Academic."

As a starter, I should like to recall what is still a vivid experience—the very first college lecture that I gave soon after I joined the Nixon Administration in 1969. At this Eastern college, I presented what I meant to be a very straightforward and low-key account of the extent to which college professors had been appointed to central policy positions in the new Administration. I went down what I thought was a very long and impressive list of intellectuals, ranging from members of the cabinet (the Secretaries of Agriculture and Labor) to key White House advisers, on both domestic and foreign policy, and extending through the subcabinet and operating agencies.

I was totally unprepared for and frankly thrown, however, by the very first question that was tossed at me during the question and answer period: "How can you stand it in that Administration?" I believe that I finally responded in a fairly flippant manner to the effect that I stopped beating my wife two weeks ago. I do think that I am somewhat better prepared now and, in effect, I would like to offer a delayed but perhaps more adequate response to that essentially nasty but nevertheless thought-provoking question.

The passage of time tends not only to heal wounds but, more treacherously, leads to our remembering more of the pleasant than the unpleasant. These were not two years of uninterrupted joy, delight, or success. Truly, rather, it was an experience, and some of the lessons are quite ambivalent.

For example, I came away with the strong belief in the need to change the way in which the Congress does its work and makes its decisions. The oftentimes excessive concern with detail and trivia is hardly conducive to high level decision making. More fundamentally, the notion of one man one vote needs to be truly implemented in the deliberations of the Congress itself, particularly at the crucial committee and subcommittee levels, which tend to be so dominated by a few senior members.

Yet, simultaneously, I came away with indelible impressions of many men of integrity, more than a few instances of quiet courage, and an overall atmosphere of just plain hard work and dedication. I believe that it is pertinent that we should bear in mind that my main, although not sole, relationship with the Congress was unsuccessful; it was in connection with my responsibility for revenue sharing, a program that I was not able to see enacted during my two-year tour of duty.

Perhaps the most difficult point to get across is that the same person who on one occasion was an inspiration, on another merely reflected narrow parochial interests. To muddy the water further, I feel impelled to report that the man or woman who was progressive enough to support you on a given issue was not necessarily a fountainhead of wisdom. Similarly, your opponent may very well have been a man of greater integrity and sincerity. Truly, I met no fascist pigs among our elected representatives, not that I would have voted for each incumbent if I were his or her constituent.

Similarly, I well know that it is fashionable to lambaste the upper reaches of the Nixon Administration for all sorts of sins of commission and omission. Now, certainly,
An inside view of the Nixon administration from the vantage point of one of the highest policy-making positions in the Treasury Department was given by Dr. Weidenbaum in his inaugural address as Edward Mallinckrodt Distinguished University Professor, which is reproduced here. Professor Weidenbaum returned to the faculty this fall after serving for two years as Assistant Secretary of the Treasury for Economic Policy. One of the major figures in the planning of the wage-price freeze, he was the chief architect of the Nixon revenue-sharing plan and was termed by The New York Times "the nation's foremost academic specialist on military spending."
the cast of characters does not exclusively consist of lovable or shy or self-effacing men and women. I must bear witness to the fact, however, that the dominant impressions that I bring back with me after more than two years of working with them, sometimes in very close relationships, are positive—an abiding loyalty, intelligence, industry, and dedication to the public interest (of course, as they see it).

To those of you who may be skeptical, I can only repeat the immortal words that Shakespeare placed in the mouth of Henry IV, "Hang yourself, brave Crillon. We fought at Arques and you were not there." However, let us not forget the follow-on phrase—"but we love you all the same."

INCIDENTLY, CONJURING up the image of fighting at Arques may be more than a matter of poetry. It was no secret in Washington that at times I strongly disagreed with some of the policies of the Administration and that on occasion I made my views known fairly vociferously. Maybe that in itself was more than enough reason to make it all worth while. I did have ample opportunity to present my views, to argue for the things that I believed in, in the policy councils of the Administration.

What I consider memorable about my experience in the Nixon Administration is that I was never put in the position of having to say, in public or in private, anything I did not personally believe in. The other side of that coin is that I never, in public, attacked the policies of the Administration. I must admit that sometimes that took more than a little self-restraint. But these two inter-related rules of conduct, I believe, enable you simultaneously to maintain your integrity and your effectiveness.

Perhaps the biggest surprise was to find a juxtaposition of roles. In representing a supposedly conservative Administration, more often than not, I found myself on the side of progress vis-à-vis the status quo and special interests. Certainly, that was our position in promoting welfare reform, revenue sharing, a cleaner environment, stimulative budget deficits, and greater government spending.

Let me cite some cases in point. The concern about a cleaner environment has become widespread. However, economists—regardless of political persuasion—generally do not view the problem solely in terms of appealing to our sense of moral outrage. Rather, for example, we tend to think of practical changes in our economic system that would result in the creation of less pollution. A favorite method is to make the very act of polluting more expensive than not polluting. The assumption we follow here is that most people and organizations pollute not because they are nasty and enjoy messing up the environment but, rather, they pollute because it is easier or cheaper or more profitable.

The Nixon Administration acted on that approach. We suggested a tax on the lead going into gasoline. This would have encouraged motorists to switch to non-leaded gasoline, which should have helped reduce a major pollution problem.

Believe me, the initial public reaction was an eye-opener. Aside from the environmentalists in the Administration, the friends of the environment generally sat on their hands. In fact, some of those ignorant of economics even chided us about selling so-called "licenses to pollute." After all, they seemed to reason, what did the Nixon Administration and particularly the green eyeshade types in the Treasury care about the environment?

But the industries that would have been affected by the tax quickly saw the point of our efforts. They launched a strong counterattack. Only then, belatedly, did some of the more open-minded environmentalists realize that there must be something good in the Administration's approach. (Perhaps they recalled the old adage to the effect that the enemy of my enemy is my friend.) But by the time they saw the light and started to support us, it was too late, and the proposed tax on leaded gas did not pass.

THAT WAS NOT the only instance of supposedly intelligent people abandoning their critical faculties and thinking in stereotypes. Yes, I resented the supposedly high-minded intellectual know-nothings who were too lazy to analyze the specific issue or proposal under consideration but automatically pictured every Republican as the bad guy in the black hat. Now don't get me wrong.
There are conservative intellectual know-nothings that react the same way to every Democratic initiative—and I find that just as offensive.

Of course, it was the campaign to strengthen our Federal form of government by instituting a program of revenue sharing that was my personal traumatic experience. To many people, revenue sharing meant the Heller-Pechman Plan, a method for Federal aid to state and local government developed and embraced by Democratic economists. As an aside and for the record—in the Administration’s promotional literature on revenue sharing, we plainly acknowledged the important roles played by Walter Heller and Joseph Pechman, as well as others—Republicans, Democrats, and independents alike. Perhaps not too surprisingly, I ran into some conservative know-nothing types of opposition to revenue sharing because of the support by many Democrats.

FROM THE OUTSET, however, the revenue-sharing plan presented by the Nixon Administration was developed jointly with the truly bipartisan leadership of the key state, city, and county organizations. And “developed jointly” is no figure of speech. The drafting sessions on the Administration’s general revenue-sharing plan were held in my office at the Treasury. The representatives of the state and local organizations who participated in those drafting sessions will tell you that it is as much their bill as the Administration’s.

That bipartisan pedigree, of course, didn’t prevent some people from attacking the revenue-sharing plan for all sorts of alleged defects, such as shortchanging the central cities. Of course, the truth is the reverse, which is why big city mayors are among the most enthusiastic supporters of revenue sharing. But I wish I had a tape of the debate where I asked an opponent what factual support he had for the charge that our plan did not treat the big cities fairly. The answer was that he didn’t need any special proof. He just knew that a Republican Administration would naturally favor the affluent suburbs where all the Republicans supposedly reside. In effect, there was a type of Gresham’s Law at work. Bad information (or really no information) drives out good.

Indeed, the inclusion of local governments is the most difficult part of drafting a revenue-sharing bill. If you recall the original Heller-Pechman Plan, it left the local allocation to the state governments. I believed that we plowed some new ground in including cities and counties as well as state governments in the proposed program of general Federal aid.

I believe that that was the basic compromise which obtained the strong support of all levels of government. At the outset, we were faced with two choices. As you would expect, the states embraced the approach that would give them full discretion over the revenue-sharing money going to their area.

Simultaneously, the cities and counties were advocating a proposal to bypass the states entirely and have the Federal Treasury make disbursements directly to local governments. It was clear that unless we could develop an approach that would gain the strong support of both groups, revenue sharing was dead. That new approach—with the technician’s somewhat forbidding label of “mandatory pass-through”—did get the necessary public support.

Under the mandatory pass-through, each state government is required to pass through to every city and county in the state a share of the Federal funds as spelled out in the revenue-sharing statute. Each local government’s share corresponds to its share of all revenues raised in the state.

Seriously, I wish I had a dollar for every ignoramus, or shall I say excessive partisan, who jumped to the conclusion—and tenaciously stuck with it despite all evidence to the contrary—that because the distribution was based on revenues raised, the results would automatically favor the wealthier areas. My basic rebuttal is to offer the facts of the matter. Under the Nixon Administration’s revenue-sharing plan, every central city gets a larger share—not just absolutely, but a larger per capita share—than the suburban ring around it. That relationship holds true for each and every one of the thirty largest metropolitan areas.

The reason is clear if you take the pains to study the subject before making up your mind. Each of the major central cities collects more revenue per capita than is
CONFESSIONS OF A REPUBLICAN ACADEMIC

raised on the average by the suburban communities surrounding it. Remember, the formula isn't based on how wealthy the community is but, in effect, on how hard it is trying to meet its needs through its own resources.

I N RETROSPECT, I have to admit that, after sustaining two years of review and criticism of our revenue-sharing plan, there was a good deal of satisfaction in seeing the critics unable to come up with a better plan—although they certainly have tried.

In any event, the effort to build nationwide support for revenue sharing was an exhilarating personal experience. If you have not done so, I truly hope that each of you gets the opportunity to crisscross this country, as I did, and particularly to meet and interact with businessmen (large and small), labor leaders, state legislators, county judges, town treasurers, and civic-minded housewives, in addition to our academic brethren. I don't mean this in a maudlin way, although I certainly met a goodly share of stupidity, incompetence, narrow-mindedness, and opportunism. Rather, I mean from the viewpoint of trying to develop a national consensus on a basic policy question out of a variety of apparently localized and specialized concerns and considerations. Really, a modern-day Chautauqua circuit can be a most exhilarating experience.

On the basis of my recent Washington experience, I have added some economists to the list of True Believers of whom to be wary. Despite the sophistication of their mathematics and theoretical constructs, I have concluded that those with a rigid, all-purpose cure for our economic ailments have done us a great disservice. At times, they remind me of the old Steve Allen TV routine—"Here is the answer, now what is the question?"

Models can be useful pedagogical and analytical devices, but at times it seems that they can develop a world of their own. Their practitioners can perhaps unwittingly fall into the trap of assuming that the real world just has to conform to their model. "After all, who has a better model?" is often the stock response of the cavalier model builder.

Perhaps unfortunately, the first two years of the Nixon Administration tended to coincide with the heyday of the monetarist approach to national economic policy. Of course, the two factors may not have been totally independent. At least some of the practitioners of the monetarist doctrine seemed to say that making necessary changes in the stock of money in the economy would suffice to attain the desired goals of economic policy, such as reducing inflation or increasing employment. Thankfully, at least I recall no claims for curing baldness or altering fertility.

In any event, it will take a considerable passage of time for me to forget the many occasions on which I heard True Believers tell me, "The inflation just has to slow down. Look what's been happening to the money supply." And later, "The economy just has to turn up rapidly. Look what's been happening to the money supply." Wasn't it Gertrude Stein who said that the trouble with Americans is that they always try to simplify things instead of attempting to understand complexity?

Certainly the Administration's new economic policy actions in the last three months have demonstrated an open-mindedness to new approaches. The generally favorable and often enthusiastic public reaction is quite noteworthy and is in striking contrast to the handwringing forecasts of failure on the part of those whose advice was not followed in these innovations. Of course, some luck certainly would be most welcome.

Before concluding, I do need to dispose of two questions that I frequently get: "Would you have gone to Washington if you had the chance to reconsider on the basis of what you know now?" and "Would you recommend that any of us take a post in the government if we get the opportunity?"

The first question is the easier to answer. Of course I'm glad that I went and had a chance to observe, participate in, and, hopefully, influence government policy making. As to the second question, it is always harder to answer for someone else. Certainly, I hope that many of you do get the opportunity for a government position and that you take it.

BEYOND THIS apologia por vita mea, I can only recall for you a visit from one of Ralph Nader's Raiders shortly before I left the Treasury. He came to tell me that, after meeting with some of us and seeing how we performed our duties, he was changing his mind about government service. He now thought that it was possible to try to do some good without compromising yourself. At some point in his career, he added, he'd like to work at the Treasury. Life does have some pleasant surprises, even after you're forty.

Perhaps I can sum up this report by saying that all I have learned from my recent stay in Washington is that Pogo may be right after all: "I have met the enemy and he is us."
Fifty years ago this past spring, Faye Cashatt Lewis became the first woman to receive the Doctor of Medicine degree from Washington University School of Medicine.

FAYE LEWIS / M.D. 1921

By DOROTHEA WOLFGRAM

A pretty girl whose long heavy brown hair was tied back with a blue ribbon stood in front of the registration table at the Washington University School of Medicine. When the registrar had officially noted her arrival and entry into the junior class as a transfer student, Faye Cashatt turned to go. As an afterthought, she turned back to ask, “How many other girls are there in the class?”

The registrar in that fall of 1919 looked up a bit puzzled. “Why, you are the only one,” she answered.

“Oh, my,” recalls Dr. Faye Cashatt Lewis, “my heart sank. I felt just terrible. I thought, ‘What have I got myself into.’ ”

“You know,” she says with a faint smile, “I wouldn’t have purposely been the first woman for anything. But I came to think before the year was over that I was probably better situated than to have to take my chances with one or two other women. We might have had different ideas, we might not have gotten along very well, but we would have been lumped together and separated from the men.

“As it was, the men had to take me in. I was so innocent and naïve, I think they felt sorry for the predicament I was in, so they just helped me in every way. All of this hostility that women-libbers feel, I just can’t go along with. My classmates were as good to me as they could be. I thought that their attitude was that they wouldn’t have gone out to look for me, but that they were stuck with me, so they better see me through.

“When our first tests were coming up, several of them came to me to tell me that one of our professors had never been in favor of women in medicine and that they were afraid he’d flunk me out, given half a chance. I thought they were right, so I carried that textbook around to study everywhere I went for the next week. And they used to give me pointers whenever they thought I might be in trouble.”

So it was that in 1921 Faye Cashatt became the first woman to receive the Doctor of Medicine degree from Washington University.

Talking to Dr. Faye Cashatt Lewis today, one gets the impression that the whole thing happened by chance. And so it may have. But one wonders, for Faye Lewis is a remarkable woman filled with humanity, humility, common sense, and an almost electrifying energy.

Although she and her husband, medical-school-classmate Dr. William B. Lewis, are now retired, they both practiced medicine for many years: he for more than forty-five, and she for nearly thirty. In addition the Lewises are the parents of three children and Dr. Faye is the author of three books. She is currently working on a fourth and has in mind a fifth.

Dr. Faye’s entry into medical school at Washington University does seem somewhat fated. Her parents had moved to the Rosebud Indian Reservation in South Dakota when it was opened to settlers, so Faye had entered the University of South Dakota as an undergraduate. But since the state was so sparsely populated, the university offered only the first two years of preclinical training in medicine and sent its students to other professional schools in more populated centers for clinical training. Most South Dakota students had been going to the University of Illinois.

The year before Faye was to transfer, however, a young man named Alton Ochsner, later founder of Ochsner Clinic in New Orleans, had come to Washington University because his mentor and relative Dr. A. J. Ochsner,
then a famed surgeon and professor at Illinois, believed Alton should go to Washington rather than Illinois. So Faye Cashatt, who had never been in a large city, had a choice and decided that St. Louis sounded like a place she could cope with more easily than Chicago.

"Since there was one other girl in my class at South Dakota, I never dreamed Washington University wouldn't have several women in medicine," she recalls. But the school had accepted its first women as freshmen the year before, and entering as a junior, Faye was alone and in the lead.

Im medi ately after graduation, Dr. Faye interned in Halstead, Kansas, and worked for a year in a hospital in Kalamazoo, Michigan, before marrying "W. B.," as she and the townspeople of Webster City, Iowa, came to call her husband. They moved to a small Iowa town and then to Webster City, a community of about 12,000, where W. B. could better concentrate on specializing in surgery.

"For a long time, while our children were growing up, I was out of medicine. In my day it was a choice between marriage or a career. That's one respect in which I go along with women's lib. Sex shouldn't have anything to do with determining an individual's intellectual pursuits. Men or women ought to be able to do what they want with their own minds."

But for these years Dr. Faye's life must have been filled with challenge and humor, for it is the experiences of this period which make up her first book, Doc's Wife, published by Macmillan Company in 1940.

Then came World War II, when W. B., as well as many other Webster City physicians, was serving in the Armed Forces. Dr. Faye's colleagues urged her to return to active practice. "I hadn't exactly been out of touch, since my husband was a physician; but oh, I had so much to learn. I was saying once that I realized how much of a responsibility I was then to the two doctors who took on my retraining. I depended on them so much and they had to do so much for me. One of my colleagues said recently, 'And they are both dead now, aren't they?' I said that I'd thought of that more than once."

It is this kind of warm humor and realism that must have characterized Dr. Faye's practice, for they characterize her books. Patients, Doctors and Families, published by Doubleday in 1967, and A Doctor Looks at Heart Trouble, Doubleday, 1970, are both no-nonsense books about doctors and medicine written for lay audiences.

Someone said after reading them that Faye Lewis either must be an aloof, hard-headed physician or a woman of deep and abiding faith in the human capacity to understand and comfort others. No one else could look at medicine and patients with such disarming sagacity. In a chapter of Patients, Doctors and Families entitled "Why I Go On Liking Patients," she writes, "True, we general practitioners do learn of most of the seamier occurrences in our communities. But knowing something of the turmoil that is back of so many ignoble deeds often causes us to ask ourselves, 'In the same circumstances would I have done any better?'" And later she confides, "I think most family doctors know domestic situations in which, if murder were committed, we should be reluctant to give testimony for the prosecution."

"I think a doctor should always be on the patient's side," she says. "He has to see what the patient's motivations are and defend his frailties. The doctor may have to be on a patient's side, against his family, or the other way around. Doing what is best for him may not be doing what he wants. At least half the time it isn't.

"I always try to be kind. That might mean there are things that I won't tell a patient. In fact, one of the little projects which I have in mind is to write a book about things doctors never tell their patients. In the preface I try to explain the admonition of Hypocrates which says that the first duty of a physician is 'to do no harm.'

Physicians and patients think of the active things a doctor does for a patient, but there is another service that is protective.

"You can't let a patient see how little chance you think he has, how little is being accomplished. When a patient of 85 comes to me complaining of being tired all of the time, I want to say, 'Well, what do you expect at your age?' but that wouldn't help much, so I try to adopt the attitude that there is always something which can be done in understanding and hope, if not in medicine."

Here Dr. Lewis stopped. "What I'm always interested in is patients and their reactions," she mused. "Perhaps I should have been a psychiatrist."

To which someone said, "Perhaps you are."

Dr. Faye's eyes sparkled a bit and a becoming girlish blush spread over her cheeks. Then she laughed, "Well," she said, "at any rate, I'm old enough to have developed common sense, if I'm ever going to have it."

W. B. would have teased her about her impishness had he witnessed that moment. And to think that in 1919 when he realized that he'd drawn the only girl in the class as a partner in outpatient neurology, he said, "Well that's just my luck. Fifty men in the class and I have to be the victim." And so it was—just his luck.
WHERE IS EVERYBODY?

—Studying!

IT IS A universally accepted law that we elders not only walked farther to school than today's students, but we also studied longer and harder once we got there.

The immutability of this law can be vigorously questioned, however, by someone who takes the trouble to walk to a campus library these days and take a look for himself at the student scene. An elder will find that the amount of studying going on has reached alarming proportions. In fact, it even upsets some young people. In November, a Yale student went so far as to complain in a letter to the school paper that "all my friends are Monday-night-at-the-library freaks."

The situation seems equally serious at Washington University's John M. Olin Library. Library officials have statistics that show student and faculty use of the library has been increasing steadily since the facility was opened in 1962 and that use of the library increased 20 per cent this year over 1970-71.

Rather than undertake the usual in-depth political analyses of student trends, we decided on a radical course of action. This was to go to the library and ask students why they keep going there. Obviously, it is a handy place to check out books for classes and find reference material; but there could be other factors at work when a student chooses to carry his books to the library throughout the year rather than study at home or in the dormitory. The following unscientific but quite random poll was made just before the semester break, the week before Christmas.

Larry Blume, a junior from Rochester, N.Y., commented that the library was a great deal more quiet than the dorms, but, he added, "Olin is a social gathering place, too—everyone comes here to study." When he chooses to isolate himself, however, he pointed out that the library "has an open stack policy and there are many good places tucked away among the books where you can study." Tim Kennan, a freshman from Aurora, Ohio, agreed that the quiet atmosphere helps, and confessed, "I tend to want to go and talk to somebody in the dorms." "During exam periods," he continued, "there often is standing-room-only, if you come here between 7 and 8 p.m." If the library is too crowded, he joins his roommate, a physics major, at the physics library in Compton Laboratory.

Shelley Zide, a senior from St. Louis, had a point of view that differed from most of the students questioned. When the library is less crowded and thus more quiet, he finds this silence distracting. "Then you notice the slightest things, like someone dropping a pencil or whispering. They ought to pipe in some background music so you wouldn't notice these distractions." Zide, like two other students polled, said he often reads the newspapers at Olin.

At the other end of the spectrum, Bruce Crabtree, a senior from Nashville, Tenn., emphasized that he sometimes enjoys the incidental distractions. He said that while the dorms were too noisy for sustained study, "The neatest part of the library is the staircase—watching the students go up and down is like seeing kinetic sculpture. The fifth floor has
windows, and I like that, too." He added, "I do find the stacks useful for some of my English courses—checking books out saves me from buying a lot of texts. I usually look at the exhibits on the main level and go to the rare book room. For example, I saw a letter from Andrew Nelson Lytle on display there. He's a writer-in-residence at the University of the South and I know about him because I'm from that part of the country."

Catherine Luh of St. Louis, who last year received her master's degree in Asian Studies from the University and now works at the library, recalled that she spent considerable time as an undergraduate studying at Olin. But, she added "I liked to see my friends, too. The undergraduates could always be found in the reserve room. There was a social factor."

Perhaps a friendly atmosphere is essential to many students for productive studying and in motivating them to return to a particular library. In a novel by Richard Brautigan about a very unusual library—one where authors checked in their otherwise unwanted manuscripts for posterity—its librarian touched on something that all popular libraries probably share: "And you have to be friendly, too. To make the person and the book feel wanted—because that's the main purpose of the library."
Professor Fox, who earned his degree in veterinary medicine and his Ph.D. from the University of London, is a recognized international authority on animal behavior. His research has centered on wolves, foxes, and crosses of coyotes and beagles, as well as domestic dogs. In February, his new book Understanding Your Dog will be published by Coward, McCann and Geogehan. Given here are excerpts from two chapters of the new book, portions of which first appeared in Dogs magazine.

EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT YOUR DOG*

*But haven't been able to ask him

By MICHAEL W. FOX
Associate Professor of Psychology

THE MORALITY OF DOGS, WOLVES, AND MEN

Many people say how much they prefer the company of dogs—or of children as a second choice, perhaps—over the company of adult people. They feel more at ease, they believe that dogs are moral creatures, totally honest and incapable of deceit. Like children, dogs never cover up their emotions, but always express their feelings openly. They are so easy to read since they have a straightforward communication repertoire... which even a child can quickly comprehend. A child laughing or a dog wagging its tail and horizontally retracting its lips into a grin are displays that directly express what the individual is feeling.

Both dog and child (the latter until perhaps about ten or eleven years of age) are incapable of “disguising” their feelings—feelings that are expressed eloquently in the “silent language” of body posture, movements, and facial expressions. We can read this language, and can often recognize the phony or artificial cover-up smile of an adult or adolescent. A small twitch at the corner of his mouth, a momentary furtive movement of the eyes or agitated movement of the fingers gives the show away. We see through the adult’s masquerade, and consequently feel ill at ease. The genuine openness of unsophisticated children and of dogs is certainly preferable to the company of such people who make us feel unsure of how they really feel about us.

One of the main reasons why the dog can be such a close companion to man is because the dog has a very clear silent language, which is very similar to ours, that anyone can soon learn to read. And perhaps vice versa? My own two wolves are perhaps even more expressive and totally open and honest about their feelings than many breeds of dog. They are also extremely attentive to my own nuances. Admittedly there are many pet dogs that also have this ability to sense the mood of their owners. Some people go so far as to say that such animals must have ESP, but in fact, these animals are simply superb observers of a silent language that is shared by both human and canine species. It is only man, as he matures, who appears to be capable of deceit, although I often wonder about some domesticated dogs who may seem to deceive the observer, but who in reality simply cannot express themselves clearly because of pendulous ears, lips, stumped tails, and hair all over their faces.

We are fortunate that wolves and a few other dog rela-
tives are alive today so that we may understand "pure" canine behavior uncontaminated by domestication. In a few remaining wilderness and conservation areas, and under less ideal conditions of captivity these studies are being conducted, for they may help us understand not only our dogs, but also ourselves. Racial and cultural differences in man, which are a product of cultural evolution, are to some extent comparable to breed differences in the dog, which are a product of domestication (selective breeding or artificial selection).

Besides the close similarities in facial expressions in man and dog, and the fact that canines and children share a "total honesty," there are other similarities in the social life of canines which closely resemble the moral and ethical codes of man. Respect for another's personal distance is seen in both man and dog. We do not stand too close to strangers, and if we accidentally bump against them in the street, we automatically apologize. People, according to their cultural background, as well as their familiarity with each other, have different personal distances. Wolves respect each other's personal distance, but the leader wolf, however, has the greatest freedom, and can "presume" upon others and break into their personal spheres. Other wolves behave submissively, yet they, the subordinates, will attempt to enter into the personal sphere of the leader. They crawl on their bellies and show submission, but at the same time wag their tails and attempt to lick his face.

In the various breeds of dog, we find some that are very intolerant of strangers entering their personal sphere. They will attack, often unmercifully. This intolerance is a product of selective breeding, characteristic of some terriers, and as a consequence they are less gregarious than beagles, for example. When people and animals are crowded together, all morality, dignity, and principles break down if the individual's personal sphere is shattered. Some races of people, species of animals, and breeds of dogs can tolerate more crowding than others, because their personal spheres of distance requirements are smaller. Man can protect his by building walls and other structures, and modern architecture does help us to adapt to crowded work conditions, for example. But we often feel the stress, become more irritable and our morals give way to frustration and aggression. If we placed a dozen fox terriers in a small pen, severe fighting might break out in some strains, and a number of dogs might be killed, yet we might be able to keep forty beagles peacefully in the same space.

Dogs, wolves, and men also react if their territories are trespassed upon. Territories include the den area and the hunting range in wolves. In nature, animals respect each other's territory, principally through fear, for the possessor, or the resident pack, is usually dominant. Dominant only on their own territory, however, where they have the initiative; possession is nine-tenths of the law of dominance. In a stranger's territory, you are subordinate. Once established, territories space animals out, and peace reigns, for there is mutual respect (or fear) of territorial rights. The wolf pack and in the Arctic, domestic packs of huskies, will violently defend their territories against intruders, but they do not violate the territories of others. Similarly our domesticated dogs behave in the same way; a miniature poodle can drive away a St. Bernard if it enters its property, and the latter withdraws discreetly, accepting the tiny resident dog's superiority. In man, these territorial rights are supported and upheld by legal rights, because the biological laws themselves are apparently insufficient for our own species!

Again under conditions of more crowded living or shortage of food, animals and people will more aggressively defend their territories against impoverished, desperate intruders who violate their territorial boundaries. This is war, in its most basic, biological form. But it is rare in animals; the non-breeding non-tenants usually migrate or die.

Wolves show mercy and compassion. When a weaker wolf loses a dispute and displays its submission, the superior's aggression is "cut off." The fight ceases abruptly. Such chivalry was part of the ritual of hand-to-hand combat, but since the advent of more efficient weapons that can be used over greater distances, chivalry in war has virtually been eliminated. The soldier merely pushes a button, and never sees the pain and suffering of his enemy, nor does he hear their pleas for mercy and compassion. Technology of war makes man not immoral, but amoral; chivalry is dead.

Wolves, some men, and some dogs will display their weapons, but not use them. The display is a threat, a ritual between two contestants; the teeth are displayed but rarely used. The subordinate in such a "cold war" encounter loses face and is allowed to back off unharmed. The superior never pursues to attack him. Occasionally the superior wolf may bite a rival, but the bite is controlled or inhibited if the rival immediately submits to his dominance. What makes man or dog lose control? Suddenly the man shoots, even though the threat display of his gun is sufficient to subdue an adversary. In one instant he becomes a murderer, a sociopath, even though he may be protected by the law or by a badge. Similarly, dogs occasionally lose their control of inhibition, and threat becomes an attack. I am forced to the conclusion that such dogs, a product of domestication and possibly of improper rearing, have no bite inhibition and in a sense are sociopaths. Other cases of dogs attacking people without any apparent control often occur when a person insists on approaching a strange dog without reading its intention or without giving the dog a chance to read his.

There have been many reports of the incredible heroism and loyalty of certain dogs. They defend the home against intruders, warn the owners of danger such as fire, or rescue a drowning child. Are such actions purely instinctual, or are they at some higher altruistic level? I am inclined to think it is most certainly the latter. What I have found in the wolf is that the individual has a great allegiance to the pack, and in the domesticated dogs, his pack companions are human beings. This relationship is the consequence of early socialization. Therefore, I regard
the cases of heroism and loyalty as not really as fantastic as they are thought to be. Such actions are within the natural capacities of dogs and wolves. The dog's "pack" consists mainly of human beings, and to them he will show the same deep allegiance as one wolf will for his wolf pack companions.

Dogs have to be trained to attack, and many fail the course not because they are timid but because they are well socialized to people, and like wolves have a tremendous built-in inhibition about inflicting physical injury on their human pack-companions. Some breeds though, are much easier to train than others for attack and guard work, so there may be genetic factors operating. Or are there? Many such dogs fail the course because the trainer cannot break down the dogs' natural inhibitions against attacking.

It is another question why these biological and cultural inhibitions break down in man. There are many factors that can turn man against man, that can make man commit genocide or massacre unarmed people. Something seems to "click," and the trained dog or soldier appears to act automatically, as though the adversary was an object, a different being, an alien. Such instant breaking of the social bond, the allegiance for fellow man, enables one to attack and to kill even one's brother, when one's distorted (and trained-in-doctrinated) mind perceives him as an alien (because he has different beliefs or is of a different culture or color).

There are recorded cases of faithful dogs suddenly attacking their owners when the owner accidently falls, for example. In that split second, the dog may not recognize the owner struggling on his back, and he either backs off fearfully or attacks defensively. Occasionally dogs roaming in the woods have killed children. Perhaps the children were rolling around and were for one fatal moment not quite human. Or perhaps the dogs, like human hunters, were "trigger happy." They were tuned to respond to the slightest movements in the cover, and attacked automatically. This is one reason perhaps why hunter has shot fellow-hunter, or cow, or even child on a bicycle. We excuse his actions, but few will excuse the dog, who is instantly branded a "killer." As a dog that has "reverted" to its wild instinctual state, even though he is loyal and trustworthy at home, few owners and no neighbors would allow such an animal to live. But dog, like man, will react automatically or instinctively under certain circumstances—in this case not savagely or murderously—but purely to kill efficiently as a hunter in response to a moving object.

I have heard occasionally of dogs biting their owners or other people for no apparent reason. When we dig into these incidents, two things often come up. First, the owners have been too lenient, too permissive with the dog during its infancy. With such lack of discipline, some dogs remain perpetual puppies, enjoying the indulgences of their owners, but others as they mature, attempt to become the dominant ("leader wolf") of the household. And some succeed. Such rivalry and testing of the owners for social status is really quite normal. In any group—wolf, dog or human, one individual will be a leader, and if there is no clear leadership, some fighting or conflict breaks out until a leader is established. Then a kind of pecking order or social hierarchy exists, which in fact brings peace through order. Each individual knows his or her place, and there is no further conflict or fighting. An individual that has not learned his place is socially maladjusted; he has no respect for authority, social order, and shows no mercy for subordinates. These abnormalities, coupled with a lack of social conscience and morality in both dog and human being, are principally a consequence of early rearing experiences: the parents of either pup or child clearly have a tremendous responsibility.

We have learned one more thing from wolves and other wild dogs that is perhaps a lesson—a red light of warning to man. They do not "overkill"; they never pick out the prize animal of the herd, like the perverted white trophy hunter who attempts and unfortunately too often succeeds in doing. The wolf pack has an almost mystic or cosmic relationship with its prey—be it caribou, deer or dall sheep. Only the weakest, the oldest, and the sickest are killed off, and this kind of "pruning knife" effect is of immense value to the herd, for otherwise they might multiply too fast and eat themselves out of all available food in one or two generations. The wolf pack serves an invaluable purpose in regulating their numbers and in controlling the quality of the herd. The most remarkable thing, though, is the fact that even in times of plenty, the wolf pack does not increase in size, nor does it overkill. Through very complex social birth control mechanisms, the pack maintains the same size year after year.

Some say that dogs could never have evolved from wolves because they are so aggressive toward dogs that intrude onto their territory. Certainly domestication has had a great influence on canine behavior, much in the same way as cultural evolution has affected our own behavior. The average pet dog has transferred his pack allegiance and identity to the human family with whom he now lives, and the territory that he defends is their home and property. It is indeed a very compatible relationship. On "neutral" territory, such as in the neighborhood park, dogs and people are friendly, and can enjoy each other's company without having to defend either territory or status. But both dog and man will retaliate even in the park if that crucial personal sphere is violated.

An adult dog or human being normally tolerates intrusions into the personal sphere if the intruder is an infant, a clearly subordinate individual or an attractive member of the opposite sex. But a person from another culture, or
a breed of dog with a very different personal distance, may intrude on and offend the other. Friendly intentions may be misinterpreted, and such misreading may lead to mutual avoidance or even to fighting. This is something that man is at last beginning to comprehend. Perhaps future peace treaty discussions and other international confrontations on some "neutral territory" might progress more smoothly and have a more fruitful outcome, when both parties understand and respect each other's cultural differences. For beneath these differences are the mutually shared feelings and qualities of human beings that desire peace and unity, but are afraid and defensive when faced with others that they do not understand and with whom they cannot fully communicate.

The social life and morality of wolves and wild dogs in nature, and of the domesticated dog adapted to the social lives of their owners, provide us with a wealth of information. This knowledge gives us not only a deeper insight into our own nature, but also into the ways in which our cultural standards, and ethical and moral codes can affect others. To accept the fact that animals have certain codes and standards is a beginning, a loosening up of our self-centered or ethnocentric outlook. We may then begin to understand and communicate at a meaningful level once the barriers of culture, of fear and distrust are broken down. It is often hard to realize that the dog on the other side of the fence has the same emotions, hopes and suspicions, and is a member of the same species, when his appearance is so very different in terms of size, color or some other distinguishing feature that makes him appear alien in form and behavior.

**SOME PROBLEMS OF DOMESTICATION— FOR MAN AND DOG**

Few of us are really one hundred percent happy with our lot. There's something just out of reach, a promise of eternal sunset over the next hill, and the grass is always greener on the other side of the fence. Every man, or Everyman, faces countless frustrations, many of which are enforced culturally, by the way in which he was raised and by the culture in which he now lives. He must conform to certain social codes, even if deep down he doesn't believe in them, or even if they were opposed to the basic desires and drives of human nature. It was Freud's genius that first recognized how many of the emotional problems of mankind stem from early rearing and from frustration of man's basic instincts by various social repressions.

Wherever man is, somewhere in his culture we find the dog, in a particular place, fulfilling certain functions that each culture has allotted man's closest companion. In one culture the dog may be purely utilitarian, and a vital part of the economy. An Eskimo without dogs to pull his sled and to smell out seals from their breathing holes, would be lost. He is totally dependent on his dogs and much of his life and culture revolves around dog—and seal. In other cultures, the dog is used exclusively for herding cattle or sheep, or for hunting, for coursing game in the desert, or he is kept as a food item, that until eaten is a nice companion for the children to play with and keeps down the vermin in the village. A more general use of dogs common to many cultures is that of a companion and guard.

Now in the very diverse culture developed by modern Western man, we find the dog in the many diverse roles enumerated above (with the exception of the food role) and there are many different breeds now more or less standardized. Most can be classified according to their utility function: terriers, bird dogs, trail or scent hounds, coursing hounds, guard dogs, etc. Certain traits such as trail-following, pack-hunting, and guarding instinct, were magnified or enhanced through selective breeding. In some cases we find that the dog reflects the human culture that developed it; thus an agrarian or farming culture developed guarding and herding dogs, hunting communities developed hunting dogs especially fitted to the terrain and kind of animal that was hunted.

These traits have been preserved in many breeds from the Middle Ages, when only the landed gentry used dogs for pleasure, until now, when everyman can enjoy his sporting or working dog, be it for sled racing competitions, sheep-herding or a gun dog trail—or for treeing coon. The service provided by such dogs is really non-essential to the economic survival of Western man, in sharp contrast to other cultures that were once, or still are, very much dependent on the working dog. In the diverse culture in which we now live, working dogs still work, of course, as farm dogs, herders, guards, and hunters, but only a small segment of people really need the dog in the economic sense. The modern working dogs now fit new roles, as social or "club" cards. Their basic instincts, which have been "brought out" through selective breeding, are still of value to the owner, remain unchanged.

A few new tasks for working dogs have evolved in our Western culture, one guiding the blind, another mine-detecting for the army. Again utilizing basic traits and instinctual patterns of suitable breeds, made "accessible" by selective breeding, Western man continues to evolve "specialist" dogs for selected jobs.

A new "slot" for the dog is afforded in all cultures that have some degree of affluence. It is only then that we can indulge ourselves with dogs "for their own sake," and consequently indulge our dogs as household pets in an air-conditioned, centrally heated, vermin-free abode, where food for man and beast comes in cans or plastic wrappers, hygienically prepared and preserved and nutritionally balanced with appropriate additives. The Egyptian, Greek, and Chinese civilizations indulge themselves in breeding fine, non-working companion dogs that had esthetically pleasing or emotionally satisfying behavioral traits and
physical characteristics. They, like their owners, were non-working aristocrats. These dogs reflected their owners socially, in terms of “status,” for few could afford to possess such canine luxuries. Their emergence through domestication and careful selective breeding also reflected the evolution of the human culture that developed them.

Western civilization, compared to these earlier cultures, is per capita the most affluent in the history of mankind and unique in terms of a large and wealthy “middle class” which did not exist as such in these previous civilizations. Then there were kings and aristocrats with “pet dogs” and peasants with working dogs. A peasant’s dog had to earn its keep, for few could afford to feed an extra, non-contributing mouth, and a man was very probably socially inhibited from owning a dog above his station.

Now on the verge of the twenty-first century the scene is very different. We find urban and suburban man still with his dog. As man’s role in society has changed, so has his dog’s; no longer are they hunters or herders. We find old breeds in new roles, and working dogs that no longer work. Some are now companions or ornaments, or child-substitutes, or status symbols, or else they fulfill other desires of their owners, be it for strength, agility, beauty, or aggression: dogs are of therapeutic value.

When a man has few alternatives, little choices in being able to do his thing, in being able to realize his ambitions, be they for equal opportunity, creative and intellectual freedom or for a better standard of living and fair income—he experiences increasing frustration. As more doors are closed in his face or are never discovered, he has little to live for, and nothing to lose by resorting to crime and violence. On the one hand his super-ego, his social conscience, has not developed because of his impoverished rearing and lack of contact with the affluent majority who determine the social and cultural “norm.” On the other hand, his basic needs and desires may be so frustrated and repressed by society that he is literally a prisoner—like a hunting dog cooped up in his suburban back yard with nothing to chase and “kill” or retrieve except the mailman and his own tail.

LIKE HIS SUBURBAN or urban owner, the dog has to conform to many restrictions, and what is biologically normal for a dog (or master) to do, is often not socially acceptable. Also like his owner, there may be few outlets or alternatives for many natural tendencies and basic instincts so that they may “build up” inside. Frustration is then experienced and the pent-up drive may be discharged “out of the blue” by the most inappropriate stimuli and under the most unexpected circumstances. Or frustration may lead to aggression. Another thing may happen, which Dr. H. Hediger, director of the Zurich Zoo, described in zoo animals, namely a hypertrophy or over-magnification of values. The dog—and his owner—becomes over-covetous and over-defensive of certain possessions or of his territory or companion. Another problem that faces people and dogs is that they are supposed to be civil, if not friendly to strangers, and the dog especially is expected to accept people and behave in a friendly way (unless he is a guard dog). For the average house pet this can be a problem, and we will look into the genetics and rearing conditions that seem to influence this “over-social behavior” of our modern dog.

A few examples will illustrate these points. Many dogs have a pretty miserable sex life; they have been selectively bred so that they reach sexual maturity at an early age and are also promiscuous, for refusal to mate with certain individuals would not help any breeding program. Against this background, which man has produced in the dog, the average dog leads a life of chastity. He meets a neighboring bitch and she has been spayed or already bred to a stud several hundred miles away. Or even worse, he smells that she is in heat, but the owners keep her confined until her period of sexual receptivity is over. What would the average all-American male do under such circumstances? Sexual frustration is one common cause of violence in man, and certainly it is not unusual in dogs.

SOME DOGS, because they are raised more or less exclusively with human beings, may become over-socialized to people. When they reach sexual maturity they may really yearn for their masters and ignore or repell other dogs. Often such “people dogs” are difficult to handle when they are in heat, as are male “people dogs” that get “turned on” when being petted by someone, especially if that person is carrying the odor of their dog that is in heat. Imagine the frustration and confusion! One solution is to spay or castrate the dog. Sexual frustrations in man have many more alternatives, such as vicariously enjoying a “lesh film,” driving one’s car fast and furiously, or engaging in exhausting physical activity.

What natural outlets does the pet dog have for hunting, for tracking, stalking, biting, shaking, and killing prey? We might provide him with surrogate objects such as a piece of rawhide or a ball, but these are pal substitutes. Most of the games dogs really enjoy with their owners involve chasing and “killing” or retrieving a suitable “prey” object thrown by the owner, be it a stick or a ball. But if the dog doesn’t have anything or anyone to play with, what other outlets are there for this hunting instinct? Some breeds are luckier than others because their hunting instinct has been more or less bred out of them. But others, especially the terriers and hunting dogs that are kept as house pets with no “work” to do, have a hard time. So they seek substitute objects that are not always socially acceptable. The moving legs of a passerby or the wheels of a bicycle or car become substitute “releasing stimuli” for prey chasing.

This is also one reason why dogs like to chase cats. A good reciprocal arrangement has been set up between these two species under the restrictions of domesticity, the cat satisfying the needs of the dog to chase something and perhaps to a lesser degree the dog triggering the cat to satisfy flight reactions. A young wolf or coyote responds instinctively to reasonably small, receding, moving objects: this is part of the reflex-like hunting behavior. And so the dog, having chased the “prey” has to bite and kill it. Thus the mailman is so often bitten as he is leaving the
garden, or the child running past the house gets a bad rip on the ankle. Is the dog in question savage? Should he be destroyed? In fact, he is suffering from repression of his normal instincts. Such natural tendencies might be controlled through punishment, but that would only "bottle things up" more.

Why do many dogs like to break out occasionally and go off and roll in the most nauseating materials and scavenge all kinds of unmentionable garbage when they have nice clean homes and a good "balanced diet"? Just like all of us wanting to break away from routine and have an eating orgy, so does the dog! His natural behavior is to roam and scavenge—really a form of work—and he probably has great fun doing the rounds of the garbage cans that contain all kinds of exciting things. One possible reason why dogs like to roll in odoriferous things is that they derive great pleasure from this—a kind of olfactory esthetics. Another possibility is that wearing an odor for a dog is akin to man's desire to put on new or fancy clothes. We indulge ourselves this way, so why can't our dogs indulge their senses too?

A dog is supposed to be friendly, if not downright submissive and obsequious to all people who come into his home. He must accept all comers once they have been introduced, and this is a hard task for any dog in his right mind. Some people are too noisy, smelly, overindulgent, and want the dog to do all kinds of un-canine things. With a large dog such as a Malamute, O.K., people will accept his aloofness and say he is a proud animal who only shows affection when he feels like it. But so many dogs that I have met shower me with excessive and unsolicited affection, and I wonder why this is. They seem over-sociable and submissive, yet with other dogs they will stand their ground and often assert their dominance. One explanation for this behavior is that in domesticating dogs we have selected for certain infantile behaviors, especially submission and attention-seeking.

A dog will defend its offspring against strangers, and this natural behavior can be a problem. I have heard of dogs that are so protective of their master's children that it is dangerous for strangers to forcibly intrude. Often the neighbor's children may be driven off. But some dogs do make remarkable foster-mothers, and none of these "social problems" ever arise.

A dog has a need for privacy, some place to call his own den, and his need to maintain some degree of social distance should be respected. He needs somewhere to retire, to escape from children, and perhaps a place where he can rest and contemplate. These natural needs should be respected and provided for.

Dogs have adapted extremely well to our present way of life, perhaps even better than Western man, but both man and dog do experience a number of social restrictions and limitations imposed by living in an urban or suburban environment where there are few appropriate stimuli to "release" or satisfy basic needs. We are only beginning to understand some of the limitations in the environment which we have so drastically and short-sightedly imposed on ourselves. Some of us break out and seek a simpler and more satisfying life in the country, but most of us are forced for economic reasons into behaviorally inadequate urban and suburban environments. A few people break off and form a commune, a sub-culture within the existing structure.

One final analogy. Under intensive, crowded living, an animal becomes more suspicious and defensive, if not almost paranoid about the safety of his territory and property. These fears are increased when there is competition, and even theft. So it is with man, who becomes more covetous of his house and possessions if he has had to work hard and compete for them, and when theft and vandalism are widespread. When his living space is crowded in by a large populace, crowding stress also increases his need to withdraw into his own "shell" and consequently the importance of his little plot and the basic need to protect it increases. In many neighborhoods, dogs, like people, are friendly when they are out together in a pack or crowd on neutral territory, but on their home ground, strangers are treated with suspicion and are often unwelcome. In areas where there are many dogs and people, the dog has to work hard to maintain his territory, so he barks a lot, stakes out his territory with urine marks every day, and puts on an aggressive front when strange dogs or people enter his little plot. These behaviors related to territoriality are certainly magnified, as is the case in man, under crowded conditions.

The dog is exposed to many of the social problems that confront his master, including crowding stress and the restrictions and frustrations of imprisonment in suburbia's gilded ghettos. The bored housewife shares the same bland routine as does her dog; both may grow fat and spend much of the day asleep in front of the television, or both may erupt under the pressures of understimulation. Similarly the harassed high-strung mother may need tranquilizers to get through the day to stall off a nervous breakdown; it is more than one pet dog that can't take the frenetic pace of such households and becomes a nervous wreck, hiding under the table when the children come home from school or biting them through fear and confusion.

Even the executive, struggling to maintain his status in a highly competitive world is in some ways like his dog, who in a suburb full of dogs, has to preserve his identity and status by marking and defending his territory against rival neighbors. Man also defends his conceptual territory against rival neighbors. Man also defends his conceptual territory, his world of ideas and personal beliefs, much in the same way as an animal will defend his physical territory, and stress and anxiety can result when this territory is threatened or challenged by others.

I have drawn some analogies, some of which are not so far out, between dog and human behavior in relation to some of the problems of everyday life. Fortunately there are fewer canine sociopaths than there are human, and it is quite possible that dog is adapting better than his master to the way of life that we have created for ourselves.
MARTIN DENNIS RUDDOCK, a junior premedical student in the College of Arts and Sciences, is the antithesis of the old stereotype, the "campus jock." He is quiet, scholarly, average-size, and bespectacled. In terms of purely athletic achievement, however, Ruddock ranks first among all past and present Washington University competitors in his sport—cross-country running. A number of coaches and athletes (to whom he is known as Marty) think that, at present, he is probably the best athlete on campus.

Marty's accomplishments aren't widely known to sports fans who, of course, are much more interested in the so-called contact sports. But that doesn't mean long-distance running is a pastime for softies or just a refuge for guys who didn't make the football team. Cross-country is probably one of the most demanding sports in the amount of sustained physical conditioning and stamina that it requires. To take part in long-distance competition requires tremendous self-discipline.

That Marty has this trait was recognized by one of his coaches in high school, where Marty's record was good but not record-shattering. The coach commented to a cross-country buff on his hometown newspaper in Ohio that "Marty's desire and attitude will take him a long way." The coach wasn't trying to make a bad pun; he...
meant that whatever task Marty tried, he'd do well. And he has. At Washington University, he holds an academic scholarship and maintains a 2.7 grade-point average out of a possible 3, concentrating in the generally tough science and biology courses. This semester he is taking organic chemistry, a laboratory course in chemistry, physiology, animal behavior, and psychology. These subjects require a heavy reading schedule outside of class and Marty usually studies until nearly midnight every night.

At the same time, the amount of running Marty must do just to keep in shape for cross-country and track competition boggles the mind of the average sedentary American. Marty has logged more than 12,000 miles since he was a freshman at Tinley Park High School, Ohio. That averages out to more than five miles of running every day for the last six years—a good part of it in either bitter, wintry weather or in sweltering summer heat. Spring and fall simply present pleasant climatic interludes to the long-distance man, who in those seasons enjoys the bulk of his competition (or at least the company of fellow runners).

Marty runs in both track and cross-country meets. Long-distance events in track include the one-, two-, and three-mile races; in college cross-country, the races are usually run over four- or five-mile courses, which may be relatively smooth or hilly and rugged. Marty holds the records for Washington University runners in all of the aforementioned distances: one mile—four minutes, 14.7 seconds; two-mile—9:18.6; three-mile—14:21.4; four-mile—20:06.7; five-mile—25:21. To this impressive record, Marty also has added several cross-country course records at various colleges. In most other sports such a record would have generated considerable press coverage.

When a journalist takes that rare occasion to interview a long-distance runner, he invariably asks, in effect, "Why do you go to so much trouble when there is so little recognition?" The answer—if there is one at all—has more to do with the individual's personality than in weighing rewards against such old saws as the "loneliness of the long-distance runner." On this subject, Marty comments in his very matter-of-fact way, "I'm very systematic in what I do and how I run. I don't want you to think all runners are like me."

To a casual observer, Marty's quiet manner obscures a deep pride and personal commitment. It was his decision to prepare for medical school, for example. "I've wanted to be a doctor from the time I was very young—no one pushed me in that direction. I was convinced it was the right decision when I did well in science in high school," Marty said. His outward nonchalance also belies a zest for precision, evidenced by his detailed, objective, personal log of daily practice and meets. Around the Athletic Department, this black, bound volume is known as "Marty's bible" because of his reputation for accuracy and integrity. Sample entries: "January 4—ran six miles to Cindy's house (minus 13 degrees F.)... June second—ran six miles, 91 degrees F." He notes his good days, but is critical of himself when things don't go well.

The only major gap in the bible is a three-week period in July, 1971, when Marty sprained his ankle while at work on the night shift in a Gary, Indiana, steel plant. Also conserved in the book are clippings about Marty's races. Typically, these stories are the two- or three-paragraph items reserved for cross-country or track events. For example, the news that Washington University won its eighth straight College Athletic Conference cross-country championship last November elicited only three sentences in one of the daily papers.

Last year, there was one notable exception to the usual dearth of press coverage of college runners. At the Principia College Invitational track meet at Elsah, Illinois, under a punishing sun, Marty won the half-mile, one-mile, and three-mile races, setting meet records in the first two events. The St. Louis Post-Dispatch reporter covering the event wrote, "If ever there was a Battling Bear, Marty Ruddock is the one.... His three-mile clocking missed the meet record. No matter. His first mile in the event was clipped off in 4:25.5. He was clocked in 10:09.3 at the two mile mark, and an appreciative crowd, impressed by the fact that he could still manage a blistering pace after super performances in the mile and 880, gave him a rousing hand."

The next morning, a St. Louis Globe-Democrat reporter interviewed Marty for a follow-up story, almost unprecedented for Washington University runners. And as always, Marty was asked why he runs. Marty told the reporter, in part, "Sometimes as I run along I ask myself, 'What the heck are you doing here?' But I just keep going. I guess I know Forest Park about as well as anybody does. I really hate to miss a day of running. though. I actually feel
WHAT MAKES MARTY RUN?

guilty if I don’t run for a day. Maybe I shouldn’t be like that, but I am. That’s one of the reasons I’m improving this year.”

When the question was put to him again this year, Marty pointed out that there wasn’t a single factor. An obvious benefit, he said, was, “Running as much as I do and being in good shape makes me feel better.” That, in turn, helps him do better in school. But not always. The national college division competition for All-American ranking is held at the mid-term exam period. “Then, it works out that I don’t get enough sleep because I’m studying later at night. I don’t run as well in getting ready for the competition, which makes me press harder and get even more tired—a vicious circle.”

**In general**, though, Marty says simply, “I enjoy running. Usually, it gives me a way to relieve anxiety over getting better grades and doing well enough to get into medical school. It makes me feel stronger. I can do more because I feel good, and that’s a good reason for running.”

As evidence that Marty enjoys running: This past Thanksgiving and Christmas, Marty was competing in non-University outdoor races near Chicago. It’s always cold and often snows at these events. There was a good incentive, however, to visit Chicago, which is the home of his girl friend, Cindy Schiro. At Thanksgiving, Cindy must have helped to inspire Marty, for he finished third in a field of 150 runners, beating two outstanding college runners who previously had beaten him in national competition.

Competition with the top runners is another factor in the desire to run. Marty has had a keen competition for instance, with another pre-medical student, Richard Bowerman of Wabash College, the only long-distance man whom he hasn’t defeated in area competition. Also, Marty says quietly, but with a determined look, “One of my main goals is to earn All-American standing.” It has been a great source of frustration to him that he hasn’t yet finished high enough in the national meet to achieve All-American rating. At mid-terms this year in the national cross-country meet at Wheaton, Illinois, he finished forty-third in a field of 600 runners. Only the first twenty-five runners are declared All-American. Marty’s best finish was in his freshman year when he placed twenty-second in the national meet; but then, only the first fifteen runners were named All-American. In that race Marty did have one consolation—his only victory over Bowerman, who has won All-American standing in cross-country.

“My trouble is that I reach my peak early in the season and I’m going downhill at mid-term,” Marty said. His chances for success in the national meet naturally would be better if he attended a less academically rigorous school where he’d have more time for practice and keener competition. It’s also certain that his studies will be even more demanding next year. But if Marty doesn’t succeed in making All-American, it won’t be for his lack of trying. “After all, I’ve put in a few hours at this,” Marty added.

Marty’s track coach is James Morrison, a young man who is one of Marty’s closest friends. Marty’s cross-country coach is the venerable Les Avery, whose Washington University teams over the years have compiled one of the best cross-country records in the Midwest. Both men think that Marty is one of the finest students they’ve coached—in terms of total effort in both classes and in sports. Morrison adds that Marty’s performance in winning the three long-distance races in last year’s Principia meet “was one of the best individual efforts by an athlete in any sport at Washington University.”

Morrison also pointed to another factor in explaining the “why” of Marty’s very disciplined life in studies and sports. Marty’s oldest brother, who had been an outstanding student and athlete, was killed in an automobile accident while a senior in high school. “I think that Marty wants to do what he can to make up to his family for the loss of his brother,” Morrison said.

All of this still doesn’t explain why Marty runs. And it really doesn’t tell much about his total personality. Brief sketches of an individual, outlining his achievements, of course, are lopsided with praise. So, in closing, it would be only fair to mention a fault.

While it’s true that Marty doesn’t drink or smoke—he couldn’t and finish a cross-country race—he does take pills every day. To be specific, he takes one multi-vitamin tablet and one vitamin E pill, to make up for an almost total lack of green vegetables in his diet.

“No, I never learned to like vegetables and I don’t eat them,” Marty admitted.
BIOGRAPHY OF A BIBLIOGRAPHER

STEREOTYPES DIE hard. But if ever a woman was born to dispel the image of the female librarian as a woman of Ichabod Crane proportions, layered in baggy woolens, with her feet planted squarely in sturdy Hush Puppies and her hair pulled sensibly back in a bun, it is Mrs. Martin E. Graham.

Jamie, to use the name her parents gave her and even strangers seem to employ quite naturally after a conversation or two, is neither starchily prim nor severely formal, but a handsome, ebullient lady, who at 56 appears to have all the zest and zip of a youngster just out of library school.

Such energy she needs, and even more, to cope with her duties as bibliographer of the Urban and Regional Studies Collection at Washington University. On the second floor of Olin in a room whose shelves threaten to sag under the weight of research reports piled high as a mountain drift, Jamie directs a three-year-old operation which has few counterparts in this country.

What distinguishes her operation officially from nearly all the other holdings on urban affairs elsewhere is that the University's collection is made up of non-book materials. Olin, of course, buys hardbacks on this subject but these books are catalogued and shelved with appropriate groups throughout the library, leaving Jamie and her staff (one full-time associate and a part-time assistant) free to concentrate on between five and six thousand reports, documents, pamphlets, and other kinds of publications often overlooked or ignored in more hidebound institutions.

There is not another such collection in all of the greater St. Louis area, and Jamie had not heard of anything like it anywhere else until recently when a librarian at the University of Iowa published an account of an operation there which Jamie suspects may be comparable. Certainly however, it is not identical because the Washington University collection reflects the wisdom, uncommon common sense, and dedication of one individual, Jamie Graham.

As bibliographer, she has the responsibility for making sure that the collection covers and represents the needs of the burgeoning number of people for whom urban and regional studies are a special interest. Included in this group are some 150 students majoring in urban affairs at Washington University and professors from a variety of disciplines who teach them, as well as many other students and faculty at the University specializing in sociology, political science, history, economics, business and public administration, law, engineering, and architecture. In addition, there are city and county planners and representatives from myriad governmental agencies, as well as students from other educational institutions in the community who make use of the Washington University Urban and Regional Studies Collection.

It is not an easy nor a simple task to acquire non-book materials in this field, because there is no clearing house for urban studies nor any publishers' catalogues or "Urban Studies in Print" indices to consult. To collect in this area, "You've got to be, well, pushy," says Jamie. It's an apt word to describe how she tracks down elusive printed material, but not one a solemn-faced fuss-budget would choose. It is one that an eminent leader in the library field, Lawrence Clark Powell, retired Dean of the School of Library Service and Director of the Clark Memorial Library at UCLA (where he spent 28 years), would understand. He once wrote: "How absurd to proclaim librarianship a science! It is an artful craft, a crafty art, to be practiced with a trinity of talents: hands, head, and heart."

Jamie uses all three in her work. A typical Graham day in her busy office, a few steps away from stacks 64-65 which house the collection, includes cataloguing, fielding dozens of reference telephone calls, conferring with faculty members, and scanning reams of literature for clues to use in locating new publications to add to the collection. It may also include personal visits to
Washington University's Olin Library contains one of the most unusual collections of urban and regional studies in this country. The emphasis is on non-book material, with some five to six thousand publications, including research reports, documents, and newsletters, grouped together in a research center which serves both town and gown. As bibliographer of this vast collection, Jamie Graham, a woman of unusual talents, has masterminded its growth since its establishment in 1968.
agencies such as the RIDC (Regional Industrial Development Corporation).

"I try to establish a personal relationship with key people in various agencies," Jamie explained. "Now I know this isn't a safe thing to do if you want sustained support, but there is no alternative. It is amazing how many of these agencies don't have mailing lists. Staff turnovers are a problem, but I try to stay in contact with people."

The average librarian at Olin works 37.5 hours a week; Jamie puts in a 45.8 hour week and sometimes, to keep pace, takes work home at night and on weekends. In addition, she has taught an advanced reference course in the evening at Washington University for two years. In what spare time she has, she manages a household and leads an active social life with her husband, who is a Boys' Scout administrator.

On occasion, Jamie's office, which she shares with a government documents librarian, resembles the headquarters of a politician running hard for re-election, with mail arriving by the box-load. Nearly every day's delivery includes the "701s." These "701s" are the backbone of the Urban and Regional Studies Collection at the University. About a thousand such documents flow into Olin each year, because this library is one of twelve in the country designated as official depositories for them. They derive their name from section 701 of the Housing Act of 1954, which provides that whenever what is now the U.S. Department of Housing and Urban Development (HUD) makes a grant to a state or local government for planning assistance, the recipient is required by law to file a comprehensive planning report in Washington, explaining how the funds have been used. These, in turn, are widely distributed, with copies going automatically to the depository libraries. At least that's the theory. For inexplicable reasons, some "701s" never reach Jamie and not infrequently she finds it necessary to request them individually.

Before the Urban Studies Collection came into being the day after Labor Day in 1968, these "701s" were shelved in a great heap in the Art and Archaeology Library on campus because it was reasoned that the architects next door would make most use of them. With Jamie on the scene, however, they were hauled over to Olin and stacked on her doorstep.

Jamie's first big problem was to decide how to catalogue these and a torrent of other materials streaming into her office. She quickly determined that she could not rely on the Library of Congress classification used elsewhere in Olin because it was "too broad for her purposes." After studying a variety of different systems, she settled on one developed by the New York Municipal Reference Library some years ago. "It was simple enough," she explained. "It had flexibility and it had spaces and growth in it for added classifications that might be needed." Jamie combined this system, which divides the material into eleven basic categories, with a cross-reference of subject headings used by the agency which metamorphosed into HUD.

The collection itself was split into two main sections: general, which dealt with theory, methodology, etc., and was applicable to any place, and other documents that could be identified with particular geographic areas. The geographical areas, wherever possible, conform to the Standard Metropolitan Statistical Areas established by the federal government.

It sounds complicated, but Jamie's system is a cinch, if you have the kind of mind that can cubbyhole a conglomeration of diverse materials into precise niches in the manner, for example, of a supermarket manager who masterminds a strategy of shelving so that Campbell's always finds its way to the soups and Comet to the cleansers. Actually, even if you never do come to understand what a Cutter number means on a catalogue card, you can pick and choose from among the Urban and Regional Studies Collection with relatively little effort after only a minimum of practice.

Indeed, within minutes, you should be able to find what you want on the shelves, assuming that what you need is catalogued and not lent out to someone else, thanks to Jamie, who may have spent hours locating the report in the first place. Consider an item coded St. Louis, Mo.—Ill., T52, T687. "T" stands for transportation, and this 1968 report is a TWA study of Lambert St. Louis Municipal Airport, as it was known then.

"I was first tipped off to this report by McDonnell-Douglas Corporation people. They were desperately looking for it, but couldn't find it," Jamie recalled. Jamie's choice of words—"tipped off" and "desperately"—reveal the emotion of such a search, which is not unlike what the great Sherlock Holmes must have felt when the game was afoot.

From an unexpected source—a student in the Environmental Response group—who knew somebody who knew somebody else high up in the Chicago hierarchy of TWA, Jamie ultimately came into possession of the report which she was authorized to Xerox and return by registered mail. Fortunately, not all of the reports are so difficult to track down, but there are enough tough assignments to satisfy Jamie who likes a challenge. She does admit, however, that sometimes amidst the plethora of publications which cross her desk she has the feeling that she is being smothered by a paper Everest. "Then I experience the sensation of having to fight to get some air," she confessed.

To stay on top of such a job requires a variety of special traits, including perseverance. But Jamie believes that en-
thusiasm is the most important quality needed by a person with her particular responsibilities. That's an inherent Jamie Graham trait, but her library skills have been acquired through special study. Born in Shellman, Georgia, Jamie was four years old when her mother died and she was sent to live with a devoted aunt and uncle who reared her in Atlanta.

At Spelman College in that city, she majored in history and won a scholarship to continue her study of the subject at Atlanta University, where she earned a master's degree. She had intended to go on for a doctorate at the University of Chicago, but a proposal from a Morehouse College man, Martin E. Graham, brought about a sudden change in her plans. "It didn't take me long to make that decision," she recalled with laughter. "I said I'd get married."

The pair taught school for several years in rural Georgia, but neither one enjoyed the rustic life. "They accused us of being 'suitcase teachers,'" Jamie recalled. "Every weekend we headed straight for Atlanta."

Eventually, Martin Graham decided to become an executive with the Boy Scouts, and the couple moved to Savannah. "I never did like teaching," Jamie explained, and when an opportunity came along to run a children's library in a housing project she took it. To prepare for this new career, young Mrs. Graham took a six-week "quickie" library course at Payne College. It didn't take Jamie very long to realize, however, that if she were to progress she would have to go back to school and get a professional library science degree.

There were library schools at Emory, Georgia Tech, and the University of Georgia, but in 1948 their doors were closed to Jamie because she was black. When her husband went off to Charleston, West Virginia, to accept another scouting job and had trouble finding housing for Jamie and their young daughter, Martia, Jamie used the time to earn a degree in library science at her alma mater, Atlanta University.

Reunited with her husband after graduation in 1949, she went to work in Charleston, ostensibly as a high school librarian. Actually, the so-called high school library was a branch of the public library, and although it was in an annex next door to the school itself, Jamie provided no service to either the students or faculty. Indeed, there was not even a connecting door between the two buildings. The status quo might never have changed except that the school authorities sought accreditation by the North Central Association and found that they could not get it unless Jamie signed papers stating that she was the school's librarian.

Jamie refused. "I just couldn't do it. It wasn't right, and the job wasn't as important to me as the principle of the thing," Jamie explained. When the school officials saw that Jamie would not bow to their will, they cut a door through the annex into the school. "Suddenly," she recalled, "I became a genuine high school librarian. Things began to boom, and for the first time this school had library service."

For a young, black woman to stand up for her convictions in the South has never been easy, and it was not easy for Jamie some twenty years ago in West Virginia. But Jamie does not say this. The listener is left to draw his own conclusion and to wonder at her quiet courage.

Not long afterwards, the Grahams moved to St. Louis, so that Mr. Graham could accept another scouting position. Jamie went to work for the St. Louis Public Library in the Applied Science Room and she loved it, despite the fact that it was not always easy there either. "People can sometimes become quite overbearing," she said. When this happens Jamie applies "Graham's Law."

"The louder they shout, the more softly I speak. When you whisper to them their voices come right down."

After seven years at the Public Library and eight more divided about evenly between McDonnell's engineering library and the research library at the Army Aviation Material Command, Jamie joined the Olin staff. "Sometimes you have to move around to grow," she observed.

"When I first started working here I thought, well, this is a honeymoon and we'll see when it ends," she confided with laughter. "It hasn't yet." Responsible in some measure, at least, for Jamie's delight in her work is one group of faculty members on campus whom she characterizes, privately, of course, and with a good-natured twinkle in her eyes, as "my pets." They are the professors who teach courses in urban studies. She sees that these scholars get copies of pertinent catalogue cards every two weeks, and also sends them tables of contents of periodicals she thinks might interest them. Catalogue cards also go by request to the University of Missouri at St. Louis.

Jamie has a dream that some day a center for urban studies, patterned after the one at Harvard-M.I.T., will be established in St. Louis. "But," she added, "I want to be sure that if we do go into such a venture, Washington University won't have to take a back seat. I think it's wonderful to cooperate, but I would hate to have somebody else grab the ball and run with it. It's not that I'm interested in building an empire for myself, but I am devoted to the collection and to the University. I probably won't see a center established here, for my career is behind me. I'm going down hill."

Few who observe her in action believe that. Indeed the consensus seems to be that Jamie's style is dashing about in high gear—and on a Hill, at that!
Dr. Earl Sutherland, M.D. 42, has received the 1971 Nobel Prize for Physiology or Medicine for "his discoveries concerning the mechanisms of hormone actions." Dr. Sutherland, who is now at Vanderbilt University, was on the faculty of Washington University for eight years and began his investigations of hormone action here in the laboratory of Nobel Laureate Carl Cori.

When Dr. Sutherland received the award this year, he joined nine other scientists who did at least part of their Nobel Prize-winning work at Washington University.

On what grounds an institution can claim a Nobel Prize winner as one of its own has long been the subject of much confusion and debate. Fortunately, Scientific American magazine a few years ago laid down some ground rules. The magazine matched Nobel laureates and institutions in four ways: where the scientist received his doctoral degree, where he did his prize-winning work, where he was when he received the prize, and where he is currently affiliated. Based on these criteria, a Nobel laureate could be claimed in part by four different institutions.

Using these ground rules, Scientific American in 1967 ranked Washington University seventh among American institutions in the number of Nobel laureates. The University was credited with six Nobel Prize winners at that time: Carl and Gerty Cori, Arthur Holly Compton, Joseph Erlanger, Herbert S. Gasser, and Arthur Kornberg.

Since the Scientific American survey, Washington University can add two more Nobel laureates to its list: Dr. Sutherland and Dr. Alfred Hershey, who won the 1969 award in medicine or physiology for work begun at Washington University.

In addition to the eight Nobel laureates we can claim under Scientific American's criteria, two other Nobel Prize scientists had some ties with the University. Dr. Severo Ochoa, who shared his prize with Arthur Kornberg, was on the Washington University staff for several years, and Dr. Edward Doisy was also on the University's staff at one time although most of his prize-winning work was done at St. Louis University.

Of course, if we really wanted to stretch the rules, we could add an eleventh Nobel laureate with Washington University ties. T. S. Eliot, the poet and playwright who won the 1948 Nobel Prize in literature, attended Smith Academy, which later became part of Washington University. This does, however, seem to be stretching things a bit.

—FO'B

Dr. Earl Sutherland, MD 42, recipient of the 1971 Nobel Prize in Physiology or Medicine.