One Campus, Two Cultures

Faculty life on one campus demonstrates the existence of not only two, but perhaps two hundred cultures.

Laurence Lafore

Hypochondria is said to be the product of basic psychological insecurity. In an age like ours it is natural that societies as well as individuals should suffer from it. As a consequence, social critics today are able to support themselves in a degree of comfort to which their ancestors in more settled eras were unaccustomed. Arnold Toynbee (and President Eisenhower) inform us that societies that lose their religious belief are doomed. David Reisman suggests that societies whose members are other-directed decay. Their diagnoses are enthusiastically received. Social critics have become, like physicians, an unfortunate necessity. Like physicians, they are responsible for panics as well as cures.

One of the things that excites hypochondria is the vagueness of the symptoms of so many diseases. Perpetual drowziness may indicate the presence of a dozen maladies; and so may insomnia. A patient who is troubled with both simultaneously, as many hypochondriacs are, has a wide field of fatal complaints to choose from. The multiplicity of indefinite symptoms no doubt helps to account for the instant conviction that our society was very sick indeed which seized many of its members when Sir Charles Snow informed us five years ago that we were in the grip of an illness called "two cultures." As everyone knows, his diagnosis was first set forth in the Rede Lecture in 1959. When the news flash from Cambridge reached this country, its citizens responded with emotions that resembled, with tolerable exactness, those of someone who had been reading a textbook of pathology and had then become aware of an ominous numbness in the great toe.

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The specialists fell immediately to arguing, as they always do when confronted with any symptom short of death. Some quarreled about the extent of the infection that Sir Charles perceived, and others denied that there was any such disease. Many cast doubts upon the credentials of the diagnostician, sometimes politely and sometimes with quite remarkable invective. The most striking example of virulence was provided by the eminent Cambridge savant F. R. Leavis, who asserted that since Snow was not nearly so good a novelist as D. H. Lawrence he had no right to express opinions on any subject. Others contented themselves with referring to Sir Charles as The Abominable Snowman. But a very large number of people began to feel a numbness in the big toe, or else an alarming degree of hypersensitivity in it. It was widely realized that natural scientists *are* different from adherents of the "traditional culture." For years, people now saw, they had known, without understanding, the significance of the fact that scientists were out of touch with realities—or, perhaps, in much closer touch with them than anybody else; that they were more boorish—or perhaps more truly civilized; that they were more conscious of the social implications of thermonuclear energy—or perhaps irresponsibly unconscious of them. In any case, they were definably different, and in this difference lay the clue to a disastrous social illness.

Like many diagnoses involving a variety of symptoms, this one is hard to confirm by laboratory tests. This is partly because there is no suitable group of patients available for testing. The disease, in any individual, may be subclinical; or he may, by some genetic accident, be immune to it. It is hard to decide who really belongs to the "traditional culture." Sir Charles himself had trouble with this. Sometimes he spoke of its members as being writers and "literary intellectuals"; at other times he seemed to include all literate nonscientists. And his scientific culture was scarcely less elusive, since he seemed to exclude "engineers," by which he seemed to mean impure scientists who soiled their hands with applied science, a group whose borders it would be extremely difficult to define in our society. For an American the obstacles to empirical investigation are multiplied. Although Snow asserted that his thesis applied to the "western world", which included the Soviet Union, the outward symptoms he discussed were seen through eyes myopically British. Diagnosing the disease in this country presents some of the same problems as diagnosing frostbite in Nigeria.

Cultural Division on the Campus

Still, if it can be done at all, the existence of this cultural schizophrenia may perhaps best be studied on the campus of a small liberal arts college. Here, the two cultures meet daily—even hourly—to take council, and sometimes tea. There should be plenty of evidence. On the campus of the college where I teach, the level of specialization is high, and a moderate degree of professional eminence is represented in most fields. The faculty does not, however, number much over a hundred, and its members rub elbows in corridors, committee rooms, and vegetable gardens. We live, literally, as next-door neighbors in a self-contained college town. There is a strong sense of community to bring the members of all departments—and their wives—together.

It is the presence of the wives—or, more accurately, the spouses—that presents one complication presumably absent from Snow's own world. In Great Britain, wives are not so noticeable in intellectual society. If not physically absent, they may at least be counted on to keep quiet during serious discussions. In the United States, wives are more obtrusive, and their presence is likely to conceal cultural differences among the husbands by preventing them from engaging in any serious discussions at all. On our campus, which is coeducational, the sex of the spouse is not in itself important, for many of

our most determinedly intellectual faculty members are women. Their husbands are just as inhibiting as their colleagues' wives. They are very rarely equipped with the kind of training that would permit them to contribute evidence of cultural schizophrenia. And when spouses are absent, the occasion is likely to be one like a faculty meeting devoted chiefly to procedural problems, or a committee meeting to decide whether students ought, or ought not, to be excused from examinations because they were unavoidably detained in jail for demonstrating in behalf of Equal Rights.

But even on the local scene there is some opportunity for gathering evidence. The ubiquity of spouses is a less serious obstacle than the problem of what symptoms to look for. The crisis, we are informed, is one of "communication" (a very popular word that means practically nothing—or rather may mean anything from the functions of English grammar to the intervention of the Holy Ghost). It is suggested by Snow that a literary intellectual (who may be taken as standing for all nonscientists) who found himself spending an evening with, say, a physicist, in the absence of spouses, would be faced by a breakdown of communications. By this seems to be meant two quite separate things: (i) if the physicist talked about protons and the literary intellectual about euphemerism and the fabula tradition, they would not understand each other; and (ii) that they would be in any case mutually unintelligible because of their mutually mysterious "values". ("Values" is another fad word, so rich in meanings as to be practically useless; it seems in this situation to include the general ideas of mortality, interests, and views of the universe and what is important in it.) The evening would, in short, be about as rich conversationally as one passed in tête-à-tête between a 12th century mandarin and an airline pilot.

I should judge from my experience on our campus that the first of these assumptions is false. It is true, of course, that the physicist would probably not know offhand what euphemerism was, but it could be explained to him without serious difficulty. Protons could be made intelligible to the literature man. Jargon and equations are, after all, shorthand, and the meaning behind them can be spelled out, if anyone has the patience to do it. This, I think, is the real problem; no one would be likely to try to spell out the meaning in the course of an evening's conversation with an expert in another field, because he would know it would be intolerably boring. An explanation of euphemerism would drive the physicist away with precisely the same resolution as a suggestion that he spend the evening looking at the literary scholar's color slides of his recent visit to the Grand Teton.

The dullness of a man's specialized knowledge is socially the same as the dullness of any subject of peculiar and burning interest to any individual—the postoperative complications of tonsillectomy, the blowing of a gasket near Helena, Montana, the fascinating continuity of Oedipus themes in 14th century Scottish liturgical poetry. It is rare for anyone to be able to dramatize his specialty effectively, although I have heard a biologist hold a dozen laymen at a party spellbound by his exposition of the sex life of the earthworm. But this is a tribute to the personality of the biologist, not to the intellectual curiosity of his listeners. On our campus, anyway, the consequence of this situation is a sedulous skirting of the subjects we are really interested in; it indicates without doubt a deplorable condition, even a social disease, but the symptoms, however serious, do not relate to bicultural malignancy. Talk about one's specialty is a solecism as grave when committed by classicists in the presence of art historians as by chemists in the presence of students of the *Chanson de Roland.*

And Snow, in a rather confusing way, has recognized this. The key sentence of his original lecture ran, "The intellectual life of the whole of western society is increasingly being split into two polar groups." But in the explanatory and defensive essay published 4 years later he wrote that his original point was "something like this. In our society (that is, advanced western society) we have lost even the pretense of a common culture. Persons educated with the greatest intensity we know can no longer communicate with each other on the plane of their major intellectual concern."

Many Cultures

Thus restated, the problem is transformed. The two points are different; the problem becomes one not of two cultures but of 200. And the problem of 200 cultures is not peculiar to our age. It has been with us since the words philosophy and science ceased to be synonyms for knowledge. And it is this sort of problem that is most conspicuous on our campus.

It has nothing at all to do with the natural sciences. It exists even *within* disciplines and what the catalogue calls "departments of instruction." In my own department of history, a modern historian like myself will reflexively feel (although politely conceal the fact) that medievalists deal with old, unhappy, far-off things, and battles so exceedingly long ago that their field is more a decorous game than a useful study; and medievalists will assuredly believe that the field of, say, an American historian is perforce so short and so near in time that his subject is no better than current events. It is as mystifying—and boring—for me to listen to two professional medievalists as to two embryologists.

Here we are led to the second group of meanings apparently involved in the word "communicate," those relating to "values." Snow argues—or seems at times to argue—that intensified study in one field of learning brings with it a characteristic view of the universe and of what is good and important in life. In the rarified realm of academic principles, this is true. At least, one hopes it is; different fields of study are by definition based on different beliefs about what is worth studying. Since this fact lies at the basis of liberal arts education, the educator is bound to accept the fact while remarking *vive la différence.*

The assumptions, it is also true, sometimes turn into mystiques; organizations like the American Association of Ichthyologists take on some of the quality of a Masonic Lodge. This development crops up sometimes in faculty meetings, in discussions about curricula and standards. Everyone tends to feel—and should feel, if the system is to work—that his own subject is the key to the good life. An idealistic department is therefore obliged by the professional conviction of its members to fight hard to get, or keep, a place in the program of curricular requirements. One cannot be truly educated, they will say, unless one has had at least an elementary course in Romance philology. But in such discussions, practical considerations play a role as well. If Romance philology is eliminated as a requirement, what will be done with Associate Professor Roe, who, although tenured, will become redundant? It is easy to call this sort

of thing "departmental politics," but in a small college it involves both administrative convenience and human considerations that are quite as important, and quite as commendable, as the commitment to a professional mystique.

Social Communication

And it is a token of other distractions. Professional mystiques among my colleagues are always being mingled with, and sometimes mitigated by, practical and human considerations—and by sociology: in a Trappist monastery abstract ideals may dominate a man's actions, but for most of us, even for most of us enclosed for most of the day in a laboratory, monastic dedication is rare. My colleagues are citizens, husbands, fathers, householders, gardeners, and members of the NAACP; they are never exclusively creatures of their own specialized learning.

The intrusiveness of the social setting is illustrated by one feature of faculty opinion that precisely contradicts an important assertion of Snow's. He says that the scientists, who have "the future in their bones," are more progressive in political and social matters than people belonging to the "traditional culture," and that they see the latter as shockingly reactionary even by the standards of the Plantagenets. So far as the rule-of-thumb of party affiliation goes, the statement is inapplicable to my colleagues. In straw votes, the divisions of the humanities and the social sciences invariably show up as overwhelmingly Democratic, while the divisions of the natural sciences and engineering are slightly, if not significantly, more inclined to Republicanism. It may be that a geneticist has a conception of the Good Society so radical, and so unattainable in a world dominated by the traditional culture, that he is merely frustrated in the presence of the ballot box, but it is clear that the presence of the future in his bones has no discernible effect on his attitude toward practical politics.

Despite all this, there remains a widespread belief in the existence of two cultures among some of my colleagues, and there is some concrete evidence of the actuality that the faculty is split into "two polar groups." There has always been some concern about it, especially among the students, who instinctively crave assurances of the fundamental Oneness of Human Knowledge and who, long before Snow delivered his analysis, had sponsored an annual program of lectures under the title of "Science Integration." The characteristics of the groups are shadowy and, in my judgment, often imaginary, but they exist, in the way that the hypochondriac's symptoms exist, and in some more measurable ways too. I doubt very much whether they demonstrate that either group "really is a culture not only in an intellectual but also in an anthropological sense," as Snow puts it. (I don't know which culture he would assign anthropologists to, but his use of the word would certainly lead them to assign him a place outside of any culture at all.)

There is, however, undoubtedly something in the way of a difference in *mores* and *ethos*. For one thing, there is the use of the title of Doctor. Most of the natural scientists let it be known to their colleagues, students, and secretaries, that they like to be called Doctor. Some of them even refer to one another in conversation with their colleagues as Doctor Doe. Among my nonscientific colleagues, on the other hand, there is a determined and rather snobbish avoidance of the usage. A nonscientist on our campus could not, in most cases, announce himself as Dr. Roe without giggling. But there are exceptions. Some of the younger scientists are of the Call-Me-Mister persuasion, and there was once a pretentious philosopher who amused his colleagues by having Dr. printed on his writing paper.

Social Barriers

There are also some social barriers, although they are low and ephemeral. Some of the humanists have a feeling that scientists are not quite respectable socially; and the feeling is reciprocated. But the grounds are confusing. "The arts people" (as the scientists sometimes call us) are divided in the reasons for their discriminatory attitude. Some think that the trouble is that the scientists are tiresomely conventional, dreary, bourgeois people, with no small talk. It is said that witty repartee (which is, God knows, rare enough in any department) is conspicuously lacking among the scientists. But for others the trouble is that the scientists are far-out kooks, who have dreamy expressions, wear their hair longer than is usual among humanists and social scientists, and play the violin.

The only common ground perceptible in these intolerant attitudes is a vague belief that scientists deal with technical and therefore inhuman problems and incline to be devoid of imagination, humor, and social grace. It is thought that they are incapable of conversation, since their own specialties (unlike literature, art, or politics) do not lend themselves to urbane soirées. An intelligent young member of the English department recently said, in my hearing, to a mathematician who had mentioned a stimulating dinner party attended by his colleagues, "You can't mean that you talk about mathematics at the *dinner table*?"

But there is no segregation. Exceptions are frequently made, and when they are it is likely to turn out that a young chemist is unexpectedly well informed and fascinating about some socially acceptable topic like advanced jazz or the culture of Navajos. At any moderately large social gathering there is likely to be a fair cross-section of the faculty, and divisional differences disappear in the universal solvent of fish house punch.

On more elevated levels, the differences appear in a sort of self-conscious sense of solidarity on both sides. In this case, the scientists are more at fault. In dealing with nonscientists they occasionally make stereotypes for themselves. "Science" enters their conversation as a unity, and often as a demonstrably false one, as a result of their impulse to present a united front. "If you were a scientist you would understand that. . . ." "All scientists know that. . . ." The phrases are likely to intimidate and annoy the Arts People, as they are presumably intended to do. But the nonscientist has at his disposal a powerful counter-weapon: a second scientist. The desire for a united front is rarely strong enough to quell discord among scientists as to what "science" is, or proves. I have heard Biologist A, an atheist, assert that "Scientists know there is no God." Within hearing was Biologist B, a pillar of the church, who rapidly demolished the theory—if not of the nonexistence of God, at least of agreement on the point among scientists. I was afterward told confidentially by Biologist A that Biologist B was not a true scientist, since he believed in God. Similarly, I have heard large assertions by Physicist X that "Any trained scien-

tist knows that the talk about dangerous effects of thermonuclear testing is sentimental nonsense disseminated by nonscientists," and have heard him violently disputed by Chemist Y, a leader in the nuclear disarmament movement; and have been confidentially informed later by Physicist X that Chemist Y was notoriously unscientific in his views on this point.

The stereotypes are not, however, all made by scientists. They show up in faculty meetings in a more symmetrical form. In the hall where these dismal conventions take place, the scientists (for no reason except tradition) sit together—on the right of the legislative chamber. They sometimes, although by no means always, vote *en bloc*, and usually on what might, within the spectrum of campus ideologies, be called the rightist side. When a measure involving some important change in curriculum or procedure is scheduled to come up for a vote, one commonly hears in advance the repetition of familiar sentences. On the one hand: "Of course the scientists will vote against it; they're always against change." On the other: "The arts people will probably get away with it; they don't really care about keeping up standards."

It is true that the scientists are in general more rigid in their devotion to the existing order than is the rest of the faculty, and they do tend to view the existing order as a bulwark against the deterioration of academic standards. The reasons are characteristic, and important. The scientists are mostly believers in specialization, to a greater extent than most of the humanists and social scientists, and they are suspicious that change, in a college traditionally and rather rigidly devoted to the notion of specialization as an essential ingredient of a liberal arts education, will lead to dilution. They are convinced that there must be concentration on one subject—or on a few closely related subjects—pursued through four years in courses of steeply graduated degrees of difficulty and depth.

Conflict about Specialization

So stated, this view would be shared by most—although not all—of the nonscientists on our faculty. But they would not accept some of the implications that hover in the background, most notably a conception of the specialist in professional terms. Most of my colleagues in the history department would, for example, support a high degree of concentration and would strongly oppose anything resembling "free electives" for an upperclassman's program. But we view concentration in history as a technique of education, not as preparation for becoming an historian. Physicists and chemists, and to some extent other natural scientists, more often think in terms of producing physicists and chemists. They insist on high school preparation in their fields (the historians would on the whole prefer to have elementary students untainted by high school history courses), and their advanced work is planned as preparation for graduate work. They deny that this specialization violates the precepts of the liberal arts idea, but they cannot deny that very few of their majors are pursuing physics or chemistry in order to prepare themselves for culturally enriched careers as bankers or housewives. The difference is increasingly one of degree; almost all departments have grown more professional in recent years and have congratulated themselves on the fact. The amateur is now rare among faculty members, and it is unlikely that the administration would consent to the appointment of anyone in any department who did not have conventional graduate training. But the difference is still great, and it is the subject for recrimination.

Recrimination arises chiefly in connection with the "required curriculum," which originated two decades ago as part of a national tendency to assure, by legislation, a Broad Cultural Background for undergraduates. Almost all humanists, and most social scientists, applaud "distributive requirements" as a means of achieving the broad cultural background. Privately, they assert that one purpose is to ram some culture down the throats of the science students. The scientists, while sometimes accepting the principle, complain in public that it threatens to produce half-baked scientists; in private they complain because they think it is a veiled way to ram culture down the throats of their students, and they believe that culture in the form of introductory courses in art history or the principles of religion is not culture at all but simply a denial of the theory that education is the product of specialization.

Behind all this is the persistent conviction of the scientists (which is in some respects measurably true) that their disciplines are *harder* in both senses than those of the arts—that they are more rigorous and exacting, and deal with precise, measurable matters, while the arts are concerned with matters of taste, opinion, and guess-work, leading to spongy and undisciplined thinking, and to unverifiable theories. There is the corresponding conviction of the arts people (which is not true) that "science" involves no use of the imagination, no appreciation or creation of beauty, and no areas of taste, opinion, or possible controversy.

These two sets of convictions are not unanimously held, certainly not among the more intelligent and cultivated faculty members. And where they are held, they are often applied almost equally to fields of study *within* one of the two cultures. Mathematicians will confess to some disdain for those sciences whose findings are more directly and discernibly applicable to practical purposes; they are, justifiably, proud of the peculiar inutility and abstractness that inheres in their subject. The disdain of literary scholars is directed quite as violently against the crass economists as against biologists. Social scientists, especially philosophers, unite with natural scientists in their disdain for historians, whose field is avowedly remote from practical purposes and who arrogantly deal with art, literature, philosophy, economics, politics, *and* science whenever they appear in the past, and who are therefore by definition dilettantes. Historians, social scientists, and natural scientists may agree that literary scholarship is composed of footling jargon invented to exploit the undergraduates' fondness for fiction. There is, in short, some lack of respect for other people's specialties.

Which Culture Is Vital?

The thing that converts this disrespect into a supposed symptom of two cultures is not the peculiar disdain felt by nonscientists for the subjects of the scientists or vice versa. On purely academic grounds almost everyone is likely to think that almost everyone else's specialty is absurd. What brings us back from 200 cultures to a more sinister two is a difference of attitude on the part of each to the place of

the other in daily, rather than intellectual, life. Natural scientists do not regard the arts as twaddle so far as ordinary living goes; they are themselves often highly civilized, and there are probably on our faculty a good many more scientists than humanists who are seriously and systematically interested in music. They may not think the arts are suitable subjects for academic discipline, but they think of them as pleasant and even indispensable to the good life. But they also insist that a knowledge of science is indispensable to the good life, and that its role in shaping morality, economics, and everything else deserves a fuller understanding. If they are prepared to admit that psychology deserves a place among the sciences, they may point to Freud as an example of the rapid and pervasive penetration of scientific ideas into literature, drama, and popular culture generally, and insist that such influences are worth studying; or they may make similar claims about the importance of technology, of genetics, or of atomic physics. The arts, they are likely to say, are for pleasure and recreation; it is science that is at the core of things.

Comparable assertions are made on the other side. The humanists will assert that, *because* their subjects bulk so large in the good life, they are of a higher order of importance. Science, because it deals with physical facts, can have no esthetic or moral content. All men (they say) are faced constantly with moral and esthetic problems, and rarely with scientific ones. Therefore, for everyone except technicians, science is unimportant and the humanities are essential.

The humanists' assertions are quite as difficult to defend as the scientists'. From the strictly educational standpoint, it may be flatly stated that the moral and esthetic importance of an intellectual discipline derives from its method and not its subject matter. To deny this is to fall into the trap of saying that academic subjects must have professional and practical utility, which is precisely what the same humanists intransigeantly resist saying. And so far as ordinary life goes, the kinds of scientific problems on the one hand, and the kinds of moral and esthetic problems on the other, that are habitually confronted have no real relation to advanced academic study; nor is their solution likely to profit from it. Mathematicians are notoriously incompetent at sorting out the sums of checks in restaurants. Art historians are not necessarily adept at choosing colors for their living-room curtains. Political theorists' judgments on tax appraisal are not necessarily more enlightened than those of physicists. Psychologists' children are often badly adjusted. Chemistry does not help a cook to scramble eggs.

Both Cultures Are Esoteric

And both sides immediately destroy the efficacy of their arguments about the relation of their disciplines to everyday life by a proud emphasis on the esoteric nature of their studies. The scientists have no need to insist on the point; the arts people already regard their subjects as impenetrably obscure. But the humanists and social scientists like to show that they, too, treat obscurities, and that unauthorized persons ought not to tread lightly on their ground. Some literary scholars, in particular, view with pained and even ostentatious regret the fact that literature is freely available to the layman, often in cheap paperback editions; the public, they seem to feel, is not to be trusted with such a complicated task as reading a novel by Henry James without professional guidance. Their attitude resembles that of the medieval clergy toward parishioners who wanted to read the Bible.

Division and Progress

On some grounds, a chasm does seem to open between the scientists and the rest of the faculty. But once again, these convictions apply with equal logical force within each of the two cultures. We are led back from two to 200. And the problem of analysis is enormously complicated by the ambiguity of the second—nonscientific—culture that Sir Charles has diagnosed. He does not specify—or rather he specifies by incompatible definitions—the nature of traditional culture. There is nothing traditional about sociology, but natural scientists would furiously disclaim it. The Classics (which play a small role in the cultural life of our college) are a great deal more traditional than English literature, which arrived on the academic scene at about the same time as political science and somewhat later than biology. And Snow seems to mean mainly literature. But even literature (whose claim to constitute culture, whether traditional or otherwise, would be furiously rejected by almost everyone outside the departments of literature) seems to mean different things in different passages of Snow's lecture and essay. Leavis has accused him of meaning by the traditional culture the readers of the literary columns of the London *Observer* instead of what he should have meant, which is novelists in touch with the earthy realities of folk culture. At times Snow seems to mean the writers who produce imaginative works; at other times, literary critics.

The fact is that the scientists sometimes hold, or propose, more or less unified and coherent attitudes in dealing with nonscientists on our campus. The nonscientists may occasionally find a common ground in deploring this display of scientific solidarity, but they are absolutely disunited otherwise; they engage in no defense of any opposing attitudes. There is undoubtedly some slight substance to the group spirit of the scientists, and perhaps there once was something similar among the humanists. But specialization is dividing biologists further and further from physicists, as it has already divided classicists from philosophers. Learning is a forest, not a tree with many branches. The impulse to distinguish a group of conifers from a neighboring group of deciduous trees, and to see in the distinction the makings of a cataclysm, is the product of anachronism. The matter, viewed from the professional angle of an historian, is surely one of historical timing. The traditional departments of learning are being broken down, and the process is a lengthy one that started some time in the eighteenth century; the specialties of learning grow ever more specialized as the borders of learning expand. But in different fields the process takes place at varying paces. The persisting sense of unity among scientists owes, perhaps, less to substance than to the memory of a day when the several sciences were in fact one. But on the other hand, while the scientists' memories are stronger, their progress along the path toward converting an art into a profession has been much faster. The humanists are following the same path; they too are beginning to prepare their undergraduates for advanced training and for careers as humanists, but have not moved nearly as far.

Their memories of the days when all learning could be counted upon to make a whole man from varied disciplines are longer.

There is much to deplore in the prospect of colleges becoming preparatory schools for graduate study. There is much to deplore in the loss of the *uomo universale*. But these are facts. Western society (if there is such a thing) has begun to impose them; the existence of the two cultures, elusive and insubstantial, is a passing phase in the progress toward an age of far greater specialization than we have yet imagined. The tendency may end in catastrophe or salvation or, more probably, in further vexing and insoluble but not fatal problems; but to mistake one stage in the development for a symptom of a fatal social illness is to imagine that every suggestion of numbness in the great toe inevitably portends expiry.

News and Comment

Grant System: Elliott Committee Finds Flaws, Diversity in Study of Practices of Federal Agencies

"The federal research grant program must be rescued from the morass of administrative detail in which it appears to be drowning," said Chairman Carl Elliott (D–Ala.) last week in releasing the first detailed study prepared by his House Select Committee on Government Research.*

It is, of course, possible, that "drowning" properly sizes up the situation, but, on the basis of a great deal of evidence brought together by Elliott and his colleagues, a more likely conclusion is that, given the complexities of reconciling scientific independence with federal financing, government and research have worked out a reasonably functional and effective relationship. If there is a "morass," it might be said that science has learned to swim in it. Needless to say, the system is neither tidy nor consistent, and Elliott's group —in reporting what for most of its working staff was a first journey through the wonders of grant-land—comes up with some extremely useful observations and recommendations.

But the committee, whose creation last year caused considerable alarm throughout the scientific community, concludes by calling for a tuneup, rather than an overhaul, and those who were anticipating a blast that would rock the system can now relax.

Last week's report, which is the first in a series of ten planned by the committee, was based on a survey of the grant procedures of more than 85 offices in 30 federal departments and agencies, and followed a format of studying the rules and practices employed from receipt of a grant application through termination of the grant. As might be expected, the committee found that those responsible for dispensing federal money for research follow manifold ways to get it into the hands of their clients. Problems do exist, but the money goes out, scientific research seems to be thriving, and it would be difficult to demonstrate that federal administrative practices are "drowning" the grant system, let alone significantly interfering with the quality of research. The situation is perhaps best revealed by the committee's summary of a viewpoint expressed to it by some institutions of higher learning: "We have by now become accustomed to the erratic nature of the Federal grant, and we have arrived at a modus vivendi; any changes in existing procedures would simply create more problems, at least at the outset."

In its survey of how science and government work, the committee found that it works in lots of different ways. Outside advisory panels are regularly employed to pass on grant applications to the National Institutes of Health, which last year awarded 15,233 grants totaling $425 million, and the National Science Foundation, which funded 2657 grants for a total of $112 million. However, 15 agencies, including the Army, the Navy, the Weather Bureau, the National Bureau of Standards, and the National Aeronautics and Space Administration, relied upon their own staffs to evaluate applications. By the committee's reckoning, these amounted to 802 grants funded for a total of $91 million. While the Army and Navy work without outside advisory groups—for a total of 285 grants costing $5.5 million—the Air Force, with $20 million going to 398 projects, used outside panelists "to some extent, at least," in mathematics, environment, biology and medicine, the psychological and social sciences, and the physical sciences. As to the merits of these differing arrangements, the committee said that it will reserve judgment until it has completed a separate study of the panel system, but it noted that there has been "increasing criticism" of advisory methods on two grounds: that in some cases government agencies abdicate their judgment to the panelists, and that a "panel establishment" has grown up, which utilizes the "same panelists or . . . panelists from the same institutions, over and over."

"Is the repeated use by some agencies of particular panelists (or their protégés) resulting in, or likely to result in, creation of an 'advisory elite' with a vested interest?" the committee asked. And it went on to note that a study of NIH panels, covering the past 5 years, found that "40 percent of the names occur again and again," an observation which may suggest that the committee tends toward an affirmative reply to its question.

Finally, on the subject of advisory panels, the committee produced a survey aimed at examining whether a relationship exists between institutional affluence, institutional excellence, and membership on advisory panels. This is a difficult order, heavily weighted

* *Study Number 1, Administration of Research and Development Grants, Report of the Select Committee on Government Research*, 106 pp., 40 cents, U.S. Government Printing Office, Washington, D.C. 20402.