Research and Other Creative Activities

The position has been taken, throughout this study, that research and other creative activities—combined with advanced, professional teaching—are the distinctive functions of a university. There is no intention, in saying this, to insist on a narrow meaning of the term “research.” The professor of law or of philosophy who thinks things out in his study, the clinical professor who becomes wise in the wards, or the artist whose work stimulates a current “school,” are as much engaged in creative activities as are those who delve in libraries or laboratories.

The difficulties faced by American universities, because of their simultaneous commitment to creative work and to undergraduate teaching, have been noted. And some attention has been given to the need for improving the latter function, in so far as this is not inconsistent with the first. It now remains to consider possible ways and means for more fully realizing the prime objective of the University. This goal will be termed “research” merely because the word can be used as a convenient symbol for creative activities in general. The discussion will be broken down under the headings of (1) the time, (2) the funds, and (3) the conditions which can be made available for the faculty’s “original work.” Something must also be said of the types of research in which they engage.

By and large, Pennsylvania, like other leading universities, is thoroughly committed to the research objective. Indeed, those who are now concerned about “good teaching” seem to
believe that higher education is over-committed to research, and has consequently neglected the teaching function.

Yet one can also observe today, even in universities, vestiges of the era when teaching overshadowed other activities in all American institutions. There is, for example, an implicit assumption that faculties are paid primarily for their teaching. A professor will still refer to his research as “my own work” — as if it were not also work for his institution. And the universities themselves always pay a man’s full salary while he is teaching, but usually reduce this to half if he “takes a full year off” on a sabbatical for research purposes. The implication is that such a program, however commendable in itself, is not one which a university should be expected to support as much as it would teaching.

**Time for Research.** The relatively light teaching load carried by university faculties is intended, at least in part, to provide opportunities for original work. But the difficulty here is that the staff member must—while in residence—do research and teach simultaneously. His time for research, even if adequate in total hours, is not continuous; and there is much lost motion in shuttling back and forth from one function to the other. The great value of summers, uninterrupted by teaching, has been noted in this connection. But one may also raise the question: Could any arrangements be made, within regular terms, for providing more continuity in research time?

Many medical faculties, following European practice, long ago adopted what used to be termed “the concentration system” in planning curricula. Courses are so arranged that staff members do considerable teaching in certain quarters or semesters, and are then free for “their own work” in others. The students, for their part, take several hours a day in
a given course, and later move on to a similar concentration in the next subject.\textsuperscript{1} The scheme has pedagogical as well as research values, in that the students also are not constantly interrupted—in their case, by moving back and forth between four or five different subjects.

Such programs have been proposed from time to time in undergraduate colleges, but never seem to “take.” In our opinion, nevertheless, a reorganization of undergraduate curricula in terms of “concentration” merits serious consideration.

There are various other ways of conserving faculty time for research, such as securing more teaching and secretarial aid, reducing the amount of administrative or committee work, and so on. Certain of these proposals will conflict with other values; there must, for example, be some committees. But non-essential committees should be weeded out, and the size of others reduced whenever feasible.

The best arrangement for uninterrupted research is, of course, the leave of absence. Pennsylvania, like other universities, will usually grant leave without pay for at least a year—and sometimes for longer intervals—when a man secures outside research funds. Pennsylvania maintains no automatic sabbatical-leave program; but has usually been generous in providing merit leaves (full-pay for a semester, or half-pay for a year) at intervals of not more than seven years. Occasionally, it has provided full salary for a year, and has also given leaves at more frequent intervals. Applications for leave are usually made through chairmen and deans, so that adjustments may be made within the department concerned.

In general, this system seems more desirable than is an

\textsuperscript{1} A first step in this direction is the placing of “quiz classes” immediately after a related lecture. A second step, where feasible, is to offer two-hour instead of one-hour periods.
automatic, sabbatical arrangement, since the latter gives no consideration to individual merit. But the approval of leaves should be in the hands of a faculty committee as well as of administrators, lest the program become a matter of patronage. And a planned effort should be made to extend leaves to assistant professors as well as to senior ranks. The former often face a critical point in their careers between the third and fifth years of teaching, when they should have uninterrupted time to get started in major research. Harvard provides such leaves automatically, and both Yale and Princeton have special funds for meeting this particular need.

Funds for Research. "Outside" funds for research are now legion. Research councils, foundations, and government all offer extensive fellowship or grant programs which are accessible to faculties. The greatest amounts are available in the natural sciences, since government supports this area in particular and its offerings have raised grants to a much higher level than that of earlier days. Industry also supports applied research in natural science and in business, chiefly in the form of "sponsored" programs.²

The scale of the resulting research effort is suggested by the extent of the University's "project" research alone³ during 1956-57. In that year, 400 projects were underwritten for a total of more than six million dollars. Industry supported fifty of these, foundations thirty-eight, and Federal agencies

² Research funds increased greatly between 1940 and 1954. Federal funds rose 400% outside military research, and, in the latter, went up forty-fold! Even non-government funds have been multiplied twelve times since 1930; see Sponsored Research Policies of Colleges and Universities, Amer. Council on Ed., 1954, 25-27. Further increases ensued after 1954.

³ "Project" research usually implies "outside" support or even, in some cases, initiation (sponsorship), the use of several scholars or of a "team," etc.
twenty-two. The School of Medicine alone received some two million dollars in such funds—a sum greater than the rest of its budget.

A program of this magnitude has to be organized and provided with standards and norms. Large-scale research, in particular—with its complex business arrangements, teams of workers, and so on—needs to be managed in part by such an agency as the University's office of project research. If "sponsored" research is proposed from the outside, moreover, arrangements must be at hand for considering it and for alerting those who may be interested and qualified for undertaking it.

Meantime, if faculty members seek grants, they may desire advice on how to formulate them or where to apply. Or the University may wish to guide this search, regardless of any request, lest applications go to the wrong agencies, get in one another's way, or prove to be ill-conceived or trivial. Hence individual applications for grants are now usually screened, as at Pennsylvania, by administrators or by faculty committees (including administrators) set up for this purpose. The latter arrangement is preferable in this area, as in that of leaves, in order that no element of patronage may enter the situation. Care must be taken to reconcile the University's legitimate concern, on the one hand, with the scholar's freedom of research on the other. The latter should be assured that, if his application is not approved, the decision was not that of any one or two individuals.

The present scale and sources of grants inevitably raise certain problems. Some men fear that the planning of research is being taken out of faculty hands by non-university

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4 Penna. Gazette, June, 1957, p. 28. The University receives relatively larger funds from industry and smaller from government than does higher education as a whole; Sponsored Research Policies of Colleges and Universities, 26.
agencies. This can be true when projects originate outside, but it can also be the case even when the agencies merely offer funds in certain areas. For, in that case, faculty men may divert their efforts to fields where the money beckons. And if, as is true of most industrial and government grants, support is available chiefly for applied studies, is not basic research—always the weakest segment of American science—bound to suffer? Superimposed on these anxieties is, finally, traditional American fear of "government control." ⁵

Administrative officers in such fields as medicine and engineering, however, do not seem to be greatly disturbed. It is admitted that there are dangers if staff members are "pressured" into projects (this is reported from a few departments at the University),⁶ or if a college permits a substantial proportion of salaries to depend on outside funds. But, as far as the initiation of research is concerned, it is pointed out that if one agency will not support what a man wishes to do, there is usually another which will.

Moreover, if a scholar wishes to do basic research and the most affluent agencies will support only applied work, an application can often be dressed up a bit to fit into the latter category. There actually are "re-write men," in a few universities, who specialize in aiding more naive colleagues in this fashion. Called "cheating" in some circles, the practice is considered justifiable in others.

As for government grants, decisions about them are usually made by committees of university men rather than by the much-abused bureaucrats. And some Federal agencies,

⁵ The pros and cons of all types of Federal aid to higher education, including research contracts and grants, are presented in the Annual Report, Carnegie Foundation for the Advancement of Teaching, 1956-57.
⁶ Such pressures can also be exerted on graduate students—British authorities think there is much of this in the U.S.A.; see International Asso. of Universities Bull. V (1957), No. 2, 112.
such as the National Institutes of Health and the National Science Foundation, are quite self-conscious about not interfering with projects which they support.

A perennial problem for universities which receive project funds from outside sources, is that of "overhead." In a medical school, for example, this cost may run up to 25 percent of the amount of a grant—yet some agencies will provide no more than 15 percent. Under these circumstances, every grant received adds to rather than lessens the cost of general maintenance. An extensive project program may actually handicap a medical school in meeting other essential needs, such as those for scholarships, fellowships, or internal research awards.

A basic question therefore arises concerning the support of research in the national setting. Is it best to award funds chiefly for particular projects, as is now done, or were it better to give large, "block" grants to institutions? The latter procedure, now standard in British Government practice, was once followed also by American foundations. It has several possible advantages.

In the first place, as was just implied, what many institutions need is not more money for particular projects, but rather funds for general support. A large grant, with no strings attached, can be internally allocated where it is most needed. But even if a block grant is made only to support research, it leaves initiative entirely in the hands of the faculty, may reduce the time now consumed in presenting or reporting on projects, and is more likely to support studies by single individuals.

In recent years, certain foundations—notably the Ford—have begun to return to block grants. Federal agencies also

7 Abraham Flexner, after long experience with foundations, advocated such a return to early policies.
give block grants in some instances; and various proposals now before Congress, for the support of scientific research or for fellowship programs, would involve large grants to universities.  

It may not be easy for a foundation, accustomed to function as "an operating agency," to give up the oversight of research which is implicit in project grants. Funds given *en bloc* to a university will never produce a famous report by Foundation A on this or that situation, nor will they enable anyone to say what Foundation B accomplished for this or that field. But one should not write such matters off as merely involving foundation egos. There have been cases, in our opinion, in which foundation staffs saw a need sooner or more clearly than did the generality of university faculties and administrators. Such values, then, must be balanced against the disadvantages of foundation—or governmental—control of awards.

The outcome might well be a sort of compromise, in which small foundations continue present policies, while government agencies and large foundations provide both block grants and project funds. But the trend among large donors, one may hope, will be in the direction of general support. And in the case of private foundations, such aid might well be given primarily to private universities.

Pennsylvania, like most universities, sets aside a modest fund from its own budget for individual research grants to faculty members. And, in recent years, some of these small grants have been made in lieu of summer school salaries—an excellent procedure. Administered by a faculty committee, local awards of this sort have an advantage in that applicants

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8 As this is written, a committee of the Amer. Council on Education (a body often heeded in Congress) is urging that large Federal funds be given graduate schools for fellowship programs; *Higher Ed. and National Affairs*, VII, No. 3 (Jan. 22, 1958), 3.
are usually well known. Staff members, moreover, can be given funds which, though helpful, are too small to justify application to most outside agencies. There is some danger, however, that local grant committees will not be as discriminating as are national bodies.

Local grant committees, indeed all private agencies, should seek to preserve a balance in supporting the different areas of research. In view of the emphasis placed on natural science by government and by many industries, this policy will often imply special consideration of studies in the humanities and in the social sciences.

Up to this point, only the direct support of research has been mentioned. Training support is also available, chiefly through the award of pre- and post-doctoral fellowships. In recent years, the Federal Government has become a major donor of such funds, but they have also long been available from foundations, councils, and the universities themselves. The Harrison Fellowships at Pennsylvania were among the first in the latter category.

Both post- and pre-doctoral awards are highly desirable; but the latter, if they become numerous, may threaten the effective utilization of teaching assistants. If the ablest graduate students secure fellowships and only second-raters will take assistantships, teaching and teacher-training will suffer. Some balance can usually be preserved by awarding a student a fellowship one year and (if he plans to teach) an assistantship in another.

9 Even government agencies have shown some concern about the need for such a balance. The NSF, e.g., has deliberately refrained from giving undergraduate scholarships in natural science because it cannot offer them in other areas.

10 See, notably, the papers by Harry Alpert and by Pendleton Herring in The Sat. Review, Feb. 1, 1958, 36-40.

Types of Creative Activities. As noted above, "project" research looms large in the programs of present American universities. The term suggests a relatively comprehensive objective, with preliminary planning and the use of several investigators or of a "team." Such organization was rare even within the natural sciences until the last century, but was then introduced in such programs as the field studies of geologists and subsequently made its appearance within laboratory research. During the last generation, as the social sciences became more empirical, these disciplines also began to pursue projects—as in various "survey" investigations. 12

Essential as projects and "team research" have become in the natural and social sciences, these types of organization have their limitations. By and large, they are more apt to be effective in applied than in basic research. And to date, at least, they have been more useful to the sciences than to the humanities. A team may be necessary to the preparation of a certain type of dictionary; but is hardly indicated for a study of Kant's concept of the ding an sich or for an interpretation of the romantic Weltanschauung of the early nineteenth century. And even in some aspects of social science or of law, surveys may be of less value than is cumulative experience and wisdom. 13

The limitations of project and team research should be noted, lest the prestige they have acquired in the natural sciences may result in their uncritical projection into humanistic areas. This is not to say that project research can never be well employed, for example, in historical studies.

12 The organization as well as the support of research pertains to what is now known as the "sociology of science." For a general discussion thereof, see Bernard Barber, Science and the Social Order, 1952, Chapter V, etc.

13 See the recent memorandum of Professor Lon Fuller on this theme. ("An Analysis of the Effects of Programmatic Research on the Pursuit of Truth . . . ," Nov. 14, 1955.)
It is only to say that the aura, acquired by this type of organization in science, should not dazzle scholars who work in fields which do not lend themselves to its use.

Within the humanities, one cannot strictly equate “research” with “creative activities”—as we have been doing up to this point. For, in this area, research implies critical or historical studies; whereas “creative” is usually applied to original contributions to literature or to art. In schools of music or of the fine arts, the “creative artist” in the latter sense has long had a place; but there have been differences of opinion within modern language departments as to whether the creative writer “belongs” in a teaching staff. We need not enter into this discussion here. But it should be noted that, for present purposes, creative writing—if carried on within a department—falls under our rubric of “research and other creative activities.”

One other contrast in types of research which must be noted is that between free and secret investigations. After centuries of confusion, the tradition that scientific results should be made universally available was finally established in the seventeenth century. Taken for granted thereafter, this tradition has been rudely shaken by the recent, rapid development of “classified” research for military or other governmental purposes. Few will question the present necessity for secrecy in the service of national security, but the implications for universities must be faced.

Many scholars are disturbed by the seeming threat to the freedom of science. Classified studies, obviously, do not contribute, at least for the time being, to the general advance of knowledge. Worse than this, the attitude of caution—inseparable from classified work—may even spread over into unclassified activities. Able scientists have been barred not only from classified work by Federal “loyalty” boards, but
from unclassified Federal research as well—often on unproved charges. In other words, scientists have been caught up by the political temper of the times; in our opinion, to the disadvantage of national security as well as of science.

It may be difficult for a university to refuse cooperation if classified research is requested. The degree of involvement, however, merits consideration. If large institutes are set up, supported chiefly by Federal funds and devoted largely to Federal projects, their place in a university is not clear—especially if they are isolated from the rest of the institution. Pennsylvania, fortunately, has not become involved in permanent arrangements of this sort; nor do administrators of the physical-science departments and of the Engineering Schools seem to believe that questions of secrecy impose any immediate, serious problems at the University.

Conditions of Research. The facilities available for research in the physical and medical sciences at Pennsylvania have improved over the last decade, and those in the humanities and social sciences will improve with the building of the new library. We cannot enter here into various problems connected with the use of books and journals; though certain of these, such as the balancing of the general Library with departmental libraries, are of perennial concern.

Meantime, scholars themselves have long been busily at work in improving research aids (bibliographies, abstracts, guides, and so on). Such aids are all the more needed because of the plethora of publications. There is no doubt that in some fields, at least, there are too many journals as well as too many books—with the result that innumerable trivial or mediocre items find their way into print. In some areas, such as medicine, the flood of publications has swamped the bibliographic and abstracting services. Even a specialist
cannot keep up with much that comes out in his own field.

It must be admitted that some, if not most, of excessive publication has resulted from the pressure now placed on faculty members to “produce”—to “publish or perish.” But it does not follow, as some critics seem to think, that the remedy is to encourage young men to give up writing altogether. It does not follow, that is, if the young men hope to become university professors. That solution oversimplifies matters by going from one extreme to the other.

What does follow is a recognition of the need for emphasizing quality rather than quantity in publications. Within a department, men should not expect continuous publications from their colleagues—and particularly from the younger staff. If Dr. X has produced only one paper in five years but is known to be at work on a major study, well and good. Or if he has not produced a book in ten years but has issued a series of stimulating papers, again well and good.

The publishing of annual lists of staff members’ writings, usually in presidents’ reports, may have some merits. But it can also contribute to the bad habit of scanning these, just to see if Y or Z “have written much.” Sensing this possibility, some men tend to pad their lists, as by including book-reviews. They also rush off imperfect or unfinished articles to the journals, the editors of which may co-operate by reworking and improving the materials. In this way, a hurried author receives credit which is not his due.

The very extent of present research funds may tend to fill certain fields with mediocre producers. This outcome is especially likely if the funds outrun the supply of able men—a danger which needs to be kept constantly in mind if a donor thinks it can solve some pressing problem just by pouring money into it. The procedure may pay off in advertising but can be demoralizing in science.
All these difficulties must be kept in mind by a university, as it enters an era which will undoubtedly be characterized by increasing support—both public and private—for the advancement of knowledge. American universities must also continue the effort to correlate and balance their research efforts in different fields, and likewise correlate their dual functions of research and of undergraduate teaching.

Meantime, in this latter connection—somehow and somewhere—one or more American universities should be set up with exclusively graduate and professional functions. The Rockefeller Institute for Medical Research is moving in this direction now, but deals with a limited field. It is unnecessary to tear down present university structures; in a word, there is no problem here for Pennsylvania. But the nation needs an experiment in the form suggested, which would enable it to see what a European-type university—freed from undergraduate schools—could do for the higher learning in America.