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The Arts and Sciences Face the Eighties

Beyond the Boundaries of Our Disciplines

A Symposium with

Jonathan F. Bennett
Donald T. Campbell
Ben R. Ware

Gershon Vincow

In a sense, the first part of our title, "The Arts and Sciences Face the Eighties," may be misleading. We are not here to talk about the practical problems of the eighties, as usually reduced to such catch phrases as zero budget growth, demographic problems, new markets for students, and so on. We are here to discuss the fundamental academic nature of our college, as it exists today and as it may be modified in the next decade by the intrinsic pressures of our central mission, which is the acquisition of new basic knowledge and its transmission to the next generations of graduate and undergraduate students.

Let me describe our subject through a series of questions: What is the nature of our individual disciplines? How do we characterize their ever-changing boundaries and borders and the dynamics of these changes? How do we discuss and deal with the intellectual pursuits which today cut across these boundaries or include several disciplines? What are the special problems and opportunities concerning such interdisciplinary and multidisciplinary work as pursued in the university today? What are the related demands placed upon us by our desire to pursue only the most important intellectual questions that face us as scholars and students? In the broader context of the university as a social institution, what are the problems and challenges facing us as individual scholars with disciplinary and interdisciplinary expertise, as we may be called upon to step out of our academic roles

On November 7, 1979, the symposium discussion on these pages took place at Syracuse University, honoring the installation of Gershon Vincow as dean of the College of Arts and Sciences. Invited speakers were Professor Jonathan Bennett, Department of Philosophy; Professor Ben Ware, Department of Chemistry; and Professor Donald T. Campbell, Albert Schweitzer Professor of the Humanities.

and deal with problems in society — including the impact of society on the university?

To initiate a discussion of these questions and others that may arise from such discussion, the faculty council of the college has assembled a group of three distinguished colleagues, all of whom are newly arrived at Syracuse.

The three speakers are Professor Jonathan Bennett, of the Philosophy Department; Professor Ben Ware, biophysical chemist and chairman of the Chemistry Department; and Professor Donald Campbell, Schweitzer Professor of the Humanities. Although he is a professor at large in the Maxwell School, Professor Campbell agrees today to be called a psychologist and will speak for psychology and its related social sciences.

Jonathan F. Bennett

It is often complained that what philosophers write these days is apt to be unintelligible to the layman— even to one who is interested, intelligent, and educated. This is true, but it doesn't mark a change in the subject; philosophy was always too difficult, technical, and complex for the layman. Even such a widely influential book as Locke's *Essay Concerning Human Understanding* is, when you get right down to it, deeply technical and extremely difficult. Those who were influenced by it can't have received much influence from the core of it— that is, from the hard-won, tightly argued results. They may have been edged in one intellectual direction rather than another by its tone, by the broad stance that it seemed to take towards the great philosophical issues.

Another example is Hume's *Treatise of Human Nature*. This doesn't have a logical symbol in it; hardly has a technical term in it. It is the work of a man who had not just a supreme intellect but also a genius for the writing of civilized, limpid, beautiful English prose. But what actually goes on in its pages is a course of argument of really horrendous complexity and difficulty. To understand it, one must either be a genius, as Hume himself was, or have the technical equipment which a study of philosophy can give.

Why is it so widely thought that there has been a change on the intelligibility front? Well, philosophers whose real results are technical and difficult may nevertheless work within a broad framework of thought which can be understood easily enough. Let me give a famous example, a philosopher on whom I am currently working. Spinoza held that there's nothing except the natural realm but that it is worthy of awe and admiration and something like worship, and so may be thought of as being God. He was much possessed by the idea that every part of the universe is interlinked with every other, that the links are forged by inexorable causal laws, and that the very same set of laws explains everything that happens; from which he inferred rightly that the human person is just a part of nature, something to be predicted and explained like any other natural phenomenon. He also held that the ultimate aim of a rational man must be his own

self-preservation and well-being, and he sought to reconcile that idea with an ethic of cooperativeness. That's all intelligible enough; with a little dressing up it could make a package which might heavily influence someone's thought.

But if philosophy consisted only in the presentation of grand world views of that kind, it wouldn't be the exciting and challenging discipline that it is. What makes Spinoza exciting is the detail, the specific arguments and analyses and solutions of problems through which he tries to put his general world view to work. As an example of one of these problems: if man is just a natural phenomenon like any other, then what is involved in his ability to have thoughts about other natural phenomena? How can one bit of nature be *about* another? That is a very tough question, and a decent attempt to answer it will involve a theory concerning the nature of mental representation. It is not remotely possible that such a theory should be properly developed and defended without a great deal of the complexity and difficulty that people sometimes deplore in contemporary philosophy.

There are interesting and accessible ways of *stating* the same question. I've just given one; St. Augustine had another: How can it be that the entire universe can be contained in my mind, though my mind has no size at all and the universe is infinitely large? The interesting ways of *answering* the question are not easily accessible, I maintain, and cannot be made so. Thus the main change on the intelligibility front consists in the fact that philosophers these days are less prone than they were in the past to announce their world views. And when they do announce them, it is apt to be in association with detailed technical arguments in support of some part of these views, and apt to occur in philosophical learned journals or in rather difficult, expensive, and somewhat technical books.

There is a problem here, and philosophers could and should do something about it. There have been important philosophical books in the past few decades which could be read with pleasure and profit by nonphilosophers. There could have been more. But I still maintain that the heart of the intelligibility difficulty is insoluble. It's of the essence, I take it, of any serious discipline that its real work won't be easily accessible to people who are not workers in that discipline.

Secondly, the complaint against philosophy these days is that it is no longer addressed to the grand old questions. The answer to this is that the complaint is simply not true. Philosophy is indeed addressed to those questions; it is as much as ever a concerted endeavor to arrive at rational, argued, structured, justified opinions about the nature of reality, about man's place in nature, and so on. That's what philosophy is and always was: an attempt to get an intellectual and secure hold on the most general and abstract problems which confront us. I emphasize a "*secure* hold." What philosophy does is take a problem that is impossibly difficult and transmute it into one that is merely enormously difficult. It takes something that presents itself as a cloud and turns it into a filigree; something difficult and challenging, something which you can get lost in as you can get lost in a cloud, but

still something essentially different from a cloud because it has an inner structure which can in principle be mastered.

The greatest questions about God, freedom, and immortality, about the mind and its place in nature, about the nature of space and time, about what there basically is, and so on—these questions are not ones on which we are forever condemned to take essentially unargued stands, confronting one another across the barricades with a “Here stand I; I can no other.” On the contrary, these questions can be made subject to disciplined argument, argument governed by standards which let us discover that some arguments are objectively better than others. In short, these deepest, hardest, and most abstract questions can be brought under rational control; and the activity of doing so is called philosophy.

One vital aspect of the job of bringing these questions under control is breaking them into smaller bits. That is why philosophy often pushes the separate trees at you so hard that you can’t get a view of the forest. It’s just a fact that a large question—e.g., whether moral values are objective or just a projection onto the world of essentially private feelings and attitudes—can be helpfully dealt with by piecemeal techniques only. But the ultimate aim of the exercise is not just to scrutinize all the individual trees but rather to command a really clear view of the forest.

Not many years ago there was a tendency on the part of philosophers to lose sight of that ultimate aim. I lost sight of it myself for a while and thought that this was a gain. I remember my pleasure and approval when a friend remarked that philosophy used to be the love of wisdom but now fortunately is merely the hatred of stupidity. Not so; philosophy is the love of wisdom. And what’s really wonderful about the current philosophical scene is that there are so many philosophers who combine an intense desire for structure and clarity and sharpness of theoretical edges with an equally strong desire to make it all add up to something like a world view; something that can be fit into one’s sense of who one is and what the universe is, an improved grasp of what it is to be alive and the significance of the fact that one will die, and so on. This is a reason why the present is a wonderful time to be a philosopher. The discipline today is absolutely brimming with health and energy, and its practitioners have long-sighted aims which protect them against being inhibited by a sense that their work is trivial. They also have an armory of techniques and methods and procedures that help save them from the despairing thought that their work is doomed to failure. I think that this is a lovely time to be a philosopher.

There’s another good thing too—namely, that philosophy is at the moment much more in touch with various other disciplines than it has sometimes been. Not very long ago, many philosophers became self-conscious about the borderlines of their discipline and were drawn into a theory about what makes a question philosophical—a theory which implied that philosophers as such have no concern with any empirical facts whatsoever. For a while many philosophers really did tend to avert their blushing gaze from anything that smacked of physical fact or scientific theory.

But more recently there has been a recovery of nerve and a rejection, partly for philosophical reasons (indeed, on thinking it over, *wholly* for philosophical reasons), of the view that philosophy must be something which has no overlap with any of the empirical parts of any science. That theory has not been replaced by a new theory of the discipline so much as by a preparedness to get ahead with doing philosophy while having no explicit theory about where exactly its borders are located; or perhaps even to get ahead with doing philosophy while thinking that its borders have no exact location at all. The great discovery has been that relative unconcern about the exact edges of philosophy need not make one's actual *philosophizing* methodologically confused.

So philosophers these days are free to get on with their work with a good deal of sureness of touch, while also feeling free to avail themselves as much as they like of the results of other disciplines. Having once more become willing to listen, we are also, at least in principle, once more worth listening to. Some of the hardest and most worthwhile parts of any serious discipline, I think, consist in very general and abstract problems which can fairly be called philosophical and with which an individual philosopher, if he's not too ignorant of the ground-floor work, might be able to lend a hand.

Nothing follows from this about university organizations, so far as I can see. I'm entirely in favor of having philosophy departments. And although it's very nice indeed that there are a good many people with solid philosophical knowledge and interests scattered throughout this university, I don't think it would be a good idea if philosophy were represented in the university in just that way. But it is at least potentially an intensely interdisciplinary discipline. Historically, it is the source of all the other disciplines, and even now—and perhaps especially now—it has feelers and receptors running out in all directions. We need you, then, and I think you need us.

I'm a newcomer to the fine department of which I am now a member, and I don't speak with authority; but I'm sure that my philosophical colleagues would endorse my saying that we want to, and think we can, contribute to the cross-hatching and intercommunicating that makes the difference between a mere bunch of departments and a college of arts and sciences.

Ben R. Ware

I would like to speak today for science rather than for chemistry. For a scientist, it is pleasant always to envision the future. Scientists think of science as a monolithic, efficient machine, making a monotonic advance on ignorance. We are convinced that we will know more tomorrow than we know today. And the contemplation of moving forward yet another decade is attractive indeed. This is not always true, but we always believe it. And I think that this is the mode in which we like to proceed. It is exciting to me to consider what will be known in another ten years' time, and I think that this will make the world of science an

intensely interesting place to be.

But realistically the decade of the 1980s is very unlikely to be a growth period for science. University demographers tell us that we will be suffering decreased enrollments overall, and science is already suffering a decreased percentage of interest among young people. In addition, the nation's priorities seem to be tending toward the assimilation of scientific and technological information, a sort of desire to get control of technology rather than to encourage the kind of fundamental work and scientific breakthrough that would lead to new technology which would bring us only more problems.

Nevertheless, the economic future of the country will certainly be staked to the success of science in the 1980s. We will have to respond to the challenges of economic international competition with a shrinking base of natural resources, and our principal exports in the next decade will be the produce of our unmatched scientific and technological expertise. Our response to the energy crisis, which will be much worse in the next decade than it was in this one, will depend on the core of scientific knowledge and expertise which is primarily the product of basic research in American universities over the past three decades.

America's leadership at every level seems to me to be at least somewhat realistically in touch with this fact, and I expect our leaders to continue the funding of science throughout the difficult times ahead. I would not expect the recession that we can anticipate in the early eighties to have the same devastating effect on science as the recession of the early seventies. So my overall assessment of the progress of science is that it would continue pretty much at its present pace through the coming decade. I would like to focus briefly on a couple of trends which I predict will become noticeable and more important as science develops into the next ten years.

The first trend, in line with today's topic, is an increased activity at the interface of two or more traditional disciplines. The original scientists were all generalists. Many were physicians; some were men of wealth looking for amusing pastimes; all were philosophers, I suppose. Then, as the number of observed phenomena and deduced principles grew, the necessity to specialize led science to the fragmentation into disciplines which has produced distinct traditions, goals, even languages. This separation has been encouraged at universities by defining the traditional departments as the fundamental budgetary units, setting them, in effect, in competition with each other rather than promoting a common cooperative effort. The hallmark of modern science has been the unification brought about by the explanation of diverse phenomena in terms of a smaller set of fundamental laws of nature. For example, it has only become widely accepted in the past century that there is no special characteristic of living matter and that biological species must function in accordance with the same laws of chemistry and physics as inorganic matter. Now one finds biologists using the sophisticated methods and theories of physics, and one finds physicists plying their trade directly on biological systems.

There is a plethora of new hybrid words that have come to mark this trend — words like biophysics, geochemistry, biostatistics, chemical genetics, or the improbable sounding bioinorganic chemistry. I like to call myself a biophysical chemist, which seems to cover all bets. But the words are only a reflection of the fact that scientists strive to understand all natural phenomena in the most fundamental terms. We believe that this leads to a simplification of thought and a unification of observation and thus to a higher level of understanding of the universe, which is our ultimate objective, impossible as it may be. Thus I do not believe that scientists on the whole will resist or fear this interdisciplinary trend.

It arises as a problem only in the context of administration. What space shall these new interdisciplinary scientists occupy? Whose money shall they spend? Against whose faculty quota shall they count? To which students shall they have access? These are challenging issues, and I present them as a challenge to our new dean. He is well equipped to face them, for in his own research, he took a technique from physics and applied it to interesting problems in chemistry and biology. The scientific research of the eighties will be ever more oblivious to departmental or disciplinary borders. There is a diverse range of natural phenomena to be understood. These phenomena do *not* have borders or creases that permit them to be as neatly compartmentalized as a university faculty. If our organizational procedures limit our ability to employ and support those scientists who would break ground between the traditional disciplines, then we rob ourselves of the excitement of intellectual leadership, and we discriminate against an important mode of progress.

There is a second trend that I would identify, and about this one I am much more perplexed and have no particular disposition; but I see it as important: it is the increasing mutual impact between science and matters of public policy. Science would be of little consequence if its major advances and fundamental results were not of interest and importance to the general public. In addition, academic science is supported largely by tax dollars, so we have a public accountability, which I think most of us are willing to accept. However, a clear trend of the 1970s, which seems likely to extend through the 1980s, is an increasing degree of public control, and public desire to control, the methods and directions of scientific research. This trend is coupled with (and may be inseparable from) a new set of public policy issues which are fundamentally technical and for which technical input from scientists and technical engineers is increasingly important for the formulation of a sound national policy. Contentious interactions between scientists and public officials are not new. Some people in this room know better than I the story of Galileo, who in the seventeenth century found his books burned and his personal freedom limited because his observations and deductions on astronomical matters were at variance with the Holy Scriptures.

Scientists are much freer now to pursue their ideas than they were then. But there is a new set of scientific discoveries and public issues which have arisen in the past few years to set the

stage for new dialogues between scientists and citizens — for which neither is adequately prepared. While I was at Harvard, a number of my scientist friends at both Harvard and M.I.T. were forced to stop their work on the various aspects of induced DNA recombination at the order of the Cambridge Town Council, which is a group of local politicians, primarily lawyers and businessmen. Work stood still for many months while scientists and nonscientists tried to reach some agreement that would permit scientific investigation without presenting an unacceptable risk to the local population. There was a great deal of mutual education that had to occur for the scientists to learn something about how political questions are settled and for the politicians to learn some science. The same debate on the same topic has taken place in several political and scientific theaters around the world. It has provided a dramatic demonstration that scientists, politicians, and public-minded citizens can work together to resolve issues of vast complexity. But it has also provided evidence of the enormous cost in time, talent, and money exacted by such an enterprise. There is a long and growing list of scientific research areas which have come under public control or criticism. The principal complaint from the affected scientists is that the process for resolving these questions is fundamentally political and not fundamentally scientific. The response of these scientists has too often been arrogant, even supercilious, and the results may be an increasing suspicion of the motives and methods of modern science.

Happily, most of us will be spared the direct attacks suffered by some of our colleagues, but we will all have to face the new politics of scientific funding and directed priorities. The war on cancer will be replaced by a new push for energy-related research. The word *relevance* will nauseate us anew. Once again relevance will be equated with the degree of direct application. Naturally there will be a spectrum of responses from the scientific community, from no response at all to a complete commitment from some scientists to work directly on national priorities as defined by Congress through the funding agencies. The critical issue in my mind is whether our public leaders will keep a balance between the need for applied research to solve a global crisis and the subtle but indescribably important need to support fundamental intellectual activity. The input of respected scientists to formulate these decisions will be essential.

Finally, I would predict that the increased mutual impact of science and public policy will create a vital need and a greater pressure for scientists to enter the public arena to provide a reasoned technical analysis of the increasing number of public scientific issues. Which is safer, nuclear reactors or coal mining? What are the risks and benefits of common food additives? Is there a strategic advantage to additional military hardware? These and other questions are being addressed now by thousands of scientists who have directed their careers toward public policy.

But it has not traditionally been the cream of science who have sought public careers. The scope and magnitude of technical

public issues, particularly in the areas of energy, defense, and health, will require many more of the best scientific minds in the country. Either on a part-time or a full-time basis, many scientists will be pressed into public service. And the seclusion that most of us prefer will be increasingly violated.

The 1980s will not be an easy decade for academic science or for universities in general. It will be a decade of turmoil. Political, economic, and educational institutions will be challenged with shrinking resources and expanding problems.

But I would like to conclude with the optimism with which I began. I am delighted with the prospect that science is likely to be in the thick of the action and in a position to make essential contributions. America's universities can play a critical role in both of their major functions—the discovery and development of new knowledge and the education and preparation of the young men and women who will forge this nation's future. Certainly our university should aspire to a central role in the development of both of these efforts. Our task will require high standards, hard work, and creative leadership.

I have been impressed by the directions of emphasis of our new dean, and I look forward to working with him to meet the challenges of the 1980s. At the same time, I hope we will continue to demand of him and of all of our university's leadership the very highest intellectual goals and an absolute commitment to promote distinguished scholarly work in all fields of academic endeavor.

Donald T. Campbell

I am a bit embarrassed to be called a Schweitzer professor at all, but to be called a Schweitzer professor of the humanities is confounding a mistake of the state legislature in a way that further embarrasses me. Let's call it Schweitzer professor of the social sciences, or something like that. The humanities rightly resent the taking over of these positions by the social scientists, but the Einstein professorships won't have us either.

My own field is social psychology, and my examples, whether I get around to giving them or not, will come primarily from social psychology and the adjacent social sciences. In my youth, interdisciplinary adventures were the fad. This was right after World War II. Everything was expanding, and in this expansion, departments were much less defensive about the creation of new departments or of specialties which lapped over departments. There were always more jobs available every year; if you didn't make it within a discipline, you could make it *between* disciplines. We have lost that optimistic feeling of expansion within the last five years.

In that interdisciplinary experience, the one lesson I have learned is that interdisciplinary study cannot be handled with a goal of breadth; that we must not saddle interdisciplinarity with a shallower competence over more fields. Instead our slogan must be quite different—the slogan of *novel narrowness*. I think Professor Ware's testimony shows how fluently the physical

sciences have been able to achieve this goal, but in the social sciences and the humanities, it comes with much more difficulty. Over and over again we see the need for interdisciplinary study, and we attempt to solve it through breadth. Our slogan should indeed be *novel narrowness*.

Had I been asked for a title for my talk today, it would have been "Darning up the Gaps in the Seamless Web of Scholarship." This is an image of unification quite different from hierarchical ones such as the unification achieved when physics stole atomic theory from chemistry and thereby made chemistry derivative of physics; or the kind of unification — which I am happy to acknowledge — that is exemplified in philosophy's central role as the queen of the scholarly disciplines. (All disciplines face the problem of knowledge and are thus to a great extent, in their reflective parts, applied epistemology.) But the seamless-web imagery that I am trying to offer is of another type, an integration that can occur without central or foundational elements; something that might be expected to emerge spontaneously, were it not for organizational restraints. I am going to speak of some of the same organizational restraints which Professor Ware mentioned.

Since today we honor Dean Gershon Vincow, a physical chemist who has left his narrow specialty to provide leadership for the whole of knowledge, it is fitting that my scripture reading come from another physical chemist who made a parallel shift. I read from Michael Polanyi, writing about the principle of mutual control.

It consists . . . of the simple fact that scientists keep watch over each other. Each scientist is both subject to criticism by all others and encouraged by their appreciation of him. This is how *scientific opinion* is formed, which enforces scientific standards and regulates the distribution of professional opportunities. It is clear that only fellow scientists working in closely related fields are competent to exercise direct authority over each other; but their personal fields will form *chains of overlapping neighborhoods* extending over the entire range of science. It is enough that the standards of plausibility and worthwhileness be equal around every single point to keep them equal over all the sciences. Even those in the most widely separated branches of science will then rely on each other's results and support each other against laymen seriously challenging their authority.¹

Now Polanyi's imagery of chains of overlapping neighborhoods constitutes the short threads that by successive overlap make up the seamless fabric of scholarship which I have in mind. The strength, the competence, and the breadth come from the staggered overlay of weak and narrow fibers. Polanyi's chains of overlapping neighborhoods generate the idea of links in a chain, or of chain mail and armor, or overlapping shingles or tiles on a roof, or fish scales, as I called them in an earlier essay.² All speak to the same point. Now these neighborhoods or chain links, Polanyi's single threads, or fish scales, are much narrower than university departments and scholarly disciplines. They correspond to specialty areas within fields. "Narrow specialties," I will call them. Whatever unity departments achieve is through the overlap of these specialties, not through faculty who have mas-

1. Michael Polanyi, *The Tacit Dimension* (New York: Doubleday, 1966), p. 72.

2. Donald T. Campbell, "Ethnocentrism of Disciplines in the Fish-Scale Model of Omniscience," in *Interdisciplinary Relationships in the Social Sciences*, ed. Muzafer Sherif and Carolyn W. Sherif (Chicago: Aldine, 1969), pp. 328–348.

tered the entire field and not through the process of turning out Ph.D.'s with such competence. In psychology, for example, the goal of producing well-rounded psychologists has at times seriously undermined the goal of developing competent specialists ready to publish in scholarly journals. Thus at Northwestern, where I spent twenty-six years, it was the physiological psychologists who needed to get their students into organic chemistry courses and the social psychologists who wanted their students to know a little sociology who rightly collaborated in undermining a very demanding core curriculum.

Now, with this background, I want to come to my major theme: The organization of the groups of adjacent narrow specialties into departments and scholarly disciplines leads to the neglect of narrow specialties that lie on the fringes between departmental fields. The goal I hold out for us is to avoid the tribalism of disciplines and encourage novel narrownesses both within departments and in interdisciplinary programs. If we conceive of each department as a set of adjacent specialties, we can see that inevitably some of these specialties have their natural neighbors across departmental lines. And because of that organizational boundary, these specialties are peripheral in decision making. Others are "central," merely by the chance of where the boundary is located. In the recurrent decisions as to what new faculty are most needed to fill out the department's staff, or what shall be the core program, or the like, the central specialties will have their natural allies in that same decision-making group. The peripheral specialties, even though they may be absolutely central to the social sciences or humanities as a whole, will have half or less than half of their natural allies—their overlapping threads, scales, shingles—in different departments, where they will not be voting on these budgetary and other decisions. The biasing effect of the local decision-making boundaries are greatly amplified when, as is usual, parallel boundaries exist at the other universities from which we recruit and to which we send students. Professional organizations and journals are apt to slice the seamless web of scholarship in similar or identical ways. All of these influences converge to render threadbare and gappy the narrow specialties lying athwart departmental boundaries, or between them.

Now, of all the universities that I am familiar with, Syracuse University has done the best in darning up the gaps in the seamless web of scholarship. It is, in my judgment, the best in providing a haven for unusual specialties. This it does in unusual appointments within departments, in unusual departments, and in specifically interdisciplinary programs within which Ph.D.'s of novel narrowness can be constructed—rather than in interdisciplinary programs in which a dilute breadth is achieved. I have been here only two and a half months, but I have tried to spend as much time as possible in getting acquainted. The more I learn about our programs and the exceptional scholars who exemplify our unusual specialties, the prouder I am to be identified with Syracuse University. A commission which I want to place upon Dean Vincow is to preserve and extend our excellence in this regard, despite pressures to accept the stereotyped boundaries.

This I hope he will do as he goes about his task of increasing Syracuse's excellence in a time of nationwide university retrenchment.

The theme of this symposium also calls upon us to plan for the 1980s, and I will conclude by discussing the threats that I see to our present special brand of excellence—threats that come from the shrinkage of academic jobs and the increasing surplus of excellent young scholars. This surplus tempts administrators and departmental decision makers in upwardly mobile universities like Syracuse. (I will be speaking from my experience at Northwestern University, but I will be attributing similar motives to Syracuse.) These ambitious, upwardly mobile universities are tempted to use this surplus of scholars to improve their status in ways that I think actually jeopardize their precious, present excellence.

Given the past job market and our own status in the preference order among young scholars, the ablest whom we hired in the past were often marginal in their specialization and passed over by institutions of greater prestige in favor of the more centrally specialized candidates. This gave us a precious excellence and creativity, but we will lose those qualities if, in the present glut of fine Ph.D.'s, we now try to better ourselves by preferring centrally located narrow specialists. Similarly, if we react to the surplus of scholars by attempting to raise our standards for tenure, making increased use of the judgments of scholars on other campuses, our efforts may work to the disadvantage of scholars with novel narrowness—unless we carefully seek outside referees without regard to the centrality or department of those referees. A central specialty aligned with major journals, standardized apparatus, and conceptual framework may also make it easier for an assistant professor to grind out the four or five publications a year that our promotions committees may require.

At this point I want to extend my comments on the misleading temptations of the Ph.D. surplus to make a more general point. I would like to deliver a warning I have given to my friends in Northwestern's administration. The Ph.D. surplus produces a very dangerous temptation to improve our universities by increasing tenure anxiety—keeping excellent young scholars on tenterhooks for a full six years, not knowing whether or not they are good enough for us. Such an action will move these young scholars toward more central, safe specialties and will reduce their creativity and inclination to bet on long shots. It will also reduce their willingness to develop new paradigms out of phase right now but from which the contributions of the future will come.

During these past twenty-five years, or least the first twenty of them, Northwestern was the best place in the world for a new Ph.D. in the social sciences to start out. The university offered adequate feelings of security plus an intellectually stimulating environment. But today, with the greed that comes from this great surplus of excellent new Ph.D.'s, Northwestern is tempted to imitate a model which its neighbor, the University of Chicago, has used in failure all along. Northwestern has forgotten that a

great deal of its excellence as a place for new Ph.D.'s was a matter of environment, not recruitment; that it was a place in which scholars could collaboratively enjoy scholarship, could share ideas, could edit each other's papers, and would not be in competition with each other. The environment was what made Northwestern and Syracuse wonderful places for assistant professors; it produced creative scholars that institutions like the University of Chicago could hire away at a more advanced level.

Increasing the tenure anxiety in a university like Northwestern or Syracuse is not going to improve the quality of the faculty. As a matter of fact, were we instead to take a dramatically opposite turn and adopt what I understand to be more nearly the British system; were we to offer instant tenure plus a right to share our poverty, where we felt however wrongly or rightly that we were hiring the best Ph.D. in the field in that particular year, we would do more to improve the faculty quality and the likelihood of generating future Nobel Prize winners than an imitation of Yale or the University of Chicago or Harvard in an extended period of assistant professor anxiety.

Let me return to my main theme with some final comments on how our present situation may lead to undermining Syracuse's excellence in providing a haven for novel narrowness. The shortage of jobs will make departments want to provide a more orthodox training for Ph.D.'s so that their graduates will be more acceptable to other universities; very likely other universities will hew to increasingly traditional departmental lines in their hiring. Furthermore, we are apt to take some of our deliberately interdisciplinary training programs, such as the Ph.D. program in the humanities and the social science Ph.D. in the Maxwell School, and aim them toward producing generalists who can teach in a dozen different departments in community colleges. I think those temptations are wrong: We should no longer use the label Ph.D. if we are not turning out people who are ready to publish as fellow scholars in scholarly journals. The broader the area that is covered, the more necessary it is that there not be a distributional requirement or a common core that all candidates must master; the more important it is that each candidate be allowed to generate his own novel narrowness.