Rackham Reports

Horace H. Rackham
School of Graduate Studies
The University of Michigan

1988–1989

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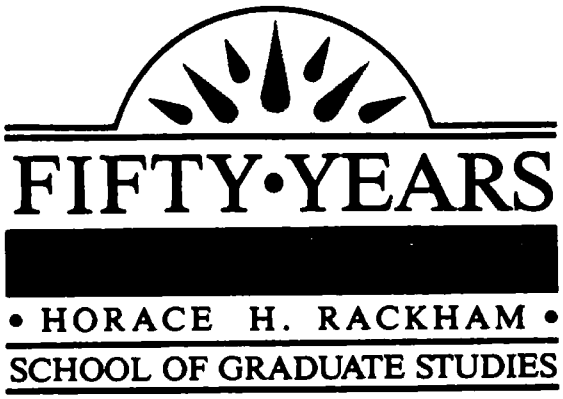

In the following pages we feature a selection of the papers read and discussed at last fall's symposium, where we celebrated the fiftieth birthday of the Rackham building.

"Intellectual History and Academic Culture at The University of Michigan: Fresh Explorations." If the title sounds grandiose, the genesis of the idea was really very simple, as we explored it in early planning sessions with faculty almost four years ago. Why not exploit the occasion of the fiftieth birthday of the Rackham building, by inviting some of the more imaginative and thoughtful members of our faculty (and a few from further afield) to reflect together on some of the actions taken, and some not taken, over the fifty years of this university's intellectual life?

We saw four good reasons for such a venture. First, a greater awareness of some of these intellectual directions might equip us to understand better the challenges in graduate and professional education, across academic disciplines, which we will be facing in the years ahead. Second, that improved understanding might contribute to an enlarged sense of intellectual community, since the legacies of so much of our past are with us everywhere. Third, when first-rate members of our graduate faculties in our schools and colleges, and those who hold major responsibility for educational leadership (here and elsewhere) engage in critical examination of the past and commit themselves to speculating about the future of our university, the results themselves would be likely to make a contribution to knowledge. (When persons of this stature consider intellectual history, they make it.) Fourth and finally, might not the whole thing, if entered into with good spirit and not too solemnly, be rather good fun?

A celebration, then. But a critical, substantive celebration: The results are before you, in the full program of activities printed on the following pages, and in a selection of the major essays, in the body of this year's report. We hope that Rackham alumni and alumnae, and faculty, find the essays as stimulating as did those of us who heard them (copies of a full record of the proceedings are available at modest cost for those who wish to order them). And we hope, too, that the photo essay displaying the phases of the construction of the Rackham building will evoke comments and reactions from those among you who may recall the gradual emergence of Rackham on its building site between 1936 and 1938. I myself have often wondered what reactions such a monumental and prestigious structure, built in

the depths of the depression, generated among students at the time. One of our faculty speakers at the symposium recalled his own reaction: "to those of us then young and poor, working to earn our graduate degrees, the rise of the Rackham building symbolized The University's confidence in the future, and passed on some of that confidence to us, as we prepared to embark upon University careers."

We greatly enjoyed our fiftieth Birthday celebration. We offer our warmest thanks to those of you who contributed time, thought, and resources to making this occasion so stimulating and successful. We are already planning for our fifty-fifth!!

John H. D'Arms
Dean

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FIFTY•YEARS

• HORACE H. RACKHAM •
SCHOOL OF GRADUATE STUDIES

Symposium to Mark the 50th Anniversary of the Construction of the Rackham Building

CALENDAR OF EVENTS

Dean John H. D'Arms is pleased to invite you to a celebration to mark the 50th Birthday of the Rackham Building at The University of Michigan.

BIRTHDAY CONCERT
Thursday, September 29, 1988
The Tokyo String Quartet
8:00 p.m., Rackham Auditorium

SYMPOSIUM
Friday, September 30 - Saturday, October 1, 1988
Intellectual History and Academic Culture at The University of Michigan:
Fresh Explorations

BIRTHDAY CELEBRATION
Saturday, October 1, 1988
9:00 p.m., Rackham Lobbies
James Dapogny's Chicago Jazz Band

SPECIAL EXHIBITION
September 1 - October 1, 1988
Rackham Galleries
Distinguished Rackham Ph.D. recipients of the past 50 years.

RACKHAM BIRTHDAY CELEBRATION FOR GRADUATE STUDENTS
Friday, September 30, 1988
5:30-6:30 p.m., Rackham Assembly Hall and Terraces, Fourth Floor.

FRIDAY, SEPTEMBER 30, 1988

8:45 a.m.
Introduction to the Symposium:
John H. D'Arms, Dean, Rackham School of Graduate Studies

Welcome:
James J. Duderstadt, President of the University

FIRST SESSION

How the Past Shapes the Present: Historical
Self-Awareness in the Life of the Public University

9:00 a.m.
Lecture: *The Prussian Road to University? German Models and the University of Michigan 1837 - c.1895*
James C. Turner, Professor of History

10:00 a.m.
Lecture: *The Earliest Doctoral Degree: Perspectives from a Student's Diary at the University of Minnesota (1888)*
Robert T. Holt, Dean of the Graduate School and
Professor of Political Science, University of Minnesota

11:00 a.m.
Lecture: *Beneficial, or Burdensome? University Archives and the Pursuit of an Historical Consciousness*
Francis X. Blouin, Jr., Director, Bentley Historical Library and
Associate Professor of History

1:30 p.m.
Discussion: *Intellectual History and Intellectual Community in the Public University*
Principal Discussants:
James Boyd White, L. Hart Wright Collegiate Professor of Law,
Professor of English and Classical Studies
Margaret L. Steneck, Lecturer, Residential College
Nicholas H. Steneck, Professor of History
Moderator: Sidney Fine, Andrew Dickson White
Professor of History

FRIDAY, SEPTEMBER 30, 1988

SECOND SESSION

The University of Michigan: Its Place in National Academic Culture over the Past Fifty Years

3:00 p.m.
Lecture: *Academic Culture at Michigan 1938-1988: The Apotheosis of Pluralism*
David A. Hollinger, Professor of History

4:00 p.m.
Initial Responses from Disciplinary Perspectives:
Social Sciences: Philip E. Converse, Robert Cooley Angell Distinguished University Professor of Sociology and Political Science and Director, Institute for Social Research
Health Sciences: James V. Neel, Lee R. Dice Distinguished University Professor Emeritus of Human Genetics and Internal Medicine

7:30 p.m.
Additional Disciplinary Responses:
Language and Literature: Martha J. Vicinus, Professor of English Language and Literature and Co-Director, Women's Studies Program
Biological Sciences: William R. Dawson, Dugald E.S. Brown Professor of Biological Sciences and Director, Museum of Zoology
The Arts: Rudolf Arnheim, Professor Emeritus of the Psychology of Art, Harvard University
Physical Sciences: Homer A. Neal, Professor and Chair, Department of Physics

The Organization of the Research Agenda in The University of Michigan Environment:
Linda S. Wilson, Vice-President for Research
Moderator: Douglas E. Van Houweling, Vice-Provost for Information Technology

SATURDAY, OCTOBER 1, 1988

THIRD SESSION

Present and Future Challenges: Reordering Professional and Graduate Priorities in the Research University

9:00 a.m.

Introductory Remarks: Alfred S. Sussman,
Dean Emeritus of the Rackham School of Graduate Studies
and Professor of Botany

Lecture: *The University and the Aims of Professional Education*
Terrance Sandalow, Edson R. Sunderland Professor of Law

10:30 a.m.

Responses:
Rhetaugh G. Dumas, Professor and Dean, School of Nursing
Paul W. McCracken, Edmund Ezra Day Distinguished
University Professor of Business Administration,
Economics and Public Policy
Paul C. Boylan, Professor and Dean, School of Music
Charles M. Vest, Professor and Dean, College of Engineering
Moderator: Robert L. Kahn, Professor of Health Services
Management and Policy, and Psychology

1:30 p.m.

Panel Discussion: *The Next Generation of Scholars, Academic Values, and the Reform of the Ph.D.: The Benefits and Costs of Broader, More Liberal, Graduate Training*
Billy E. Frye, Vice-President for Academic Affairs and Provost,
Emory University
S. Frederick Starr, President, Oberlin College
George H. Jones, Professor of Biology
John R. Chamberlin, Professor of Political Science and
Associate Dean, Rackham School of Graduate Studies
Moderator: Patricia Y. Gurin, Professor of Psychology

The Prussian Road to University?

German Models and the University of Michigan, 1837-c.1895

by James Turner and Paul Bernard*

James Turner came to The University of Michigan as Professor of History in 1985. Though specializing in American intellectual history, he writes in a transatlantic context. His research, on basic cultural transformations, centers in the nineteenth century. Professor Turner's publications include Reckoning with the Beast: Animals, Pain, and Humanity in the Victorian Mind *(1980), and* Without God, Without Creed: The Origins of Unbelief in America *(1985). He is now at work on a biography of the American scholar and cultural critic, Charles Eliot Norton.*

Paul Bernard is a doctoral candidate in American Culture at The University of Michigan.

Sometimes history surprises like a kaleidoscope. A pattern seems perfectly distinct, then, with a half-turn, shimmers away. Colors and shapes persist, but now in different relations, forming a different image.

The origin of the American university, the graduate school in particular, has this kaleidoscopic quality. The pieces are all familiar — the early nineteenth-century colleges with their tiny faculties, small student bodies, and limited curricula; the catalytic example of the great German universities; the rise of research; emergence of graduate training; professionalization of academic disciplines; expansion of curriculum; growth in numbers and infrastructure. Put these bits together, and Cornell or Chicago or Michigan appears. But *how* to fit them together? Where, especially, to put the German example, the piece around which others often appear to coalesce?

Something like a standard pattern has taken shape in university history — one not so much wrong as oversimple. It can be briefly summarized.[1] Before the Civil War, American colleges mostly devoted their energies to controlling unruly students, their curricula to rote learning of classical languages, rhetoric, and simple mathematics. In today's terms, they resembled high schools more than colleges — and certainly not universities, for the best of them aimed only to transmit the existing culture; the expansion of knowledge lay utterly outside their purpose. But the very defects of antebellum colleges provoked reform. Deepening discontent with their intellectual decrepitude inspired efforts to breathe new life into these dry bones; college reform became a persistent issue from the beginning of the nineteenth century.[2] It finally achieved success in the decades after the Civil War.[3]

The key innovations came from a cadre of academics who looked at colleges from a common point of view, deriving from a shared educational experience. Since early in the century, aspiring young Americans had embarked for Germany to pursue studies unavailable in their own country.[4] Returning, they im-

* Earlier versions of this paper have benefited from the comments of several colleagues: Bernard Bailyn, Hugh Hawkins, David Hollinger, Joel Howell, George Marsden, Jonathan Marwil, Nicholas Steneck, and Stephen Tonsor. We are also grateful to Dean John D'Arms of the Rackham School of Graduate Studies for funds in support of research.

ported more than *Wissenschaft;* they brought back a new idea of higher education. These German-trained professors were at first voices crying in a wilderness. But their influence magnified after midcentury when leading college presidents went on pilgrimages to study European education, especially the celebrated German universities.[5] These lessons were swiftly applied. From the failed attempts of the 1820s to pull Harvard out of its slumbers to the invention of the modern American university at Cornell and Johns Hopkins in the 1860s and 1870s, it was the example and personal experience of German universities that commonly inspired reformers and shaped their vision.[6]

Americans saw four principal elements in the German model. First, the Germans clearly distinguished preparatory studies, appropriate to the *Gymnasium,* from the higher learning, proper to the university. Second, German universities assumed as their mission the advancement of knowledge (that is, production of and training in original research). Third, the universities gave both professors and students the independence needed to pursue knowledge (*Lehrfreiheit* and *Lernfreiheit*). Fourth, this research ideal took flesh in distinctive institutional arrangements — notably the seminar, to train researchers, and the Ph.D. degree, to certify their competence. American reformers seldom wished exactly to duplicate the German university in the United States, and German influence ultimately had little direct effect on undergraduate colleges. But these four principles shaped advanced studies. More specifically, the German research ideal and the institutions linked with it led directly to that American invention, the graduate school.

No one believes that German influence tells the whole story. Recently, for instance, historians and sociologists have stressed professionalization as an independent force driving the move toward research universities.[7] And, as historians have long pointed out, American university reformers borrowed selectively from Germany.[8] For example, *Lehrfreiheit* translated fairly well into the American practice of academic freedom; but *Lernfreiheit* — the German custom by which a qualified student could enroll at any university, in any course[9] — never habilitated itself in the United States. And what Americans did borrow, they reworked. The Ph.D. degree functioned quite differently in the two countries. In American universities the Ph.D., from the be-

ginning, usually entailed much more substantial research than in Germany. And in America the degree served almost exclusively as a gateway into the professoriate, in Germany chiefly as a ticket into the civil service or secondary school teaching.[10] Most strikingly, the Americans concocted a novelty never imagined in Germany: the distinction between undergraduate and graduate studies.

Yet, if German example does not explain everything, it explains a lot. If native social changes fed the deepest roots of the American research university, Germany still provided the "research ideal." If the German university had little to offer the American undergraduate college, it still was the main influence on advanced training. If Americans picked and chose among German practices, they still got from Germany the characteristic concepts and institutions of graduate education.[11] So the story goes, and it is a plausible one.

Yet, on closer reading, the tale begins to unravel. To begin with, by no means every university reformer waxed lyrical over Germany. Indeed, invocations of German example are in some cases peculiarly sparse. President Charles W. Eliot, the architect of modern Harvard, in his inaugural address in 1869 gave one fleeting mention to Germany in almost thirty printed pages (France got more attention).[12]

The story grows still more tattered. German influence accounts clumsily even for the changes it is supposed to explain in American higher education between 1850 and 1900 — even in graduate education. There are too many ill-fitting connections, too many outright gaps. Why did the requirements for and uses of the Ph.D. change so drastically in the United States? Why did the seminar, a semiautonomous institute in Germany, become a one- or two-semester class in America? Where did Americans get the unheard-of notion of distinguishing "undergraduate" from "graduate" schools? The glaring disparity between Teutonic example and American practice may explain why historians put so much emphasis on Johns Hopkins, the one well-studied American university that demonstrably did try to emulate the Germans.[13]

How often did reformers actually follow German patterns? Perhaps even more to the point, *how* did they follow them?

I

An adequate reply to that question requires the writing of a very large book. But the starting point is easy to find. It lies in recognizing that the German model came in many versions. Different Americans impressed with German education drew differing lessons from its achievements. Their responses varied, less because of ignorance of German practices (as some historians suggest) than because of awareness of American problems.[14]

True, the role of ignorance should never be discounted. Inadequate preparation in the language, brevity of time, the distractions of exotic sights and tastes prevented many American students, possibly most, from knowing well the German universities they attended. Andrew Dickson White seems to have got mostly language practice out of his desultory term at Berlin, and he was no slouch.[15]

Yet not every Yankee in Göttingen was an innocent abroad, and doltishness goes only so far to explain why each returning scholar recited his own distinctive list of Teutonic virtues and vices. Americans naturally picked out as the salient features of German universities not what a German academic might have chosen but what rubbed hardest against their own discontents with American higher education. Joseph Cogswell, for instance, was particularly struck by the specialization and diligence of Göttingen's scholars, George Ticknor by the size and currency of its library, John Lothrop Motley by its library — and the absence of dormitories![16] This last impression (which also figured in Henry P. Tappan's specifically Prussian ideal) comes alive when one recalls how much energy antebellum American professors had to pour into merely custodial supervision of the youngsters in their charge. And this peculiarly American reaction makes the point. The motive of reformers was not to emulate Germany but to improve their own colleges. And thus the origin of the *research university* — Germanic influence and all — only comes into focus when viewed as one outcome of a century-long struggle to redefine the American *college.*

This effort began not long after 1800. From their seventeenth-century beginnings, American colleges had offered an education inherited from the English Renaissance.[17] In early

nineteenth-century colleges teaching still centered on Greek and Latin, rhetoric, natural philosophy, and mathematics of a fairly practical sort. This was a training nicely suited to prepare teenage boys for life as seventeenth-century gentlemen or even for further study of theology or medicine in seventeenth-century universities.

Its relevance to nineteenth-century America came increasingly into doubt. The celebrated Yale Report of 1828 defended the classical curriculum as providing "the *discipline* and the *furniture* of the mind."[18] But other studies seemed equally able to discipline the mind, while furnishing it to more modern purposes. Ultimately two new paradigms came to compete for control of the colleges.[19] One (appearing in some institutions as early as the 1820s) stressed modern languages, mathematics, and the sciences and claimed to offer an education somehow useful in a modern commercial and technological world. The other developed more gradually out of the old classical education, often claiming the classical mantle. It continued to emphasize Latin and Greek, adding history, literature, and the fine arts; it prized the formation of character and intellect rather than usefulness and by the 1880s had evolved into what we now call the liberal arts ideal.[20]

The "utilitarian" paradigm moved toward specialization of knowledge.[21] The example of increasingly arcane scientific expertise, of newly insistent professional claims to authority, of greater division of labor in the economy all pulled in this direction. Inside and outside the college, division of *intellectual* labor promised efficiency and progress. Indeed, utilitarian reforms were thought to link the college or university with the "real" world outside it. In this sense they belonged with contemporary innovations like the agricultural experiment station and the teaching hospital; they anticipated such early twentieth-century phenomena as the "Wisconsin Idea" and the industrial research laboratory.

The liberal arts paradigm resisted specialization, insisted on broad grasp and integration of knowledge rather than expertise. It drew strength from the pervasive integrating influence of Scottish Common Sense philosophy in antebellum colleges and, later in the century, from idealist philosophy infiltrating from Germany. The liberal arts movement also gained salience

from the Victorian crisis of religious faith, which encouraged the search for new sources of cultural unity and spiritual vision to replace the loosening glue of belief in God. In 1895 Charles Eliot Norton summed up the animus of the liberal arts paradigm: "The highest end of the highest education is not anything which can be directly taught, but is the consummation of all studies. It is the final result of intellectual culture in the development of the breadth, serenity, and solidity of mind, and in the attainment of that complete self-possession which finds expression in character."[22] The analogy with the German *Bildung* ideal appears strong, but in fact advocates of the liberal arts looked more to Matthew Arnold than to Wilhelm von Humboldt.[23]

No one drew neat lines between the utilitarian and liberal arts paradigms. The same college president often urged both ideals in a single speech; advocates of each never hesitated to borrow notions native to the other. These labels identify the two major directions of reform, not two warring camps. If these clusters of ideas rested ultimately on incompatible principles, consistency has never been the hobgoblin of academic minds. The baffled offspring of this mixed marriage still bless our campuses today. But to understand the uses of German example, one must realize that college reformers felt tugged toward these two distinguishable, if seldom clearly distinguished, goals.

II

Amid this swirl of conflicts over the shape of American higher education, the University of Michigan took form. Michigan's young life powerfully influenced the evolution of the research university — and not merely because it became the largest American university by the 1870s. Henry P. Tappan's much-discussed innovations at Michigan in the 1850s and early 1860s provided the first American model of a modern university. Andrew Dickson White, "perhaps the most significant of the university builders in the United States," spent a decade at Michigan absorbing Tappan's ideas before becoming the first president of Cornell.[24] White's student and successor as professor of history at Michigan, Charles Kendall Adams, also followed him as president of Cornell and then went on to become one of the two presidents who transformed Wisconsin into a research university. (The other was Thomas Chamberlin, who

received graduate training at Michigan in the afterglow of the Tappan years.)[25] This is not even to mention Michigan's most celebrated president, James B. Angell. Adding only three names — Wayland of Brown, Eliot of Harvard, and Gilman of the Johns Hopkins — to this roster of Michigan men completes the list of key leaders of American university development from the 1850s through the 1880s.

In these years of rapid change, Michigan dedicated to astronomical research one of the three largest telescopes in the world; erected the first teaching laboratory for chemistry in the United States; established the first American professorships of modern history and of education; opened the first university hospital; taught apparently the first courses in subjects as diverse as meteorology, journalism, American literature, bacteriology, and forestry; and pioneered in coeducation (by 1898 awarding 53 percent of its undergraduate degrees to women).[26]

Such trail-blazing was not much evident in the University's beginnings. At its start Michigan had combined some organizational innovation with a very traditional curriculum. The effective history of the University began with its founding in Ann Arbor in 1837.[27] Lacking any clear American precedent for the role of a state university, the state's constitution writers turned to the French philosopher Victor Cousin's celebrated 1832 report on Prussian education — the most systematically developed and, thanks in large part to Cousin, the most admired of the German educational systems. Following Cousin, Michigan's lawgivers declared the University the capstone of a unified system of public instruction — a capstone, to be sure, with only dreams under it. The example of the Prussian rectorial system (reinforced possibly by sheer parsimony) also apparently suggested a rotating chancellorship, taken each year in turn by one of the professors.[28]

Prussian influence went no further. The University's internal workings, leaving aside its revolving chancellorship, mimicked faithfully the old-fashioned American collegiate model. Lacking any distinctive idea of what curriculum ought to be, the University's Regents copied the traditional classical pattern. The faculty even adopted the language of the 1828 Yale Report, though insisting that "mental discipline" was more important than "mental furniture."[29]

Tradition did not bring stability. Cramping poverty disfigured the University's first several years, domestic bickering its next few. The state's political leaders soon felt the need for a steadier hand at the helm than a one-year chancellor's; and the new constitution of 1850 mandated a permanent president. The Regents finally hired one in August of 1852.

III

The man they got — having failed to lure more prominent candidates — was Henry Philip Tappan.[30] A Congregational minister, sometime professor at New York University, writer of moderate talent on philosophic subjects, and great fan of Victor Cousin, Tappan offered as his chief recommendation for the Michigan job that he had recently stamped himself an authority on higher education. In 1851 he published a book called *University Education,* devoted largely to praising the Prussian system *à la Cousin:* "acknowledged to be the most perfect in the world." Indeed, Michigan's half-hearted visions of building a New Berlin in Washtenaw County's green and pleasant land probably helped to persuade this New Yorker to come west.[31]

For Tappan wanted "a University worthy of the name," by which he meant a Prussian one. He, like the Michigan constitution, imagined the University as capping a unified state system of public instruction.[32] However, Tappan regarded the existing curriculum at American colleges, including Michigan, as like "that of the Prussian Gymnasia." Ultimately he wanted college work to hive off into the state's secondary schools, which would then assume the current role of American colleges — that is, become Gymnasia. This shift would eliminate the solecism of "a University Faculty giving instruction in a College or Gymnasium."[33]

Tappan realized, however, that for the present the University must continue to give collegiate instruction; so he set as his "first object . . . to perfect this gymnasium."[34] To this end Tappan immediately instituted within the Department of Literature, Science, and the Arts "a scientific course parallel to the classical course," with English, history, and additional mathematics displacing Greek and Latin.[35] Tappan stretched the Prussian analogy pretty far here: the Gymnasium was resolutely classical. French example may have played a part in this divergence; the

state legislature's suspicion of the purely classical curriculum certainly did. Yet Tappan also felt the appeal of the utilitarian paradigm, especially in a frontier state.[36] There was to his mind nothing auxiliary or second-rate about utilitarian studies at the "Gymnastic" level: unlike Harvard and Yale, which segregated scientific from classical students, Michigan integrated its scientific students into the regular curriculum, so far as overlap of courses permitted.[37]

These reforms expanded the German ideal into what Tappan called "the comprehensive idea of a University." Here a student was supposed to find any instruction desired, including schools of agriculture, fine arts, industrial arts, and pedagogy (though, in fact, the student would have looked in vain for these at Tappan's Michigan). This comprehensive ideal would later resurface in the founding of Cornell by Tappan's disciple Andrew Dickson White. It would exercise decisive influence on the structure of American universities, especially state universities. Yet Tappan insisted that such schools could not form part of the University "properly speaking." This august entity by definition comprised only faculties of theology, law, medicine, and philosophy.[38] Rather, adding various subuniversity studies simply patched up deficiencies of American colleges, considered in their role as quasi-Gymnasia. And, "after all that can be done to perfect it," the "Undergraduate course" or "Gymnastic department" is "still limited to a certain term of years, and, necessarily, embraces only a limited range of studies."[39]

These limits seemed to Tappan a crippling defect, for "a system of Public Instruction can never be complete without the highest form of education."[40] Tappan was scarcely alone in recognizing the essentially propaedeutic nature of American colleges. Even the 1828 Yale Report declared the purpose of collegiate training *"to lay the foundation of a superior education."* Brown's great president Francis Wayland pointed out the need for an institution to fill "the space between the close of a collegiate education and a professional school."[41] Tappan's distinction lay not in recognizing the need but in trying to meet it — and in invoking a particular version of the German model to do so. A real university must, like Prussian ones, offer "those more extended studies in science, literature, and the arts, which alone can lead to profound and finished scholarship." Following "Prus-

sian principles of education," Tappan regarded such advanced study not as an ornament of the University's work but as "the culmination of the whole."[42]

He proposed, therefore, "to open courses of lectures" in which college graduates could pursue "the highest knowledge." He intended this "University Course," as he called it, to "form the proper development of the University, in distinction from the College or Gymnasium now in operation." All this, he assured his readers, was "in accordance with the educational systems of Germany and France." Tappan designed the University Course not only "for those who have taken the degree of Bachelor of Arts or the degree of Bachelor of Sciences," but for others as well "who by previous study, have attained a preparation and discipline to qualify them for pursuing it." The Course included twenty subjects of study, ranging from "Systematic Philosophy" through "Ethics and Evidences of Christianity," "Chemistry," and "Philology," to "The Arts of Design."[43]

In keeping with its character as true university work, the University Course discarded altogether the method of instruction by class recitation, still then common to all American colleges. Teaching was instead to "be conducted exclusively by lectures." The student would also have "full opportunity" to use "the library and all other means that can aid him in literary cultivation and scientific researches."[44] These "researches" probably did not mean what we now call original research (though that was not excluded) but something closer to looking up information independently, as an undergraduate is now said to "do research" for a term paper. Study in the University Course, unbounded by specified time limits, aimed at the achievement of erudition rather than the fulfillment of requirements. Otherwise, in method and level of teaching, the closest analogy in our present universities is probably to upper-level undergraduate lecture courses.

More to the point, the University Course resembled instruction in German universities. "This Course," Tappan wrote, "when completely furnished with able professors and the material of learning, will correspond to that pursued in the Universities of France and Germany."[45] Despite his pretensions, Tappan was at this date hardly an authority on the "German system."[46] Yet he had learned its broad structure and absorbed his own

version of its ideals. Independent learning based on lectures and reading, rather than recitation tested by regular examinations; pursuing the latest knowledge, rather than imbibing traditional learning; concentrating on a few chosen fields, rather than following a standard and rigid curriculum — in all these respects Tappan's program borrowed heavily and self-consciously from the German universities of his day.

Yet Tappan did not borrow the elements that loom so large in the received history of German influence and the rise of graduate education. He shied away from narrow specialization, avoiding even the German pattern of examination in one major subject and two minors. He ignored the German Ph.D. degree. Indeed, it is unclear whether Tappan originally expected students in "the University proper" to be examined or to take a degree, though he later did attach the master's degree to the University Course.[47] Increasingly aware of the prominence of research in German universities, he never incorporated it into the University Course. Far from hostile to research, Tappan urged it on his faculty.[48] But discovery of new knowledge never figured as a substantial *educational* ideal in his programmatic statements.[49] Tappan believed lectures and independent reading entirely adequate to convey the "highest learning" and apparently never mentioned the seminar, already the symbol of erudition in Germany.[50]

The most persuasive explanation for this pattern of selective adaptation is the simplest. Tappan's immersion in the problems of American collegiate education had decisively shaped his understanding and uses of the German university. This is not to deny his genuine and uncolored admiration for German education. But his Prussian enthusiasms inevitably filtered through his concerns about the inadequacies of American colleges — and the filtered remains made up his program for the advanced education of college graduates.

Thus, Tappan's "German" system at Michigan was very much part of the confused struggles to reshape the American college. Like Wayland at Brown, whom he much admired, Tappan had considerable sympathy with the "utilitarian paradigm." He worried not so much that the old classical course had grown irrelevant but that its relevance had grown too limited. With the increasing importance and complexity of science and technol-

ogy, colleges — especially those responsible to the public at large — needed to add such useful training to their curricula. These concerns led Tappan to the "scientific course" in the "Gymnastic department" and, more generally, to his astonishingly broad construction of the Prussian Gymnasium and his refashioning of the Prussian system into a "comprehensive university."

Yet Tappan's deepest educational loyalties lay with the "liberal arts paradigm." This informed both his view of the German model and his "University proper" in Ann Arbor. For Tappan, the culmination of education was the integrative culture that he associated with "the highest learning." Hence he quite naturally placed ideals like independent minds, thirst for knowledge, and breadth of learning at the intellectual core of the German university. (How much Tappan's notions actually owed to Humboldt's *Bildung* ideal is not clear.) And he isolated as the key institutions of the German university arrangements that appeared to him to support such ideals, such as the lecture system. By the same token, Tappan's preoccupations blinded him to the salience of other features of German universities — including the careerism and narrow specialization that had smothered Humboldt's dream in its cradle.

German influence on Tappan was authentic. The pedagogical structure of the University Course and, to some extent, even the liberal arts ideals underlying it really were borrowed from Germany — but from a Germany itself seen through the lens of the liberal arts paradigm.[51] *Tappan's* Prussian university, like his University Course, aimed to produce erudition grounded broadly in "truth, knowledge, beauty, and culture."[52]

Yet the University Course was not a direct ancestor of the liberal arts college any more than of the graduate school. It offered education at a much higher level than any mid-nineteenth-century college, in terms of both what it taught and how it taught it. Tappan despaired of the youngsters then entering college mastering such a curriculum. Those who wished *either* the preparatory classical studies of the Gymnasium *or* a simply utilitarian education would find it in college. True liberal education awaited those who had made it through college. Yet, though postgraduate, the University Course was hardly graduate school in the later sense: it lacked both narrow specialization and focus on research training. Although Tappan's University of

Michigan was the most celebrated German-model university in midcentury America, it resembled no mature form in the American university. German influence in American higher education followed a more tortuous path than historians have generally allowed.

Tappan's vision of university studies amounted to little more than a pipe dream when he left Ann Arbor. Why he failed is a matter of conjecture. That "such a scheme will require the erection of an observatory, a large increase of our library and our philosophical [scientific] apparatus, and additional Professors" did not help.[53] Tappan would not have been the only university reformer to stumble over a budget (though he did get his observatory). Lack of clientele probably proved an even greater obstacle. Michigan did institute several "postgraduate" lecture courses toward the end of his tenure; but who populated them is a mystery, since there were never more than two or three resident graduates in arts and sciences.[54] Still, in proposing to turn college graduates into learned Germans, Tappan began the serpentine movement that eventually led to graduate training at Michigan.

In the process, Tappan also stepped on too many toes. He cut the University's ties to locally powerful denominations, alienating influential church leaders. He notoriously served wine at his table, outraging evangelical opinion. He flaunted his Prussian affectations, offending true-blue Americans. He never bothered to hide his low opinion of the state legislature's wisdom and foresight, infuriating all good democrats. The wonder is that he survived for over ten years. In 1863 the Board of Regents, probably unjustly, certainly foolishly — and inevitably — fired him.

IV

Tappan's successor was a Methodist minister, a former Michigan professor named Erastus O. Haven, a man as backward-looking as he was disingenuous. Haven spent his six years in office scowling at innovation.[55] In his haste to restore the good old days, he immediately expunged from the catalogue the very Prussian statement on the "Organization of the University" that had appeared throughout Tappan's term; eventually he even dropped the word "undergraduates." Nevertheless, Tappan's University Course had taken on a life of its own, even if a feeble

one, as the route by which aspirants to the master's degree prepared for their examinations. On average, about six graduate students seem to have attended each year during the Haven interregnum — actually an increase over the Tappan years.[56]

When Haven resigned in 1869 to become president of Northwestern, it took the Regents two years to find a replacement. In the meantime Henry Simmons Frieze, professor of Latin, served as acting president. Frieze had come to Ann Arbor in 1854 and immediately caught Tappan's Germanophilia. The next year Frieze traveled in Europe, apparently attending lectures at Berlin during the winter term. "What he saw with his own eyes more than confirmed his previous impressions of the great excellence of the German gymnasial and university training, and after his return he never ceased to commend the application of German methods" to American schools and universities.[57]

It was therefore no surprise that Frieze revived Tappan's project of turning the state's high schools into Gymnasia. He even looked forward ultimately to replacing the A.B. with a certificate of proficiency, to be granted by the high-schools-become-Gymnasia. This would have amounted to an American version of the Prussian *Abitur,* though apparently minus the standardized examination required of Gymnasium graduates in Prussia.[58] Frieze actually inaugurated a scheme of admission-by-diploma for graduates of high schools inspected and approved by University of Michigan faculty — eventually including schools as far away as New York and New England.[59] This Michigan idea evolved into the now-universal American practice in which high school transcripts replaced the old, widely varying entrance examinations given by every college. But, outside the University at least, Frieze's ambitions seemed never quite understood. The high schools never became Gymnasia. College studies remained in college.

V

Serious development of graduate education took place after James B. Angell arrived in Ann Arbor in 1871.[60] Angell held the presidency until 1909. During his first two decades, all the distinguishing marks of today's graduate school appeared at the University: the distinction from both undergraduate education and postgraduate professional studies; the focus on training in

original research; the entrenchment of the seminar as the characteristic method of such training; the awarding of the Ph.D. as the research degree; and finally, in 1891-92, the formal organization of the graduate school.

James B. Angell was the chief architect of the modern state university, a giant of the founding era of the research university. But he was almost entirely marginal in the story of graduate education. For, truth be told, Angell was not much of an innovator. Unlike Tappan or Frieze, he cherished no broad vision of the future. Though fond of uttering appropriate pieties on public occasions, Angell really operated as promoter, fund-raiser, manager. In exercising these skills extraordinarily well, he carved out the niche that university presidents fill today. In this particular he exerted far more influence than his more celebrated contemporaries Charles W. Eliot, Andrew Dickson White, and Daniel Coit Gilman.

Angell's diverse interests, humane sympathies, and genius for compromise made him effective and popular. Moses Coit Tyler, who served under Angell at Michigan and a trio of presidents at Cornell — White, Charles K. Adams, and Jacob Gould Schurman — declared in 1896 that he would "more willingly live over again" his years under Angell than those under any of the others.[61] Angell had a good eye for talent: hired it, nurtured it, gave it a free hand. He often welcomed innovation but usually let others take the initiative — particularly in graduate education, since his heart lay with the college.[62] The graduate school evolved less under Angell's direction than under his benign smile — and under the long shadow of Henry Philip Tappan.

The key players in this drama were Henry Frieze and Charles Kendall Adams. Frieze was not only Tappan's most ardent disciple; he also enjoyed a friendship with the new president stretching back over twenty-five years, to the days when the schoolboy Angell sweated his Greek and Latin under Frieze, at that time running an academy in Rhode Island. This longstanding amity, together with his own experience running the University, gave Frieze probably more leverage than any other member of the faculty. After stepping down as acting president in 1871, Frieze embarked on his second European journey, this one of two years' duration. He renewed his admiration for the German university during a term at the University of Tübingen, "dili-

gently studying Sanskrit under that great scholar, Professor Roth."[63]

The other major actor, Charles K. Adams, imbibed Tappan's ideas direct from the source as a Michigan undergraduate. A second critical influence was the professor of history, Andrew Dickson White. White had arrived in Ann Arbor in 1857, Adams's freshman year, and immediately proved a rousing teacher. He "sent a sort of historical glow through all the veins and arteries of the University," Adams later recalled.[64] White introduced a vaguely German mode of instruction (possibly inspired by his own brief attendance at Berlin), replacing recitations with lectures and encouraging students to read beyond the textbook. His reliance on lectures soon spread to other professors — an enduring and substantial innovation. White also proposed somehow to "exercise" students in "original investigation," though this ambition vanished from the catalogue after his first year.[65]

Adams, graduating in 1861, continued his study of history under White, receiving in 1862 one of the first earned master's degrees. In that same year Tappan appointed him a junior faculty member. When White became president of Cornell in 1867, Adams replaced his mentor as professor of history.[66] Upon appointment, Adams immediately took a year's leave, to travel and study in France, Italy, and Germany. This *Wanderjahr* evidently stoked an already warm enthusiasm, inherited from Tappan and White, for the German university. Adams returned fired with the idea of extending, along German lines, White's reform of college history teaching.

This urge vented itself in a new course for seniors in 1871-72 — "something akin to the *Historische Gesellschoft* [sic] of the German universities." That is, a seminar: by some definitions, the first taught in the United States. Adams sent his students off to write papers, armed with lists of assigned topics and of "the best authorities in the University library"; and each week class discussion centered on one of these student essays.[67] The seminar method struck a chord among students.[68] It soon popped up in a few other fields. It is hard to know exactly what Adams's imitators assumed they were imitating, but occasional hints suggest self-conscious discipleship to Germany.[69]

Yet were Adams and his colleagues really teaching seminars,

properly called? In terms of the received history of graduate education, the answer is no. The Michigan seminars catered mainly to advanced undergraduates, not graduates. Nor did the students in them pursue original research as now understood in American Ph.D. programs.[70] Adams's seminar (evidence is lacking for the others) centered on carefully directed exercises in the use of sources. Students wrote fairly short papers, typically using printed collections of excerpts from original sources and following a "pamphlet of 'questions' with references" prepared for them by Adams. Far from pursuing independent projects, each week all students in the seminar studied the same subject. To be sure, the seminar involved "a higher grade of historical investigation" than lectures; but Adams never hinted that it looked toward original research or even preparation for it (though presumably a student who intended a career as historian would have enrolled in the seminar).[71] Not any desire to train professional researchers, but dissatisfaction with the rote learning, recitations, and elementary instruction of the old college curriculum, pushed the University's faculty toward the seminar.[72]

Yet these *Ur*-seminars probably resembled more closely than their descendants the practice of mid-nineteenth-century German universities. German universities, after all, had no "graduate" students, simply students. Seminars provided advanced training for those who intended to make a career in the field of the seminar — but not usually a career of original scholarship. Most students probably aimed to become Gymnasium teachers.[73] Indeed, until well after midcentury, training for pedagogy seems explicitly to have dominated the purposes of seminars.[74] German seminars did train students in research techniques, on the assumption that in this way a student achieved a sophisticated grasp of the subject matter. But something like Adams's small-scale exercises in using documents was probably much commoner than the original research projects on which American seminars soon came to center.[75] If the early Michigan seminars now look more like undergraduate than graduate study, this was not because they were unfaithful to their German models.

The seminar was only one of a batch of changes at Michigan in the 1870s meant to raise the level of college work. The lecture

method continued gradually to infiltrate instruction; the credit-hour system was introduced; and, in the late 1870s, the University expanded the number of electives permitted in undergraduate programs. Unlike the seminar, none of these had German associations (the lecture method having been around long enough at Michigan to lose its Teutonic coloration).

Yet, like the seminar, they had the unintended consequence of laying a firmer basis for postgraduate education. They freed faculty to teach more sophisticated and specialized courses and to devote more attention to advanced students. This upgrading of undergraduate education thus made realistic two changes in higher degrees introduced in the mid-seventies: the toughening of requirements for the master's and the awarding of the Ph.D. And, by 1880, twenty-one candidates for advanced degrees were enrolled in Ann Arbor. Not all were postgraduates: a reminder that "graduate education" had not yet jelled.[76]

The University followed the German model in its Ph.D. requirements: awarding it "on examination" for "special proficiency in some one branch of study, and good attainments in two other branches." A first degree and two years' residence were prerequisites. Research was probably from the beginning associated with the new degree in many cases, if not most. In 1879 the University formally declared that "faithful and industrious work" did not suffice; the candidate must also evince "power of original research and of independent investigation."[77] But it is not at all clear that the Ph.D. was primarily meant for researchers or even specialists; nor does research (as distinct from independent reading) seem always to have bulked large in Ph.D. work, especially outside the natural sciences.[78]

Frieze and Adams warmly supported all these innovations. Frieze hoped that they would lift Michigan "out of the narrow ruts" of the local college, make it "a national University."[79] But such scattershot changes did not create a true university. "It is manifestly difficult, if not impossible," Frieze wrote in 1880, "to change the Gymnasium into a University by merely building up a system of post-graduate courses, as a sort of annex to the old established curriculum of four years; for the post-graduate work will thus continue to be a mere subsidiary appendage, and the so-called Collegiate Department will still be the central and characteristic part of the institution."[80]

Frieze had long hungered for the day when Tappan's dream might take flesh in Ann Arbor. He wanted collegiate studies, pending their relegation to the high schools, pushed back into the first year or two of the Michigan course, leaving three years for university studies proper — explicitly on the model of the German universities.[81] Frieze found a zealous second in Adams. Angell, while not hostile to such ideas, was hardly the man to transform Michigan into Tappan's notion of Berlin. But, in 1880, fate intervened, in the form of Secretary of State William M. Evarts. Angell left Ann Arbor on a diplomatic assignment, and Frieze once again became acting president.

Acting presidents are not supposed to revolutionize their institutions. They do, however, have to respond to emergencies. In the spring of 1881 Frieze discovered a convenient pair of them. Judge Thomas M. Cooley, the star of the Law School, had long chafed at expounding the rudiments to budding lawyers. He now threatened to quit, unless he could shift his teaching to constitutional law and history. Frieze liked this idea, even proposed that Cooley offer his lectures in the arts faculty as well as the Law School. Cooley replied that his courses might then be grouped with kindred subjects in a complete program.

Frieze saw in this suggestion the means to douse another fire. Charles K. Adams's old teacher Andrew D. White was wooing Adams for Cornell, promising to let him organize and run a new school embracing historical and political studies. Frieze offered to make Adams dean of a similar new outfit at Michigan — and trumped White by putting the celebrated Cooley on Adams's faculty. Thus was hatched the School of Political Science. Adams mainly worked out the plans.[82] By September the School was in operation, offering courses (mostly lifted from the existing catalogue) ranging from political theory to forestry.

Its presiding deity was Henry Philip Tappan. Adams, presumably in consultation with Frieze, designed the program to correspond to Tappan's vision of the true university — hitherto found only east of the Rhine. Students would enter the School of Political Science after completing their "secondary or gymnasial training" in the ordinary "required studies" of the first two years of college (at Michigan or elsewhere). Once admitted to the School, students learned through the methods proper to a university: lectures and seminars. After a minimum of three years'

study, they became eligible to present a thesis and take oral examinations. The thesis had to show "elaborate study of the subject considered" and, "so far as is practicable . . . original research." The orals tested "special proficiency" in one branch of knowledge and "good attainments" in two others. A sufficient degree of "excellence" on both thesis and examinations earned the Ph.D. The three-year term, the lectures and seminars, the thesis and examination, the major field with two minors, the Ph.D. as the ordinary university degree were all familiar features to German students. The School of Political Science was as close a replica of a German university as anything that had ever existed in America — or ever would.[83]

So close that it puzzled most of the University's faculty. The new School had been devised and rushed through the Regents during the summer vacation.[84] The faculty returned in September to discover this new bird in their roost. The School of Political Science as such roused no notable opposition, but the awarding of the Ph.D. to its graduates ignited an explosion. Angell's son reported to his father a "quite warm" dispute pitting "Frieze & Adams vs the crowd." The crowd feared that awarding the Ph.D. after only five years of study "would cheapen the degree."[85] Frieze called them old fogeys, simply afraid to do anything differently from Harvard.[86] In any case, the Regents postponed a final decision until Angell's return, while the faculty established a committee to report on the question — a committee that included Frieze and Adams among its five members.[87]

Both men conceived the School of Political Science in the larger context of reforming the traditional American college. Two months before Cooley suggested the new program, for example, Adams had written to Angell about allowing students more freedom of choice, even permitting the better of them to finish in three years or proceed to a Master's degree in four. Frieze, in reporting to the Regents in June 1881, had suggested extending the principle of the new School to the entire faculty of Literature, Science, and the Arts.[88]

Frieze and Adams now used the faculty committee as a vehicle to do just that. Its report recommended including the rest of the arts and sciences faculty in this "true University." A few modifications reassured the "old fogeys." Students in the new system

came under tighter faculty supervision; they had to complete assignments and tests in whatever courses they took, instead of merely attending lectures; their examinations sounded tougher. Ultimately, the faculty further insisted that the Ph.D. thesis "evince power of research and of independent investigation" — the standard adopted in 1879 — and that doctoral candidates learn enough French and German "for purposes of study." But with these concessions (and with the support of Angell, who returned at midyear) Frieze and Adams, after a year of defeats and regrouping, at last pushed through the faculty in the spring of 1882 an idea of university education dramatically new for America.[89] Its name echoed Tappan: the University System.[90]

Conventional college and postgraduate programs remained in place alongside the University System.[91] At the end of the sophomore year, having completed what Frieze thought of as Gymnasium work, students elected either the ordinary credit system (itself a recent innovation) or the University System. The credit-system students took courses for two more years, accumulated credits, and earned a bachelor's degree, as American undergraduates still do. Students who opted to enter the "true University" attended lectures, took seminars, and pursued independent work, all focused in groups of studies. (An attempt by Frieze and Adams actually to divide the arts and sciences faculty into four subfaculties — professedly following German practice, though not in fact very closely — had failed of adoption.[92]) At the end of two years, the student took examinations in one major field and two minors. Students who merely passed received a bachelor's degree. Students who passed with distinction and presented an acceptable thesis received a master's degree. At the end of the third year came another examination in the three fields and another thesis. Students awarded the bachelor's degree at the previous examination now had a chance to present a thesis along with the examination and earn a master's. But, for those students who had earned the master's a year previously, leaping this final hurdle brought a Ph.D.

This seemed very like Tappan's German program of advanced education. And both structure and inspiration were indeed similar. Yet much had transpired in the nearly two decades since Tappan's ouster. Graduate education had become a reality (if not exactly a numerically overwhelmingly one), both at Mich-

igan and elsewhere. The two or three "resident graduates" of the Tappan years had grown to a couple of dozen. Tappan's University Course took its rather airy form in a college populated by teenagers; Frieze and Adams could not help but take into account a critical mass of career-minded twenty-five-year-olds. Moreover, Michigan faculty now had competing American programs of advanced education to measure their own against, not just foggily understood German ones. In the debate over the University System, professors drew comparisons to the Harvard Ph.D. as often as the German one.[93]

And the example of Harvard, Yale, or Hopkins weighed on the side of greater specialization, heavier stress on research. Research and publication, and with them specialization, had by this time worked their way into the normative conception of the university professor (though not yet the college professor).[94] Professors, engaged in research, expected their advanced students to work with them; students, for their part, began to expect training in research as part of normal preparation for the life of professor.

Both professors and students began also to look upon the Ph.D. as certifying this sort of training. The degree was a foreign transplant brought in, repotted, watered, and beloved only by professors; it appealed, at first, to no other occupational group. Not surprisingly, those who hoped to become professors comprised most of the candidates for it. Thus the degree itself became linked to professorial training — especially training in that skill which distinguished the high-powered new-model professor from the tattered older version: research. This linkage was reinforced by the centrality of specialized research in the careers of German professors, even though the educational program of German universities did not focus on research. The Ph.D. was, in Germany, the ordinary arts degree. But as the professor's degree in America, it acquired the character of the German professor rather than of the program in which he lectured.

Adams and Frieze's version of the German model had thus evolved some distance from Tappan's. As Tappan's disciples they kept alive a conception of German university education as culturally formative and broadly integrative. Yet, with its focus on three limited fields and its specialized thesis, their University

System was more cramped than Tappan's University Course — even if closer to the realities of German education. They had diluted Tappan's understanding of the German system, informed by the incipient liberal arts ideal, with a substantial admixture of utilitarian motives. The compromises forced on them by sceptical colleagues pushed them further in this direction.

Thus research held a secure place in the University System. Both Frieze and Adams believed that University professors bore an obligation to expand knowledge. The flexible rubrics of the University System allowed students to train for a specialized academic research career; a few of them, particularly in the natural sciences, seem to have done so.[95] President Angell went overboard in claiming that "original research of real worth will be expected in every case." In fact the requirements only mandated research "so far as the resources of the University permit" — not a stiff standard for students writing theses in, for example, American colonial history. Adams and Frieze would probably not have gone even this far, for they did not regard the Ph.D. as quintessentially a research degree. But their colleagues did and insisted that every thesis demonstrate the *capacity* for research.[96]

Yet the University System did not chiefly mean to train researchers or specialists.[97] Lecture courses, independent reading, the occasional seminar were expected to dominate workloads — as one might suppose when students began after the sophomore year. The typical thesis probably amounted to nothing more ambitious than today's undergraduate senior honors thesis. Nor did the curriculum focus effort on one discipline — in contrast to the graduate programs then developing at the Hopkins and elsewhere.[98] Whether the major and minor fields bore *any* relationship to each other depended on the inclinations of particular students and professors.[99] The University System fostered more concentration than the credit system, but it aimed no more at specialization than at the production of scholars.

The real intention was to produce effectively educated citizens. Frieze hoped to give students "a large and thorough preparation for the duties that will devolve upon them as citizens and members of society," to "fit them for those public duties to which every citizen is liable to be called." Specifically, the School of Political Science should help to repair "the ignorance and unfit-

ness of [government] officials."[100] Adams shared this outlook.[101] And on this point both men were in harmony with Angell — which provides another reason for his support of the University System. In stressing the usefulness of such training — "preparation for duties" as distinct from formation of character — all three were leaning toward the utilitarian paradigm of college reform.

Finally, though, the University System subordinated utility and special training to wider ideals. An advanced education was here not tightly focused but integrative. In the view of Frieze and Adams, even students training as specialists should learn to put their advanced training in the service of the common weal. Even students intending a research career should learn to fit their research into broader advances in knowledge. And, conversely, even students seeking a general education should learn to handle some special field with technical sophistication. Advanced education was still to be liberal education, though less full-blooded than in Tappan's version. As a later advocate of the University System explained, "The argument for a certain degree of specialization does not rest upon the demand for specialists but upon the claim that some practice in specialization is necessary to complete a liberal education. An educated man ought to be able to pass just criticism on the intellectual products of his own time..."[102] It was this sort of advanced but liberal education that Tappan believed German universities to supply. It was to provide this education that Frieze and Adams tried to reform the College — and simultaneously channel the emerging demand for graduate training — into the University System.

There is little point in rehearsing the actual deficiencies of the University System in supplying the article in question, which were considerable. There is even less reason to speculate on whether the University System could have realized this perhaps utopian vision. For the System sputtered and wheezed little past wishful thinking.[103]

Few faculty or students seemed to know what to do with it. Frieze and Adams could persuade their colleagues to approve the institutional changes constituting the University System; they could not implant in their minds the larger vision of the German university that infused these arrangements with appealing meaning. Only a handful of students entered the pro-

gram.[104] At first the majority proceeded directly to master's degrees; but by 1886 the old notion had decisively reasserted itself that the bachelor's was the proper undergraduate degree; and the University System became simply an alternative to the credit system as *preparation* for an advanced education. No undergraduate ever proceeded to a Ph.D. on the University System. When Adams left for Cornell in 1885, only Frieze remained to speak for Tappan's idea of advanced education. He died in 1890. In effect, the University System had predeceased him.[105]

Its demise in no way cramped the growth of other species of advanced education. Indeed, what became the conventional form of graduate education flourished in impudent good health — and without, it seems, much deliberate feeding or organized planning. Graduates showed up to work for an advanced degree, and faculty dealt with them catch-as-catch-can.[106] Angell announced proudly in 1883 that the number of graduate students had "nearly doubled during the last year." In that year the University awarded to graduate students thirteen master's degrees, though no doctor's. By decade's end there were five times as many graduate students as in 1881, and Angell was handing out three or four doctorates annually.[107] By 1891 the amount of graduate work had swelled to the point that the College set up a Graduate School to manage the operation.[108]

Graduate education, like the University System, ran on German lines. The infant Graduate School was swaddled in repeated invocations, almost ritual incantations, of its German pedigree.[109] Professors and students alike seem to have looked to Germany as their intellectual homeland. But their Germany was not Tappan's, Frieze's, or Adams's. It was the land of the German *professor,* not of German *education.* The operative image now of the German university refracted the Berlin of the research ideal, not of the *Bildung* ideal. The Ph.D. became linked exclusively to specialized training in original research. Descriptions of seminars and other graduate courses stressed their technical nature and highlighted the distinction between graduate and undergraduate work.[110] Beginning in 1894, Ph.D. candidates had to choose as their two minor studies "cognate[s] to the major"; one of them could be simply "a more thorough treatment" of the major. The language requirement insisted on French and German "sufficient for purposes of research," as opposed to the

earlier "purposes of study." The Ph.D. thesis now *had* to be "an original contribution to scholarship or scientific knowledge," "confined within narrow bounds," requiring at least "the greater part of one academic year" to prepare.[111]

The graduate student's virtue, one Michigan professor wrote in 1892, "is an independent scholarly grasp of one or two subjects." This man conceded that imparting a "general education" is "an honorable calling" — may even be good for the researcher in small doses — but "it is not the proper function of a university professor."[112] So much for Tappan. General education belonged in the preparatory years of the college. Advanced education meant specialized research training. Just when the liberal-arts paradigm was finding a permanent home in the liberal-arts college, the utilitarian paradigm was settling down for a long winter's nap in (among other places) the graduate school.

These sharp distinctions between undergraduate and graduate education did not force themselves on the University. To the contrary, the *inability* to find any real difference between the supposed two levels embarrassed Michigan professors time and again in the early years of graduate education.[113] They drew the line not to map an existing divide but to create one. An increasingly specialized and research-minded professoriate believed that mature knowledge should belong in specialized divisions, separate from general culture; and they acted so as to give life to their belief. By doing so they brought to birth the Graduate School and killed the University System.

VI

Tappan's vision of the American college transformed into a true university starved in an environment that gave it no sustenance.[114] For by the 1880s the American college had reconstructed itself in forms that left no place for any scheme like the University System. On the one hand, the liberal arts paradigm had defined the *college* as a place where students absorbed general culture before going on to advanced training. The turn-of-the-century college might voice the Mr. Chips ideal of the Amhersts and Williamses; it might fly the flag of maturity-through-independence, like the Harvards and Michigans with their elective systems. But general education, understood as the province of the college, was inevitably understood as preparatory.

On the other hand, the utilitarian paradigm increasingly expressed itself in specialized training, with knowledge cut up into segments related only instrumentally. To the traditional law schools, medical schools, and (more recent) divinity schools were added engineering schools, business schools, education schools, and the like. The new graduate schools of arts and sciences resembled these, with the crucial difference that the graduate school did not define its subject (its equivalent of engineering or divinity) as any applied skill but as "pure knowledge."[115] This knowledge meant not the general culture of the college but specialized disciplines only marginally related to the discourse of other specialized disciplines. And advanced education meant training in research in one of these specialized disciplines. A student who moved from the preparatory education of the college to the advanced education of the graduate school left general culture behind.

And this increasingly clear division of labor brought with it a change in the meaning of "the German model." If Michigan is typical, German influence neither increased nor diminished between the 1850s and the 1890s. (And the histories of other major universities do suggest, mutatis mutandis, a similar pattern.[116]) But what German example was held to teach varied enormously from time to time and place to place. Broadly and very tentatively speaking, in the 1850s (and probably earlier), the university-Gymnasium distinction, the lecture system, and perhaps the *Bildung* ideal suggested ways to upgrade college education — but probably nothing like the professional graduate school. Yet by the 1880s the German research ideal suggested, or at least legitimized, just the sort of undergraduate-graduate distinction institutionalized in the graduate school. To be sure, German universities had changed over these years; most to the point, by the 1880s seminars and laboratories had developed into highly visible institutions dedicated to research. But more important were changes in the American context, notably in the character of the professoriate, that encouraged American academics to read the German evidence differently.

Out of the cocoon of the old-fashioned American college, then, emerged that strange schizophrenic native to the New World, the American university. The graduate school and the new-model college evolved as distinct, largely unconnected enti-

ties. In them the same faculty often taught, students moved from one to the other; but, in each, different educations and different conceptions of knowledge prevailed.

For a while in the 1850s and 1860s, it looked as if the Prussian road would lead Americans to something rather like a supercharged liberal arts college, drawing students from a souped-up high school. But, around the 1870s, most American academics began interpreting the highway markers differently; so the road veered sharply. More precisely, Americans discarded the *educational* program of German universities.[117] They then took the German invention of highly specialized *professorial* research — not, properly speaking, a part of German university education at all — and built on it the advanced segment of American university education. Precisely because specialized research training made no sense for most university students, such advanced education had to be split off from the ordinary university course. This division compounded the irony of stealing the ordinary German degree for the use of the graduate school.

This transmogrification of German practice was the really substantial American contribution to the research university. The Germans invented the research ideal. The Americans invented an institution to house and perpetuate it. By throwing this distinction into sharper relief — and by clearing away the underbrush that has obscured some roads not taken — Michigan's story helps to clarify the knotty problem of German influence in American university history.

Perhaps it also throws a small ray of light on some current controversies. There is much gnashing of teeth these days about the shabby state of college education, as well as about overspecialization and fragmentation of knowledge. College students walk away with their sheepskins but with no idea of their place in a larger culture, no comprehension of forces that are transforming their world. At a very different level, experts no longer see how their work relates even to remoter reaches of their own disciplines. The gnashing may be overly vigorous: humanity seems always to be declining from the golden past. But few people assigned to any outpost of the war on ignorance would deny all credence to the complaints.

Yet complaint is easy, diagnosis rather more challenging. All hints must be welcomed, and here is one. As Michigan's history

makes clearer, the founding principles of the graduate school defined graduate training in self-conscious opposition to general education and common culture, insisted on specialization as the higher knowledge. The ever-narrowing gyre of specialization was the flight plan of the graduate school from its launching. And the doctoral students trained in specialized research then become the professors entrusted with general education in the colleges. Often, whatever equipment they have for this task was left over from their own college years or acquired only in passing during graduate school. A professor whose higher learning consisted almost entirely of research in molecular biology might fail to give her students profound insight into the distinctive characteristics of scientific knowledge or the social role of modern science. Is this entirely astonishing? Having devised special isolation chambers in which to nurture our intellectuals, apart from any larger culture, we ought not to throw up our hands if they come out narrow-gauged. The German ideal of *Bildung* had its limits, but we might yet spare a tear for its death. The German research ideal has come home to roost.

NOTES

[1] The most cogent summary of the story is Laurence R. Veysey's justly influential *The Emergence of the American University* (Chicago, 1965), esp. pp. 10, 12-13, 125-33, 153-58.

[2] See, e.g., James McLachlan, "The American College in the Nineteenth Century: Toward a Reappraisal," *Teachers College Record*, 80 (1978): 287-306. There are three especially consequential figures whose personal visions and intellectual progeny, while recognized in the historical literature, have not yet been sufficiently taken into account: Eliphalet Nott of Union College, Francis Wayland of Brown, and Henry P. Tappan of Michigan. Because university history, even more than military history, is written from the standpoint of the (current) victors, the importance of an institution like Harvard is exaggerated all out of contemporary proportion, while that of a place like Union is diminished into anachronistic insignificance. The facts are that Brown and Michigan were probably the most talked-about and influential exemplars in the formative decade preceding the emergence of modern universities (c.1855-65) and that the presidents who gave them prominence, Wayland and Tappan, were both nurtured by Nott at Union and freely acknowledged their debt to him. Wayland and Tappan, in turn, were each mentors of the founding president of Cornell, Andrew Dickson White, influencing his educational ideas far more than did the teachers at White's alma mater, Yale. White, along with Gilman of the Hopkins, was the key figure in the creation of the modern university.

[3] This part of the saga — treated, as until the 1970s it almost invariably was, as merely preface to the *real* story of American higher education — is summed up in Veysey, *American University*, pp. 1-18. The standard general history of the subject, now visibly aging though still very useful, is Frederick Rudolph, *The American College and University: A History* (New York, 1962), partly brought up to date by Rudolph's *Curriculum: A History of the American Undergraduate Course of Study Since 1636* (San Francisco, 1977). For a balanced review of the (considerably revisionist) historiography up to about a decade ago, see McLachlan, "American College in Nineteenth Century."

[4] Some uncertainty prevails about who went first to Germany and when. This confusion about priority matters little, for it is clear that significant scholarly pilgrimages began immediately after the War of 1812 when men like George Ticknor and Edward Everett studied in Germany and then returned to apply their foreign learning (at least temporarily and often without much effect) in American colleges. Ultimately some nine or ten thousand Americans matriculated in German universities between the end of the Napoleonic Wars and the outbreak of the First World War — often, however, seemingly only for a term. The statistical data are not full enough to permit more than broad generalizations about patterns of American attendance at German universities. The University of Göttingen seems to have been at first the most popular destination, owing both to its receptivity to English speakers — its Hanoverian rulers happened also to be kings of England until 1837 — and to its calculated efforts to make itself attractive to *Ausländer.* (On this policy, essentially mercantilist in intent, see, e.g., Ilse Costas, "Die Sozialstruktur der Studenten der Göttinger Universität im 18. Jahrhundert," in *Anfänge Göttinger Sozialwissenschaft* [Göttingen, 1987], pp. 128-29.) Long before midcentury, however, Berlin, Halle, and Leipzig had achieved parity with Göttingen in numbers of American students. Heidelberg also became popular after about 1850. By the 1860s Berlin had become preeminent in attracting Americans.

There is no thorough study of the whole phenomenon, despite its importance to the German model of American university history. But see Carl Diehl, *Americans and German Scholarship, 1770-1870* (New Haven, 1978), esp. chap. 3, and Jurgen Herbst, *The German Historical School in American Scholarship: A Study in the Transfer of Culture* (Ithaca, 1965), esp. chap. 1; the footnotes in Diehl and Herbst provide a reliable guide to the older sources. Histories of the relevant German universities themselves do not have much to say about American students, not even the recent flood of books celebrating the 250th anniversary of Göttingen (though some of this latter batch are helpful in understanding the subjects Americans went there to study, notably Bernd Moeller, ed., *Theologie in Göttingen: Eine Vorlesungsreihe* [Göttingen, 1987], especially the essay by Rudolf Smend that discusses the great magnet J.G. Eichhorn). The records of the "American Colony" in Göttingen (a sort of nondueling *Burschenschaft* for U.S. students) have been printed: P. G. Buchloh and W. T. Rix, *American Colony of Göttingen* (Arbeiten aus der Niedersächsischen Staats- und Universitätsbibliothek Göttingen, Bd. 15; Göttingen, 1976). They provide some sense of what life was like for Americans at the university — and of how superficial their connection with German academic life commonly was.

One of the greatest obstacles to serious work on German influence in American universities is the dilapidated state of German university history itself, fallen upon very hard times since the pioneering work of Friedrich Paulsen around the turn of the century. It is often difficult simply to find out what

professors and students actually did in the German universities where Americans studied. The state of the field is described in James Turner's sour and didactic "German University History in Comparative Perspective: The Case of Göttingen," *Archiv für Sozialgeschichte*, forthcoming. The closest thing to a recent general history of modern German universities — though concerned more with their external relations than their internal development — is an English-language work: Charles McClelland, *State, Society, and University in Germany, 1700-1914* (Cambridge, 1980).

[5] Among these educational investigators were Charles W. Eliot, the creator of modern Harvard, Daniel Coit Gilman, founder of Johns Hopkins, and Michigan's founding president Henry P. Tappan. Travelers with other purposes who nevertheless devoted considerable time to studying German universities while on their journeys included Andrew Dickson White, founding president of Cornell, and Charles Kendall Adams, White's successor at Cornell (1885-92) and then president of Wisconsin (1892-1902).

[6] The most helpful monographs on the episodes mentioned are David Tyack, *George Ticknor and the Boston Brahmins* (Cambridge, MA, 1967), chap. 3; Hugh Hawkins, *Pioneer: A History of Johns Hopkins University, 1874-1889* (Ithaca, 1960); idem, *Between Harvard and America: The Educational Leadership of Charles W. Eliot* (New York, 1971); and Robert A. McCaughey, "The Transformation of American Academic Life: Harvard University, 1821-1892," *Perspectives in American History*, 8 (1974): 239-332.

[7] Influential examples include Burton J. Bledstein, *The Culture of Professionalism: The Middle Class and the Development of Higher Education in America* (New York, 1976); Thomas L. Haskell, ed., *The Authority of Experts: Studies in History and Theory* (Bloomington, IN, 1984), Part Two; and Magali Sarfatti Larson, *The Rise of Professionalism* (Berkeley, 1977). Professionalization and historiographically related concepts like the search for cultural authority are useful, for professionalization was certainly *one* of the things involved in the emergence of the modern professoriate and research university, with all of the specialization involved in both. Whether professionalization is *the* key to understanding these developments is, to say the least, debatable. In any case, professionalization makes a poor organizing theme for university history: it is too blunt an instrument, misses too much of what was going on within colleges and universities. In part, this latter defect arises because the sociological concept of professionalization developed (obviously) with reference to the structure of certain adult careers (initially, the traditional professions). Professionalization thus refers only secondarily and *selectively* to education, however important education may be in the processes of professionalization. Hence, conceptually "external" to education, referring primarily to broad social-structural trends, professionalization fails to take account of much that is distinctive within universities. One would think these points too obvious to need stating, but some recent writing on educational history unsettles that opinion.

These same points apply, perhaps *a fortiori*, to the ubiquitous and usually loose deployment of "the middle class" as causal explanation, often used along with professionalization. "The middle class" has been the darling of what might be called the "soft Left" among American historians. But rising on the horizon is a conservative analogue, the "new middle class" or "information class," a notion identified especially with Peter Berger, which threatens to be

flung about as loosely as "the middle class." Few would deny that "middle class" or "information class" have their uses, but they need to be carefully defined, rigidly controlled, and empirically grounded in every application.

[8] A recent study sensitive to both the pull of German example and American deviation from it is Nathan Reingold, "Graduate School and Doctoral Degree: European Models and American Realities," in *Scientific Colonialism: A Cross-cultural Comparison,* ed. Reingold and Marc Rothenberg (Washington, 1986), pp. 129-49. Thomas Neville Bonner has traced similar issues in medical training in a paper delivered to the New Orleans meeting of the American Association for the History of Medicine, May 1988: "The German Model of Training Physicians in the United States 1860-1914: How Closely Was It Followed?" (I owe this last citation to my colleague Martin Pernick.)

[9] "Qualified" means that the student had studied at a *Gymnasium* and earned an *Abitur* — also institutions of which real American equivalents never developed, though the University of Michigan moved in the direction of promoting them in the 1870s and 1880s. It has been argued that the elective system was the American equivalent of *Lernfreiheit,* but this seems a pretty faint shadow of the real thing.

[10] Indeed, most German students never even took a university degree but used their university studies as preparation for a *Staatsexamen.*

[11] The editors of the American Historical Association's newsletter probably thought they were printing a truism when the newsletter observed last January: "Professional historical training in the U.S. began in the last quarter of the nineteenth century with the establishment of German-model seminars at The Johns Hopkins University, based on the work of Americans trained in the great universities of Germany." "Washington Notes," in American Historical Association, *Perspectives,* 26, no. 1 (Jan. 1988): 3.

[12] Charles William Eliot, *A Turning Point in Higher Education: The Inaugural Address of Charles William Eliot as President of Harvard College, October 19, 1869* (1869; rpt., Cambridge, MA, 1969), p. 7. This distance from the German model did not much lessen during the remainder of Eliot's career: see Hawkins, *Between Harvard and America,* passim.

[13] See, e.g., Veysey, *American University,* pp. 158-59. The best study of the first decades at the Hopkins is Hawkins, *Pioneer.*

[14] Carl Diehl, e.g., believed that Americans fundamentally misunderstood, even were incapable of understanding, the seminal principles of German scholarship (*German Scholarship,* esp. pp. 145-53), a position echoed more tentatively by Lenore O'Boyle ("Learning for its Own Sake: The German University as Nineteenth-Century Model," *Comparative Studies in Society and History,* 25 [1983]: 21). Nathan Reingold asserted (without citing examples) that "many" American academics thought that the Ph.D. was the sole prerequisite for university teaching in Germany ("Graduate School," p. 144.) Such "mistakes" are then used as partial explanation of why American practice differed from German.

[15] Robert Morris Ogden, ed., *The Diaries of Andrew D. White* (Ithaca, 1959), pp. 98-108. Cf. Buchloh and Rix, *American Colony,* passim.

[16] Richard Hofstadter and Wilson Smith, eds., *American Higher Education: A*

Documentary History (2 vols.; Chicago, 1961), 1:256, 262-63; Motley to his mother, 1 July 1832, in G. W. Curtis, ed., *The Correspondence of John Lothrop Motley* (New York, 1900), 1: 19-23.

[17] On the inherited traditions, see not only Rudolph, *Curriculum*, but especially Samuel Eliot Morison, *The Founding of Harvard College* (Cambridge, MA, 1935), chaps. 1-10, notably chap. 4. Two recent studies cast light on the Renaissance origins of this curriculum and thus make clearer why it began to seem obsolete in the nineteenth century, though not much earlier: Anthony Grafton and Lisa Jardine, *From Humanism to the Humanities: Education and the Liberal Arts in Fifteenth- and Sixteenth-Century Europe* (Cambridge, MA, 1986), and Bruce A. Kimball, *Orators and Philosophers: A History of the Idea of Liberal Education* (New York, 1986).

[18] The Yale Report was published (slightly abridged) as "Original Papers in Relation to a Course of Liberal Education," *The American Journal of Science and Arts*, 15 (1829): 297-351. Most of it is reprinted in Hofstadter and Smith, *American Higher Education*, 1:275-91, from which the quoted phrase is taken (p. 278).

[19] For the sake of necessary compactness, this statement grossly oversimplifies a very confused situation. Clear distinction of these two paradigms is possible only in retrospect, though contemporaries were certainly aware of tugs in these directions.

[20] We know of no other scholars who have conceived this formative period of modern college education in exactly these terms. Nevertheless, this formulation seems the most plausible reading of the secondary and primary literature. Veysey, *American University*, comes close to this model, identifying three paradigms ("Liberal Culture," "Utility," and "Research") as competing with the old "Mental Discipline" for the soul of the university. Veysey fails to see the longer historical context and meaning of the old classical curriculum (which he identifies solely with its antebellum defense as "mental discipline"). His category of "research," we suspect, had less to do with *educational* programs than with other faculty activities, at least until very near the end of the century. This was, at any rate, true at Michigan, as appears below.

To say, as we do, that "the liberal arts ideal" had taken shape by the 1880s is to ignore a host of difficulties as to what it was: see Kimball, *Orators and Philosophers*.

[21] The phenomenon of intellectual specialization has not received the study it deserves. But see John Higham's introductory essay "The Matrix of Specialization" in Alexandra Oleson and John Voss, eds., *The Organization of Knowledge in Modern America, 1860-1920* (Baltimore, 1979), pp. 3-18.

[22] Charles Eliot Norton, "Harvard University," in *Four American Universities: Harvard, Yale, Princeton, Columbia* (New York, 1895), pp. 32-35 (page reference *sic:* pp. 33-34 are occupied by a photograph). The relation of this educational ideal to the broader Victorian ideal of "culture" goes without saying.

[23] The idea of *Bildung* resists easy definition. Central to it is the self-formation, through (essentially classical) education, of intellect, will, and spiritual capacity, culminating in an integrated individual. It took shape, most influentially in the writings of Humboldt (1767-1835), more than half a century earlier than the Anglo-American liberal arts ideal. It differs from the liberal arts ideal in

conceiving education as a more self-consciously active task for the individual, versus a somewhat more passive formation of pupil by teacher and curriculum in the liberal arts ideal. (This different emphasis is not surprising when one considers that nineteenth-century German students typically started university at least two years older than English or American students and, perhaps in consequence, were a good deal more on their own once they got there.) *Bildung* also cannot be understood apart from its social matrix. Far more than the liberal arts ideal among the English and American middle classes, *Bildung* was inextricably mixed up with the cultural formation and sense of identity of the German *Burgertum.* The literature on Humboldt and the *Bildung* ideal in German education is daunting; a reasonable starting point is Clemens Menze, "Grundszüge der Bildungsphilosophie Wilhelm von Humboldts," in *Bildung und Gesellschaft: Zum Bildungsbegriff von Humboldt bis zur Gegenwart,* ed. Hans Steffen (Göttingen, 1972), pp. 5-27.

Matthew Arnold in person commonly evoked less enthusiasm than his ideals in the abstract. Jonathan Marwil reports (personal communication, referring to Ann Arbor *Courier,* 25 Jan. 1884, p. 2) that Arnold got a distinctly cool reaction, at least in the local press, when he spoke at the University of Michigan in January of 1884.

[24] Quotation from Reingold, "Graduate School," p. 135. For White's reliance on Tappan's vision, see Glenn C. Altschuler, *Andrew D. White: Educator, Historian, Diplomat* (Ithaca, 1979), p. 42.

[25] On Adams's and Chamberlin's roles at Wisconsin, see Merle Curti and Vernon Carstensen, *The University of Wisconsin: A History, 1848-1925* (2 vols., Madison, 1949), esp. 1: 545-46, 561-79. How much his Michigan connection affected Chamberlin is obscure; but the "group system" that he tried to introduce at Wisconsin was reminiscent of the Tappan-inspired "University System" developed by Adams and others at Michigan in the early 1880s (see below); and Adams was one of the persons consulted by Chamberlin before the latter settled into the presidency of Wisconsin.

[26] This paragraph draws heavily on an unpublished 1987 paper by Margaret L. Steneck, "The Courage to Lead." The statistics on degrees awarded to women in 1898 come from Rudolph, *American College,* p. 323; the reference to pioneering instruction in forestry occurs in Arthur Lyon Cross, "The University of Michigan in Ann Arbor, 1837-1937," in Wilfred B. Shaw, ed., *A University between Two Centuries: The Proceedings of the 1937 Celebration of the University of Michigan* (Ann Arbor, 1937), p. 58. These "firsts" get tricky. Michigan opened the first university hospital in 1869 — a remodeled professor's house — but the University of Pennsylvania was the first to establish one specifically for use by the university. Our thanks to Joel Howell (personal communication, 12 October 1988) for clarifying this particular trivial pursuit.

[27] The University's seal bears the date 1817, when the territorial government created the legal and, to some extent, intellectual ancestor of the University: the Catholepistemiad of Michigania — one of the most bizarre, fascinating, and creative experiments in the annals of American higher education.

[28] For the early history of the University, see Wilfred B. Shaw, *The University of Michigan: An Encyclopedic Survey* (Ann Arbor, 1942), 1: 10-38, and Burke A. Hinsdale, *History of the University of Michigan,* ed. Isaac N. Demmon (Ann Arbor, 1906), chaps. 2-6. Since Michigan is almost unique among major Ameri-

can universities in lacking a modern scholarly history, Shaw and Hinsdale remain the places of first resort for its story. In general, Shaw is stronger on politics, Hinsdale on curriculum; both have the encyclopedic quality, if not always quantity, promised in Shaw's title.

Isaac E. Crary (1804-1854) and John D. Pierce (1797-1882), the key figures in drawing up plans for the Michigan educational system, including the University, were familiar with Victor Cousin's celebrated *Rapport sur l'état de l'instruction publique dans quelques pays de l'Allemagne, et particuliérement en Prusse* (Paris, 1832). They almost surely knew it in Sarah Austin's 1834 London translation *(Report on the State of Public Instruction in Prussia).* If so, Pierce and Crary's major interest may have been in the primary schools, since Austin's preface would have reinforced in any reader the impression that primary schooling was the issue of real importance in Cousin's report. There is nothing in Pierce's own memoir to indicate that the pair gave much thought to what would go on within the University. (John D. Pierce, "Origin and Progress of the Michigan School System," *Pioneer Collections: Report of the Pioneer Society of the State of Michigan,* 1 (1877): 37-45; Shaw, *Encyclopedic Survey,* 1: 31; James B. Angell, *Reminiscences* [New York, 1912], pp. 226-27; Charles Kendall Adams, *Historical Sketch of the University of Michigan* [Ann Arbor, 1876], p. 12.)

Together these two men drafted the article on education in the state constitution of 1837 and, influenced by Cousin's idealized picture of the Prussian system, created a theoretically unified state system, capped by the University, all under the direction of a state superintendent of public instruction, an office of which Pierce became the first incumbent. At Crary and Pierce's urging, the legislature mandated that local "branches" of the University be established for less advanced instruction, to prepare freshmen for Ann Arbor and teachers for the common schools. This sounds like another echo of Cousin. The "branches" fell victim to financial stringency by the mid-1840s.

One point here is that Henry P. Tappan's zeal for Cousin's version of Prussia was not innovative. Another point, however, is that the initial Michigan version of the "Prussian system" involved the relations between the University and other educational institutions in the state, rather than the character of the University itself. Adams, *Historical Sketch,* p. 16, notes the absence of any Prussian influence on the University's internal organization or curriculum before Tappan's arrival; and while Adams's partiality for Tappan may have influenced his views, the other available evidence supports his conclusion.

[29] Hinsdale, *History,* p. 76; *University of Michigan Catalogue of the Officers and Students in the Department of Arts and Sciences, 1843-44* (Ann Arbor, 1843?).

[30] George Bancroft, Henry Barnard, and a New York minister, the Rev. William Adams, possibly others, turned down the job before the Regents finally named Tappan. It was Bancroft who raised Tappan's name, having heard of him initially, it seems, from none other than Victor Cousin. Shaw, *Encyclopedic Survey,* 1: 39-40; Charles M. Perry, *Henry Philip Tappan: Philosopher and University President* (Ann Arbor, 1933), pp. 169-71. Perry's is the only full-length biography and far from a satisfactory one; oddly, it overrates Tappan's philosophic achievement, understates his educational acumen. There are also accounts of Tappan in the histories of the university cited above and in the *Dictionary of American Biography.*

[31] Hinsdale, *History,* pp. 42-43; Perry, *Tappan,* pp. 169-70; Adams, *Historical Sketch,* pp. 15-16. The quotation is from the first catalogue issued under Tap-

pan's direction (1852-53), which proudly declared that Michigan had copied its educational system from the Prussian. *Catalogue of the Corporation, Officers and Students in the Departments of Medicine, Arts and Sciences in the University of Michigan, 1852-53* (Detroit, 1853), p. 19.

[32] Tappan's vision seems to have differed from McCrary and Pierce's in that Tappan expected the University, rather than the superintendent of public instruction, to direct the system.

[33] Henry P. Tappan, *A Discourse . . . on the occasion of his Inauguration as Chancellor of the University of Michigan, December 21st, 1852* (Detroit, 1852), pp. 37, 40. For the course of events during Tappan's administration, see Hinsdale, *History,* chap. VII, and Shaw, *Encyclopedic Survey,* pp. 39-53.

[34] Quoted in Hinsdale, *History,* pp. 43-44. Tappan wrote that he wished to make the "correspondence" between college and Gymnasium "as complete as possible." *Catalogue . . . 1852-53,* p. 20. In his long-term ideal of American *Gymnasia* feeding real American universities, and in his shorter-term goal of making the University at least a respectable *Gymnasium,* Tappan closely resembled George Ticknor at Harvard in the 1820s. See Tyack, *Ticknor,* chap. 3. Indeed, much of the information scattered through the secondary literature, as well as some of the primary materials about Michigan and Harvard, lead one to suspect that the "German ideal" before 1860 was invoked more to support general elevation of academic standards and relegation of rote learning to secondary schools than to advance any scheme resembling a research university. The identification by Americans of the German university with the *discovery* of knowledge seems *mostly* a postbellum development. Cf. Veysey, *University,* pp. 128-29.

[35] *Catalogue . . . 1852-53,* p. 20.

[36] Tappan, *Discourse . . . on Inauguration,* pp. 42-45. The state legislature had mandated some such instruction in the Reorganization Act of 1851 (Hinsdale, *History,* p. 44). Tappan was quite probably also influenced by the similar curricular reform set in place by Francis Wayland at Brown two years before Tappan reached Ann Arbor.

[37] Adams, *Historical Sketch,* p. 17.

[38] Tappan, *Discourse . . . on Inauguration,* pp. 21-22, 35. These were the traditional four faculties of the German university. Tappan assumed that Michigan needed all four and wrestled with how to get them. Medicine, law, and philosophy (i.e., the arts and sciences faculty, called then and now at Michigan Literature, Science, and the Arts), he pointed out, were already organized. Recognizing that in an American state university theology must "be left to the different denominations," Tappan urged them to set up theological schools in Ann Arbor. They did not take up his invitation: a failure which in certain fields has enduringly cramped the development of the University. Tappan, *Discourse . . . on Inauguration,* pp. 47-48; *Catalogue . . . 1860-61,* p. 32.

[39] *Catalogue . . . 1852-53,* p. 21.

[40] *Catalogue . . . 1852-53,* p. 21.

[41] Yale Report, in Hofstadter, *Higher Education,* 1: 278; Wayland quoted in Lawrence A. Cremin, *American Education: The National Experience, 1783-1876* (New York, 1980), p. 281.

[42] *Catalogue . . . 1852-53,* p. 21.

[43] *Catalogue . . . 1852-53,* pp. 21, 26.

[44] *Catalogue . . . 1852-53,* pp. 21, 26. A decade later, in 1863, Harvard's President Thomas Hill inaugurated a superficially similar innovation called "University Lectures." Although regarded by Charles W. Eliot as ancestral to the graduate school, this program differed from the University Course both in its more occasional nature and in its intended audience: a melange of curious citizens and interested postgraduates, as distinguished from graduate and equivalently prepared students pursuing a regular course. Cf. Charles H. Haskins, "The Graduate School of Arts and Sciences, 1872-1929," in Samuel Eliot Morison, ed., *The Development of Harvard University Since the Inauguration of President Eliot, 1869-1929* (Cambridge, MA, 1930), p. 453.

[45] *Catalogue . . . 1852-53,* p. 26.

[46] Tappan probably could not read German at this period of his life (indeed was not at ease even in French). Most of his crucial notions about German education seem to have come from Cousin's report on the Prussian system, itself more a reflection of Humboldt's ambitions than Prussian realities. Tappan had made a four-month visit to Europe in 1851 but spent most of it traveling in England, Scotland, Holland, Switzerland, and France. On a voyage up the Rhine he did find time to admire the university buildings at Bonn but hardly to learn much about what happened inside them. He also briefly noted (without evaluative comment) the devotion of the Institut de France to original research. Even had his journey been longer, a man largely innocent of German and feeble in French was scarcely equipped to absorb much.

A second trip to Europe in the spring of 1853 — undertaken to purchase books and equipment for the University — did bring Tappan to Berlin; he also acquired as a result of this trip a German academic (Francis Brünnow) as director of the new observatory and, eventually, as son-in-law. It is therefore probably safe to assume that — *after* he had laid down his plans for Michigan — Tappan's knowledge of the German university expanded. Even so, his successor Angell labored under a considerable misapprehension when he wrote that Tappan had "studied" in Germany. Yet it is equally noteworthy that better acquaintance with German universities did not cause Tappan to alter his view of them or his university ideal.

Perry, *Tappan,* pp. 68, 138-65, 193-95, 435; Tappan, *A Step from the New World to the Old, and Back Again* (2 vols.; New York, 1852), esp. 2:61-67, 287; Angell, *Reminiscences,* p. 227.

[47] The explicit linkage of the master's to the University Course occurred in 1858-59, when the University Course took (rather scrawny) flesh as the "Programme of Studies for the Degrees of A.M. and M.S.." *Catalogue . . . 1852-53,* p. 28. Tappan did try earlier to reserve the M.A. for persons who had pursued some sort of postgraduate study, passed an examination, and presented a thesis; but he did not initially link the degree to the University Course. (Michigan, as elsewhere, had previously followed the English model and handed out the M.A. on request and payment of a fee — "in course," as the phrase went — to almost any graduate who avoided jail for three years. Tappan's effort to replace the traditional "in course" M.A. with an earned degree was only the beginning of a long struggle, not fully successful until the Angell administration.) The use of the phrase "the University proper" to refer to the University

System occurs in *Catalogue of the Officers and Students of the University of Michigan: 1854-55* (Ann Arbor, 1855), p. 33. Cf. Henry P. Tappan, "Annual Report of the Chancellor [October 1854]," in *University of Michigan Regents' Proceedings . . . 1837-1864* (Ann Arbor, 1915), p. 599; Hinsdale, *History*, p. 88.

[48] Tappan seems especially to have encouraged research in the natural sciences. See Alan Creutz, From College Teacher to University Scholar: The Evolution and Professionalization of Academics at the University of Michigan, 1841-1900 (Ph.D. diss., U. of Michigan, 1981), 2: 232, 243-48. This appearance may, however, owe more to accidents of personnel and to the American context (where academic research in the humanities developed later than in the natural sciences) than to any special proclivities of Tappan's.

[49] We do not mean to imply that advanced students *never* participated in the research projects of their instructors — an abstinence which seems unlikely on the face of it — only that Tappan's program did not include training for research. The character of the courses eventually offered as part of the University Course suggest that, in fact, practice never wandered very far from Tappan's program, except perhaps in astronomy.

[50] Tappan expected University Course students to pursue "free and independent study" as well as to attend lectures. Tappan, "Annual Report [1854]," p. 599.

[51] Henry P. Tappan, *University Education* (New York, 1850), p. 11; idem, "Report of the President [October 1856]," in *Regents' Proceedings . . . 1837-1864*, pp. 664-66. In the latter document, Tappan made a distinction between *teaching* undergraduates and *lecturing to* graduates.

[52] Indeed, Tappan had a strong sense of the interconnectedness of all knowledge, utterly remote from caricatured notions of German professors, but fairly close to the German *Bildung* ideal associated with Humboldt's name. See, e.g., Tappan, *The University; Its Constitution: A Discourse Delivered June 22, 1858* [to the Christian Library Association of the University of Michigan] (Ann Arbor, 1858), pp. 17-18.

[53] *Catalogue . . . 1852-53*, p. 22.

[54] The catalogues list specific courses beginning in 1858-59, when the rubric of "Programme of Studies for the Degrees of A.M. and M.S." replaced the old "University Course" section, with its hopeful listing of twenty broad subjects under which eventual instruction was anticipated. Cf. *Catalogue . . . 1858-59*, p. 47. We have tried to ferret out as accurately as possible the resident graduates from the various categories in which the catalogues for the Tappan years list them, but we may have missed one or two.

[55] Cf. E. O. Haven, *Universities in America: An Inaugural Address Delivered in Ann Arbor, Michigan, October 1st, 1863* (Ann Arbor, 1863), esp. pp. 3-5.

Haven (mostly) tells his own story in the posthumous *Autobiography of Erastus O. Haven, D.D., LL.D.*, ed. C. C. Stratton (New York, 1883); see esp. chaps. 5, 7, 8. As befits a man who eventually became a bishop, Haven almost never lied outright. For one instance of his disingenuousness, see Shaw, *Encyclopedic Survey*, p. 54. He does seem to have had a calming effect on a University deeply in turmoil in the wake of Tappan's firing. If there was ever a man fairly oozing with oil to pour on troubled waters, it was Haven.

[56] *Catalogue . . . 1863-64,* p. 18; *1867-68,* p. 12; *1868-69,* p. 11, and *1870-71,* p. 11. The catalogues from 1864-65 through 1866-67 do not list graduate students; this does not prove that there were none.

[57] Frieze's most lasting contribution to the University, though not directly relevant here, was the admission of women on a basis of near equality with male students — a step that Frieze took reluctantly, it should be said, though he later admitted that experience had fully disproved his reservations. It was typical of Frieze that he did not use the temporary nature of his presidency as an excuse for palming off the decision on his successor. If one considers Frieze's role in three areas — coeducation, graduate education, and musical activity — one could argue that this man who served three brief terms as acting president had, in fact, more influence on the character of Michigan than any other president except Tappan and Angell. There is no biography of Frieze; see the accounts in the general University histories and James B. Angell, *A Memorial Discourse on the Life and Services of Henry Simmons Frieze, LL.D.* (Ann Arbor, 1890); quotation from p. 16.

For part of his European trip, Frieze was accompanied by Andrew Dickson White, not yet a Michigan professor; there are therefore scattered references to Frieze in Europe in *The Diaries of Andrew D. White,* ed. Robert Morris Ogden (Ithaca, 1959), most concerning tourism in Italy. Unless Frieze was both more diligent and more fluent than White, he did not learn much in Berlin.

[58] The *Abitur* not only certified successful completion of the Gymnasium course but *ipso facto* qualified a student for university admission.

[59] Hinsdale, *History,* p. 60; Creutz, College Teacher, 1:96-99, 156-57. The extent of the school-examining program is clear in the correspondence from school principals in the James B. Angell Papers, Michigan Historical Collections, Bentley Library, University of Michigan. Cf. University of Michigan *President's Reports.* Eventually this "diploma system" evolved into merely a sort of Michigan state school inspection program, under the supervision of the professor of education.

[60] The only substantial biography is Shirley W. Smith, *James Burrill Angell: An American Influence* (Ann Arbor, 1954), a work of some detail. As a Michigan undergraduate in the great man's later years, Smith developed an enduring reverence for Angell, then worked for the University for the rest of his life. After putting down this book, the reader cannot help but imagine Smith attending all Wolverine home games clad in maize and blue. The history of the University of Michigan is truly a wide open field for a competent historian.

[61] The statement should be taken *cum grano salis,* since Tyler provided it for the festivities commemorating Angell's first 25 years as Michigan president; but it is characteristic of general enthusiasm among those who worked with Angell. Howard Mumford Jones, *The Life of Moses Coit Tyler* (Ann Arbor, 1933), p. 160.

[62] Angell did see some good things in the German university; and, at least in his earlier years, he showed sympathy for research. His increasingly cautious attitude toward research in his later career is evident in, e.g., his *The New Era in Higher Education* (Ann Arbor, 1902).

[63] Angell, *Frieze,* pp. 14, 21-22.

[64] Adams to Herbert Baxter Adams, 9 Feb. 1886, in W. Stull Holt, ed., *Historical Scholarship in the United States, 1876-1901: As Revealed in the Correspondence of*

Herbert B. Adams (Baltimore, 1938), p. 79. On White at Michigan, see Ruth Bordin, *Andrew Dickson White: Teacher of History* (Michigan Historical Collections Bulletin No. 8; Ann Arbor, 1958).

[65] *Catalogue . . . 1858-59*, p. 40. Cf. *Catalogue . . . 1859-60*, p. 49. It is important to stress how great the change in college education was when its basis shifted from recitations to lectures — and how closely identified this method was with the German universities. See, e.g., the comments on a similar innovation at Harvard 13 years later, in Chauncey Wright to Grace Norton, 13 Jan. 1870, in Norton Family Papers, Houghton Library, Harvard University.

[66] To be precise, only 4 earned master's degrees had been awarded at Michigan before Adams's. *University of Michigan General Catalogue of Officers and Students, 1837-1911* (Ann Arbor, 1912), pp. 8, 50, 215. Adams taught both history and Latin from 1863-67. Ironically, White lobbied for Moses Coit Tyler's appointment to the professorship he vacated in 1867, even though (or perhaps because) Adams had been his student. Jones, *Tyler*, p. 114. The only biography is Charles Forster Smith, *Charles Kendall Adams: A Life Sketch* (Madison, 1924), about as full an account as the subtitle suggests. Adams's 24 years at Michigan get 13 pages, the bulk of which, fortunately for present purposes, concern the method and character of his teaching, including the famous seminar. Adams's career is likely to remain obscure, for Smith (who based his own account largely on the recollections of Adams's colleagues) noted that all personal papers were destroyed in a fire at Wisconsin. Information on Adams as president of Cornell (where he pretty clearly tried to transplant a version of the University System that he and Frieze had developed at Michigan) is in Morris Bishop, *A History of Cornell* (Ithaca, 1962), esp. chaps. 15-17, and on Adams as president of Wisconsin in Curti and Carstensen, *Wisconsin*, esp. 1: 561-79.

[67] *President's Report to the Board of Regents, for the Year Ending June 30, 1872* (Ann Arbor, 1872), pp. 32-33. Adams later described the purpose of the course as "to direct the student in the work of original historical investigation" rather than to "impart actual instruction"; but he apparently meant that students were set to work in standard collections of printed sources to find data for their class essays, not that they were expected to come up with new ideas or information. *President's Report . . . 1874*, pp. 27-28

Henry Adams (who had himself approached, though never quite embraced, study at Berlin) was apparently teaching his students at Harvard by similar methods from 1870-71, though the class seems not to have been called a seminar and never to have adopted training in original research as a explicit goal. Adams did introduce a postgraduate seminar, as such, in 1875. See Ernest Samuels, *The Young Henry Adams* (Cambridge, MA, 1948), esp. pp. 211-12, 215; Adams's own inimitable account is in *The Education of Henry Adams* (Boston, 1918), pp. 299-304. William C. Russel seemingly did something similar in constitutional history courses at Cornell from 1868, though it is unclear whether his students were sent to primary sources. Bishop, *Cornell*, p. 163.

Charles K. Adams later gave the date of his introduction of the seminar as 1868 (Adams, *The Part of the University of Michigan in Higher Education* [n.p., n.d. (c.1885)], p. 10) and as 1869 (Adams to H.B. Adams, 9 Feb. 1886, in Holt, *Historical Scholarship*, p. 79). Likely, Adams's memory was tricked by recalling his intentions upon his return from Germany (which did occur in 1868). It is possible that some sort of informal seminar was in operation before 1871. But contemporaneous evidence, including Adams's own account in the *President's*

Reports, supports the date of 1871 for the first seminar officially offered.

On the introduction of the seminar more generally, see Veysey, *American University,* pp. 153-58. That all three of the chief progenitors of the historical seminar in the United States were named Adams (the other being Herbert Baxter Adams of the Hopkins) suggests the need of a major grant for genealogical research.

[68] *President's Report . . . 1874,* pp. 27-28.

[69] E.g., the reference to *Quellen* in Moses Coit Tyler to George H. Putnam, 9 Aug. 1875, quoted in Jones, *Tyler,* p. 176. Moses Coit Tyler was Adams's first imitator. Another historical scholar, though masquerading as professor of English literature, he has the best claim to the title of founder of American intellectual history as an academic field. On Tyler at Michigan in general, see ibid., esp. pp. 114-43, 158-205.

[70] We take "original research" in this sense to mean the effort to discover information, or implications of information, not previously recognized. Put differently, original research is the effort to advance knowledge.

[71] A.D. White to J.B. Angell, 30 Sept. 1874, in Angell Papers; James B. Angell, *President's Report . . . 1883,* pp. 9-10. Cf. Adams to "the joint Committees of the Board of Regents of the University," 5 July 1877, in Angell Papers. Given the character of Adams's seminar, it was not at all surprising that a graduate of it thought it feasible "to apply the 'Seminary' method" in high schools. Mary S[heldon]. Barnes to Angell, 2 Jan. 1886, in Angell Papers. (Mary D. Sheldon, later Barnes, graduated A.B. in 1874, seems not to have taken a higher degree, at least not at Michigan.)

[72] Jones, *Tyler,* pp. 161, 164.

[73] See, e.g., R. Steven Turner, "The Growth of Professorial Research in Prussia, 1818 to 1848 — Causes and Context," *Historical Studies in the Physical Sciences,* 3 (1971): 146.

[74] This was, of course, not "teacher training" as in later education faculties. Cf. Wilhelm Erben, "Die Entstehung der Universitäts-Seminare," *Internationale Monatsschrift für Wissenschaft, Kunst, und Technik,* 7 (1913): 1248-60. Erben's two-part article is the only substantial history of the German seminar, though hardly a satisfactory one. Less full but more easily available is the account in Friedrich Paulsen, *Geschichte des gelehrten Unterrichts,* 3rd ed., ed. Rudolf Lehmann (Berlin and Leipzig, 1921), which sketches the history of the seminar in 2: 258-59, 270-75, and passim.

[75] We say "probably" because, on the basis of existing scholarship, it is hard to be sure of standard practice inside German seminars. For hints about the internal workings of German seminars before the late nineteenth century, see, e.g., Erben, "Entstehung der Seminare," 1251, 1253; Herbert Baxter Adams to Daniel Coit Gilman, 21 May 1876, in Holt, *Historical Scholarship,* p. 31; Hartmut Boockmann, "Geschichtsunterricht und Geschichtsstudium," in *Geschichtswissenschaft in Göttingen: Eine Vorlesungsreihe* (Göttingen, 1987), pp. 172-76; Walter C. Perry, *German University Education; or, the Professors and Students of Germany* (London, 1845), pp. 97-98. *Übungen,* not *Forschung,* is the word that recurs in descriptions of seminar work. Fred M. Fling, "The German Historical Seminar," *The Academy,* (1889): 129-39, 212-19, gives a detailed ac-

count of the routine in Maurenbrecher's Leipzig seminar in the late 1880s and can be used cautiously to interpret the more scattered bits of information about earlier seminars, if one remembers that by the 1880s German seminars had shifted decisively to their mature research orientation.

Part of the difficulty in exploring the seminar is that historians tend to take programmatic statements, especially the seminar statutes, as representing practice — rather as if students of American politics drew their evidence from party platforms. This is true even of the best scholars of German university history (see, e.g., Turner, "Professorial Research," 145; idem, "The Prussian Universities and the Concept of Research," *Internationales Archiv für Sozialgeschichte der deutschen Literatur,* 5 [1980]: 88.) Anthony Grafton is a notable exception ("Polyhistor into *Philolog:* Notes on the Transformation of German Classical Scholarship, 1780-1850," *History of Universities,* 3 [1983]: 163-69) but unfortunately not helpful on the point in question here.

To say that seminars before the last quarter of the century were typically not focused on serious original research is of course not to deny the exceptional seminar, the exceptional student in the ordinary seminar, and certainly not the importance of original research in the careers of German professors and of their students intending to proceed to habilitation.

[76] The final abolition of the "in course" master's and the awarding of the first Ph.D. both occurred in 1874. *Catalogue . . . 1874-75,* p. 18. The 21 candidates are mentioned in Frieze to Angell, 9 Oct. 1880, in Angell Papers.

[77] *Catalogue . . . 1874-75,* p. 18; *Catalogue . . . 1879-80,* p. 65. But note the absence of any such express requirement before 1879. The most explicit statement of faculty expectations in the first years is a report of a faculty committee "to consider what steps should be taken in regard to examination of candidates for the degree of Doctor of Philosophy," 29 May 1876, in Records of Registrar, University of Michigan, Michigan Historical Collections. This report contains no mention of original research and no indication that the thesis was required to show such. Frieze and Adams were two of the three members of the committee.

[78] Much more research is required before any very solid conclusions can be reached about what was typical. But see, e.g., George B. Groff to Angell, 8 and 24 Sept. and 15 Nov. 1876, and C.K. Adams to ?, 15 June 1878, in Angell Papers. The reports on examinations of candidates for advanced degrees, in Records of the Registrar, provide helpful instances of what sort of work was done. It does seem that natural scientists typically regarded the Ph.D. as a research degree from the outset.

[79] Angell, *Frieze,* pp. 26-27; Smith, *Adams,* p. 19.

[80] Henry S. Frieze, *The President's Report to the Board of Regents, for the Year Ending June 30, 1880* (Ann Arbor, 1880), p. 10.

[81] Angell, *Frieze,* p. 29; Frieze, *President's Report, for . . . 1880,* pp. 10-11.

[82] Frieze to Angell, 9 July 1881, in Angell Papers.

[83] *Calendar of the University of Michigan for 1881-82* (Ann Arbor, 1882), pp. 74-82; Frieze, *President's Report, for . . . 1881,* pp. 2-4; C.K. Adams to Angell, 6 July 1881, in Angell Papers.

[84] Why this should have been so is a nice question. Persuading Cooley and

Adams to stay at the University was an urgent problem, but there is no evidence that either insisted that the new School be in place before the next term opened. It is possible that Frieze simply did not anticipate the faculty's reaction to being left out of consultation. It is also possible that Frieze wanted to cement the reforms in place before Angell resumed the presidency.

[85] Alexis Angell to J.B. Angell, 10 Oct 81; cf. M.L. D'Ooge to Angell, 29 Nov. 1881, and W.H. Pettee to Angell, 28 Nov. 1881; all in Angell Papers. Curiously, the opposition was initially led by Martin L. D'Ooge, Frieze's colleague in classical languages — and the only Michigan professor at the time who held a German Ph.D. (Leipzig 1872)! D'Ooge came around to the support of Frieze's proposed University System later in the fall, indeed served on the committee that devised it. On D'Ooge, see John G. Winter, "Achievements in Language and Literature," in *Centennial Celebration of the College of Literature, Science, and the Arts, 1841-1941* (Ann Arbor, 1943), p. 38; Creutz, College Teacher to University Scholar, pp. 298, 301, 305-6. Creutz seems to underestimate D'Ooge as a scholar; he also misunderstands the origins of the School of Political Science (pp. 108-9).

[86] Frieze to Angell, 25 Oct. and 26 Nov. 1881, in Angell Papers.

[87] The other members were D'Ooge and another opponent of the original plan, W.H. Pettee, along with Edward Olney, whose position is not clear. See packet marked "Relations of the School of Political Science to the Literary Department," in Reports and Resolutions, 2nd semester, 1881-82, Records of Registrar.

[88] Adams to Angell, 6 March 1881, in Angell Papers; Frieze, *President's Report, for . . . 1881,* pp. 4-18. (These pages comprise the fullest statement of Frieze's idea of a university and are essential to understanding what happened in 1880-82.)

[89] Frieze to Angell, 26 Nov. 1881; "Relations of the School . . . to the Literary Department." For the language requirement, see Reports and Resolutions, 2nd Semester 1881-82, Records of Registrar. Although the language requirement appears separately from the resolutions enacting the University System in the faculty records, the timing of its adoption — 1 May 1882, the same date the University System was approved — leaves no doubt that it was part of the same package. To assuage faculty concerns that students would fritter away their time, each student had a three-member faculty committee to supervise her or his program.

[90] For the development of the University System, see Frieze, *President's Report, for . . . 1881,* pp. 4-18; Frieze to Angell, 26 Nov. 1881; and "Relations of the School . . . to the Literary Department." For its final form, see *Calendar . . . for 1882-83,* pp. 63-65, subsequent *Calendars,* and Angell to Helen Magill, 3 May 1882, in Angell Papers.

[91] Formal requirements for the advanced degrees were the same for ordinary postgraduate students as for University System students: the foreign languages, the examination in three fields, the thesis. Indeed, technically, even graduate students who showed up in Ann Arbor after taking an M.A. elsewhere studied for the Ph.D. in the University System. The residency requirement for the doctorate was two years' study after the first degree, whether bachelor's or master's. But only one year was required after a master's with

distinction — a provision made with obvious reference to the University System.

[92] One of the new faculties was to be the School of Political Science (amounting to what American academics today would call the social sciences); the others were to be defined by similar broad subject groupings.

[93] Curiously, Johns Hopkins, supposed by historians of higher education to have set the most widely emulated example for American graduate programs, never appears in the records of the debate. It should, however, immediately be said that the records are pretty skimpy.

[94] For Michigan specifically, see Creutz, College Teacher to University Scholar. But this transformation is immediately evident throughout the primary materials — in, for example, the correspondence about hiring faculty in the Angell Papers.

[95] At every stage of the development of advanced degrees at Michigan, training in the natural sciences seems to have been more research-oriented than in other fields.

[96] For the faculty's insistence on research, see supra; Angell to Magill, 3 May 1882; *Calendar . . . for 1882-83*, pp. 63-65.

[97] Along with the correspondence, faculty debates, and programmatic statements surrounding the origin of the University System, the records of student programs in Records of Registrar give some sense of the aims of the System.

[98] The Hopkins requirements for the Ph.D. in history and political science, for example, retained the German idea of a major field and two minors but insisted that a student's minors both be "akin to his major course." Requirements reprinted in Holt, *Historical Scholarship*, pp. 14-15.

[99] As indeed it had for graduate students in the 1870s. The fields chosen under the University System often fell, not surprisingly, into either scientific or non-scientific triads — like history, political economy, and German, or zoology, geology, and physiology. But combinations like Greek, philosophy, and physics were not unheard of.

[100] Frieze, *President's Report, for . . . 1881*, pp. 2-3. Frieze was a classicist; this perhaps contributed to this civic ideal.

[101] See, e.g., Adams to J.T. Moore, 2 Feb 1882, and Moore to Adams, 7 Feb 1882, in Charles Kendall Adams Papers, Michigan Historical Collections. Bert James Loewenberg notes how this attitude distinguished Adams from the "scientific historians" like Herbert Baxter Adams: *American History in American Thought: Christopher Columbus to Henry Adams* (New York, 1972), p. 468.

[102] *The University [of Michigan] Record*, 2 (1892): 58-59.

[103] In a cryptic note in the University System records, in Records of Registrar, Adams complained that the School of Political Science "entered the Dark Ages June 24, 1883. The Renaissance has not yet come." What this means remains obscure, but an important part of the story may never come to light.

[104] No more than 13 undergraduates ever took degrees on the University System in any one year; by the end of the 'eighties, the number had dwindled to 3 or 4 annually. Most of the few students came, in fact, from Adams's School of

Political Science. When Adams departed for Cornell in 1885, that trickle soon dried up. These data are compiled from the *President's Reports* and the (incomplete) records of examinations under the University System in Records of Registrar.

[105] Not quite in fact. The phrase survived to describe the pattern of work in one major and two minors, followed by award of degree on examination, as distinguished from award of degree by accumulating credits on the credit system. Thus, graduate students in the 1880s and 1890s were said in the University catalogues to "pursue their studies on the university system." This was, of course, only a shell of the University System as Frieze and Adams had envisioned it.

[106] This is very much a tentative conclusion, but our (necessarily limited) research turned up no sign of programmatic planning: students seem to have enrolled in lecture courses, taken seminars, or pursued directed research according to no consistent pattern, coherence being provided only by the minimal degree requirements. This impression is reinforced by the fact that the Graduate School was organized in 1891 apparently simply because the number of graduate students had grown large enough to be a problem.

[107] See Angell, *President's Reports;* quotation from *President's Report . . . 1883,* p. 10. For numbers of graduate students, see *University Record,* 2 (1892): 78.

[108] Angell, *President's Report . . . 1892,* pp. 13-15.

[109] See, e.g., *University Record,* 1 (1891) and 2 (1892): passim.

[110] See *Announcement of the Graduate School 1892-93* (Ann Arbor, 1892), pp. 14-38, and subsequent years.

[111] *Calendar . . . 1893-94,* pp. 119-20.

[112] Likewise, "the most important work of the university professor, ideally considered, is the advancement of science. His calling is to work on the frontier and his best work will necessarily be done with a few students who are themselves preparing to be investigators." *University Record,* 2 (1892): 79.

[113] See, e.g., *University Record,* 2 (1892): 2-3; *Announcement of the Graduate School 1892-93,* p. 13.

[114] At Michigan only the merest echo of Tappan's — more precisely, Frieze and Adams's — university faintly reverberates in graduate training: the Rackham School of Graduate Studies requires that each Ph.D. candidate take 6 hours of coursework in a field cognate to the major. (As it happens, the Graduate School now has under advisement a proposal to abolish this rule.) Jonathan Marwil has suggested to us that more of Tappan's scheme survives in the undergraduate program, notably honors. While this certainly appears to be the case, such appearances in fact may owe little to Tappan's immediate legacy, stemming rather from later educational movements imported from other American colleges. The undernourished state of Michigan's history prevents any secure guess.

[115] This is not to deny the obvious fact that the theory, as well as practice, of applied skills formed part of the curriculum of these professional schools. We refer advisedly to "divinity schools" (with their pastoral emphasis) rather than theology faculties, since theology has commonly been construed as "pure"

rather than "applied" knowledge. Theology faculties, of hoary antiquity, in their practice also come closer, perhaps, than any other academic entities to Tappan's ideal of advanced but broadly integrated education. Our hunch is that their marginal relation to modern knowledge — put differently, their old-fashioned form of knowledge — explains this.

[116] To say that German example was persistently influential in this half century is, of course, neither to deny that it had its ups and downs in every institution nor to claim that there was no institution with a secular ttrend of rise or decline. Cf. Hawkins, *Pioneer;* idem, *Between Harvard and America;* Bishop, *Cornell;* Louise L. Stevenson, *Scholarly Means to Evangelical Ends: The New Haven Scholars and the Transformation of Higher Learning in America, 1830-1890* (Baltimore, 1986); and Veysey, *American University.*

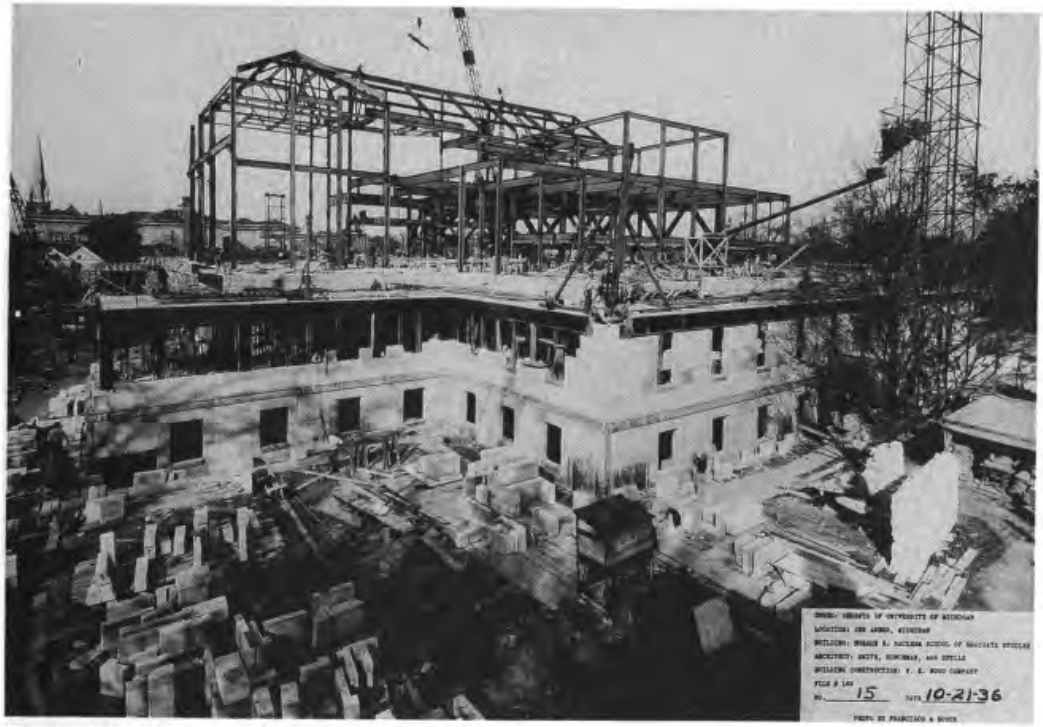
[117] Rejection was not necessarily deliberate. How well Americans, even those who studied in Germany, understood the German system is still very much an open question.

Construction of the Horace H. Rackham School of Graduate Studies Building, 1936-37

Facing Northwest, August 12, 1936

Facing Northwest, September 23, 1936

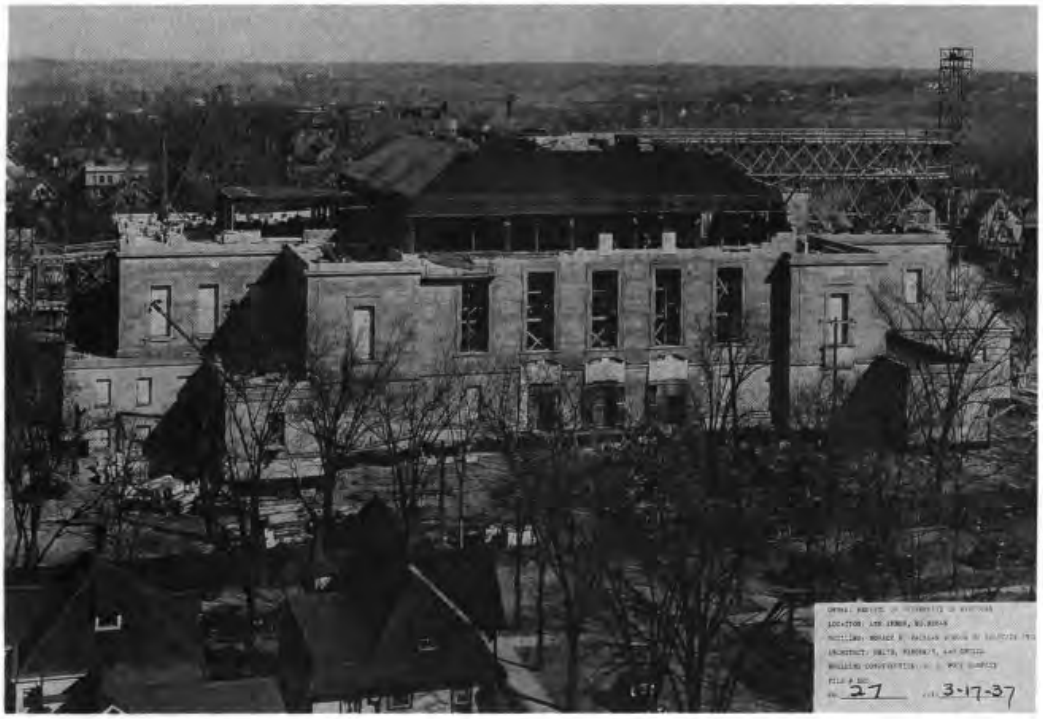
Facing North, September 30, 1936



Facing Northwest, October 21, 1936

Facing North, November 5, 1936

Facing North, January 5, 1937



Facing North, March 13, 1937

Facing Northwest, June 2, 1937

Academic Culture at Michigan, 1938-1988:

The Apotheosis of Pluralism

by David A. Hollinger

David A. Hollinger is Professor of History at The University of Michigan. He is the author of In the American Province: Studies in the History and Historiography of Ideas *(1985), and* Morris R. Cohen and the Scientific Ideal, *(1975) and is co-editor, with Charles Capper of* The American Intellectual Tradition *(1989). He is a former Guggenheim Fellow.*

What follows is not a complete account of Michigan's accomplishments during the Rackham era, with balanced attention to each department and school, with due recognition of the achievements of each president and dean. Instead, my inquiry is quite simple. There are a dozen or so major research universities with whom Michigan shares the academic leadership of the United States. When we look at Michigan since 1938 in relation to the history of this entire class of universities, what do we see? In what varieties of science and scholarship has Michigan made the most visible marks? Insofar as there is a "Michigan tradition," what is it? And are there aspects of Michigan's history that should be X-rated?

When the Rackham Building was dedicated in 1938, the University of Michigan was obviously comfortable with its long-standing reputation as a national university. Senior in years to Wisconsin and Berkeley, its only two intellectual peers among public universities, Michigan was decidedly more "eastern" in style and in composition.[1] In 1938 Michigan boasted an out-of-state enrollment of about 43 percent.[2] It was said to possess the largest living alumni of any university in the English-speaking world.[3] And the Michigan alumni were formidable qualitatively as well as quantitively: Michigan was the fourth largest baccalaureate producer of the American scientists then designated as distinguished in *American Men of Science,* outproducing both Wisconsin and Princeton in that category at a rate of almost two-to-one.[4] On the occasion of Michigan's celebration, the year before, of one hundred years in Ann Arbor, a major address was delivered by Dean Christian Gauss of Princeton, perhaps the most respected humanistic educator of the interwar period, himself a native of Ann Arbor and holder of two degrees from Michigan.[5] But Michigan was more egalitarian than its eastern, private counterparts. Unlike them, Michigan had long been committed to the education of women,[6] and it was quicker than many of the Ivy league universities to detach humanities instruction from Christian apologetics: a decade before Columbia made room for its first Jewish professor of English, Lionel Trilling, Jewish faculty at Michigan chaired the Departments of English and Romance Languages, as well as Economics.[7] It is true that as late as 1930, the Michigan Law School had accepted fifteen million dollars from the avowed Anglo-Saxon supremi-

cist and confirmed anti-Semite William W. Cook, and the University was willing to publish in its alumni magazine Cook's detailed instructions for the conservative doctrinal slant he expected in the scholarship he was funding. Cook, a few years earlier, had written a book urging his countrymen to "make life so uncomfortable" for Jews that they would cease to exist as Jews. Cook also suggested that American Blacks emigrate to New Guinea or Central America.[8] But this extremism was at the margin; the campus atmosphere in the 1930s has been recalled by economist and eventual LS&A Dean William Haber as remarkably free of the open prejudice against Jews that was so prominent a feature of academic life between the world wars in the urban northeast.[9] Michigan in 1938 stood culturally midway between the Ivy and what we now call the Big Ten, displaying some of the stereotypical features of each. While Wisconsin prided itself on its special services to its state and region, Michigan looked eastward, and with the extensive support of the legislature in Lansing, fashioned for itself an image more national, more cosmopolitan, and more conservative than that of Wisconsin.[10]

This image of a national, cosmopolitan university was largely sustained in the character, scope, and stature of its academic programs.[11] Ann Arbor had always been a distinguished humanities university, especially in philosophy, classics, and in the romance and germanic languages; in 1938 this aspect of the tradition was intact. The social science departments were as a general rule smaller and less eminent, especially by contrast to the University of Chicago, but many of the professional schools at Ann Arbor were distinguished, including the Medical School, home of that legendary embodiment of the scientific spirit, bacteriologist Federick Novy, the model, along with Jacques Loeb, for the preeminent scientist in American fiction, Max Gottlieb, in Sinclair Lewis's *Arrowsmith*.[12] Indeed, Michigan's stature in the natural sciences was extraordinary. Its Physics Department was then one of the most important in the world, presided over by Harrison M. Randall. Chairman Randall, by being among the first to hire theoretical physicists from Europe and by orchestrating a unique summer seminar for the international community of theoretical physics, had made Michigan's department strikingly European in orientation.[13] The Departments of Math-

ematics, Biology, and Astronomy were also exceptionally strong; only Harvard and Princeton, for example, had a greater number of distinguished mathematicians in 1938 than did Michigan.[14]

So Michigan entered the Rackham era as an extremely well-established research university. In the midwest but not altogether of it, Michigan was a home for the national mainstream of academic professionalism, and was distinguished for the solidity and breadth of its programs, especially in the natural sciences, the humanities, and the professional schools.[15]

In tracing what happened to this University during the following fifty years it is important to remember a truth that each individual university is tempted to deny. The major research universities of the United States are, in many respects, all alike, and they seem to have become more alike during this past half-century.[16] For all their celebration of their own unique achievements and ethos, these universities — public or private, eastern or western, urban or suburban — are all subject by degree to the same political and economic forces. Chicago, Wisconsin, Yale, Berkeley, Harvard, Michigan, Princeton, Stanford, Columbia — all respond to the same complex of interests and imperatives manifest in the National Science Foundation, the Department of Defense, the great private foundations, and the rather homogeneous body of trustees, regents, alumni, and in some cases legislators variously involved in the setting of policies and priorities for these elite institutions.[17] These universities are all trying to increase the numbers of minorities in their faculties and student bodies, and they all like to brag about how much progress they have made in hiring women.

Culturally, these major universities all share an elite professoriate found by our sociologists of higher education to be much more secular, much more Jewish, and much more liberal than other, comparable occupational cohorts, including the faculties at less prestigious colleges and universities. Intellectually, moreover, all of these elite universities share the same disciplinary discourses: they develop their curriculum and their research programs in terms set by national and international professional communities of physicists, historians, economists, and so forth. In keeping with the popular bumper-sticker, "Think Globally, Act Locally," all of these universities are essentially

physical sites for intellectual projects the basic character of which is determined elsewhere, in arenas of larger scale. Hence, when we inquire into the particular history of any one of these institutions, we necessarily encounter the generic research university as well as the specific institutional culture of one campus. It is not always easy to sort out the one from the other.

This sorting out is all the more difficult at the largest public universities, which are even more likely than their private peers to try to cover the waterfront, and to reproduce within each of their departments the contours and emphases of each discipline's national discourse at any given time. Throughout the past fifty years, Michigan has been known for one achievement above all others: for managing to perform reasonably well virtually every function major universities are expected to perform. This distinction for a single campus is more worthy of notice than it might first appear. Princeton has no schools of medicine, music, art, public health, education, natural resources, social work, nursing, or law. The Johns Hopkins University long regarded undergraduates as inconvenient obstacles to faculty research. When Clark Kerr celebrated "the multiversity" in 1963, exactly at the midpoint of our half-century, he described Michigan just as accurately as he did his own Berkeley.[18]

Michigan, moreover, has been famous for the intellectual pluralism within its many academic units. This is not to claim that all varieties of science and scholarship flourished equally at Michigan at all times during the last half-century. Subspecialty strengths have affected the character of a number of departments and schools: in Public Health, epidemiology; in Physics, spectroscopy; in Psychology, social psychology; in Music, composition; in Classics, papyrology; and in Mathematics, topology. The list of prominent examples could easily be extended. But even the units which attained extraordinary distinction in these specialties were often quite diverse. In philosophy, for example, William Frankena, C. L. Stevenson, and Richard Brandt made Ann Arbor unique in the United States as a center for the study of ethical theory, but the department, even while led by these men, became known for its breadth within the analytical tradition.[19] One can find exceptions to Michigan's reputation for pluralistic, comprehensive departments, but exceptions they truly

are. There is a "Chicago School" of this and a "Chicago School" of that, but not a "Michigan School."[20]

Michigan, then, is surely *one of the most persistently generic* of the major universities in the United States. Hence Michigan, even more than most of the universities in its class, resists inquiries into campus-specific variations in academic culture. But recognition of this fact seems to me to be the first step toward understanding the Michigan tradition.

Michigan helped to invent the modern American university, after all, when the Ivies were still denominational colleges.[21] Michigan has been historically content to exemplify the university "whole" rather than to particularize it.[22] While Princeton, Harvard, and Yale have manufactured and sustained campus lore, constantly reinforcing their own particularity, building upon traditions of undergraduate exclusivity,[23] Michigan has instead identified itself with ideals *common* to institutions of higher learning. If there is a Michigan mystique, it is more democratic than exclusive, more egalitarian than heirarchical; it is a mystique more of pluralism than of uniqueness of any sort. Within the Big Ten and within the state of Michigan, Ann Arbor is sometimes perceived as arrogant and precious, even snobbish, but its image among peer universities, especially in the East, is very different.[24]

I dwell so long on the relatively generic character of Michigan because I have come to believe that Michigan's tradition is preeminently national rather than local. To dwell on local idiosyncracies is to risk losing track of the chief historical significance of the University of Michigan as an embodiment of the national academic culture, as an institution successfully devoted to both excellence and comprehensiveness. Yet I want to take that risk. I want to try to address local variations on national tendencies and norms.

In this comparative perspective, when we turn to the chronological development of Michigan during the Rackham era, it makes sense to concentrate on the two decades following World War II. It is a commonplace that during these years, American universities experienced unprecedented growth and a prodigious increase in perceived social significance. By the 1960s public discourse was flooded with studies and symposiums and screeds about the transformation of American higher education

and the growth, in particular, of research universities. These were the pivotal years of change, and it is on the Michigan events of these postwar decades that I want especially to focus. Michigan was then a major site of the entrepreneurial transformation of American academia, and was simultaneously a major site of the intellectual revolutions in American social science associated with behavioral perspectives and quantitative methods. In both cases, the Institute for Social Research was a major factor. In 1945 the social sciences at Michigan did not amount to much, but by the 1960s, Michigan could claim one of the finest social science establishments in the world. In this same period, Michigan was a major site of the national struggle over McCarthyism. I believe these two sets of events — the story of ISR-related social science, and the story of how Michigan dealt with its accused communists and excommunists — can help us understand the terms on which Michigan's mainstream academic professionalism was consolidated. After attending to these two sets of events, I will characterize the intellectual orientation of this university in the early 1960s, the midpoint of the Rackham era to date, in explicit comparison with two very different universities, Columbia and Stanford. I'll be suggesting that for all Michigan's greatness about 1963, Columbia and Stanford afford challenging examples of projects not carried out at Michigan with quite so much visible success. Finally, I'll comment very briefly on the more recent period, for the comprehension of which a historian's services are presumably less needed.

Michigan psychologist James Grier Miller, flying back to Detroit after a conference in California in the early 1950s, found himself seated next to Governor G. Mennen Williams. Miller was an enterprising fellow, and took advantage of the opportunity to educate the governor about the University's great potential for service to the people of Michigan and to the nation. He pointed out to Governor Williams that a mental health research institute under his own direction would be a wonderful way for such service to be rendered. By the time the plane touched down at Willow Run, the governor had virtually promised several million dollars to support a Mental Health Research Institute to be directed by Miller. The unit was established in 1955 and staffed in part by a cadre of scholars from the Univer-

sity of Chicago, upon which Miller, equipped with the necessary capital, made a spectacular raid.[25]

The local gossip of every research university includes such tales of successful entrepreneurship, more often involving private or federal patrons. The neoconservative savant Robert Nisbet has argued that the sudden importance in the late 1940s and 1950s of grants to individual scholars and to "small company-like groups of faculty . . . for the purposes of creating institutes, centers, bureaus, and other essentially capitalistic enterprises within the academic community" was "the single most powerful agent of change" in the entire modern history of universities.[26] Nisbet exaggerates this transformation, as universities did not await the year 1947 to partake of capitalist social relations; but he is onto something. Direct grants from private foundations and industry as well as from agencies of the federal government played a large role in the history of many universities.[27] A prominent set of examples at Michigan is the creating of the foreign area-studies centers in the early 1960s. Indeed, the openness of Michigan's administrative structure to the development of centers and institutions funded by outside sources is both an emblem for, and a source of, Michigan's pluralism. Nowhere in Ann Arbor was this entrepreneurial transformation carried out with more panache than at that supreme exemplar of academic enterprise, the Institute for Social Research.[28]

Although the name ISR was adopted in 1948, when the Research Center for Group Dynamics moved from MIT to Michigan to join forces with the Survey Research Center, the enterprise truly dates from 1946, when the Survey Research Center was established by a group of scholars who had spent World War II doing survey work for the federal government. Rensis Likert, Angus Campbell, George Katona, and others moved to Ann Arbor to try to find an institutional home for themselves at Likert's alma mater. If Michigan soon became the most entrepreneurial of America's universities in the social sciences, the credit belongs to these men and their closest colleagues, including Psychology chair Donald Marquis, the chief agent in bringing of this group to Michigan.[29] Large data-base survey research is of course a capital-intensive endeavor, and ISR was chiefly responsible for raising its own money. ISR did business with industry and government to the tune of more than

$200,000 in its first year of full operation, and by 1951-52 grossed $850,000.[30] By the 1980s its annual budget surpassed fifteen million dollars, and ISR was regarded as the largest university-based social science research institute in the world.

A distinctive administrative arrangement helpful to ISR was the University's willingness to allow it to keep the "overhead" component of its gross revenue. In the name of "indirect costs," the University took a substantial cut off the top of grants and contract payments made to other affiliated institutes and individuals but suspended this standard practice in the case of ISR. The decisive factors in maintaining the arrangement seem to have been the political skills of ISR leaders, especially Likert and Campbell, in integrating themselves and their staffs into the University's social science departments, and the formidable influence of Marquis on the central administration.[31]

Through the late 1940s and 1950s a number of ISR researchers were appointed to faculty positions, and others were hired by various departments to teach particular courses. Especially did the Psychology Department take advantage of the opportunities presented by ISR to make fractional and joint appointments; in a span of five years the legendary operator Marquis enlarged the Psychology faculty from eight to forty.[32] The departments most affected intellectually by the presence of ISR appear to have been Psychology and Political Science, but the results were rather different in the two cases. The effect on Psychology was to facilitate pell-mell expansion and eclectic diversification, enabling Psychology, since it simultaneously pursued non-ISR opportunities, to become a classic case of the "comprehensive, pluralistic" Michigan department, embodying the diversity — however "chaotic" it seemed to some — of the national discipline.[33] Political science is also a diverse discipline, but not nearly so diverse as psychology. And the national trend among political scientists was decidedly in a behaviorist, quantificationist direction precisely when the Political Science Department began to take advantage of ISR around 1960.[34] Although Political Science grew in size through the use of joint appointments with ISR, its growth was more focused, methodologically and doctrinally, than Psychology's. By aggressively identifying itself with the best work being done in the "behaviorist revolution in political science," Michigan's political scientists

raised their national ranking decisively.[35]

Sociology also made important appointments in connection with ISR, as eventually did Psychiatry, History, Statistics, Economics, Architecture, Internal Medicine, and Public Health. A great deal of distinguished social scientific work was done at Michigan in the 1950s and 1960s with no ISR connection whatsover, to be sure;[36] and there did take place at ISR some work that the departments found too "applied" to be appropriate for a university. But ISR did much to make Michigan the social scientific powerhouse it had become by the early 1960s. It was through an ISR connection that the Department of Economics recruited its only member to be elected to the National Academy of Sciences, James Morgan, and it was through the same ISR connection that Economics would have recruited the eventual Nobel laureate Lawrence Klein had the Regents not stopped the tenured appointment on political grounds.

Before turning to the story of Michigan's struggles over accused communists and excommunists like Klein, I want to acknowledge that while the ISR-driven social sciences were attaining national leadership, Michigan's programs in natural science and mathematics underwent a very different experience. Although these programs grew and generally prospered amid the enormous increases in federal dollars then available, a number of other universities were more visibly successful in expanding their research capabilities and stature, especially in the physical sciences. By standard indicators, Michigan was not as formidable a science university in 1963, relative to its peers, as it had been in 1938. Michigan membership in the National Academy of Sciences, for example, had only doubled, while several of Michigan's peer institutions had tripled and quadrupled their representation in the National Academy during the same period.[37] Institutions as different as Wisconsin and Princeton, Berkeley and Stanford, advanced aggressively and visibly into "big science," while the attainments of Michigan's science departments came to seem modest by comparison.[38]

But Michigan's scientists as well as it social scientists were prominent actors in the second story of the postwar decades I want to tell, the story of Michigan as a major site of the academic struggle over McCarthyism.[39] Indeed, one reason this episode looms so large in Michigan's history is its campus-wide charac-

ter. In this episode, the Michigan faculty experienced a rare moment of high institutional consciousness, acting not on the basis of disciplinary and departmental identities, but on the basis of their identities as members of the academy in general, and as members of a particular faculty confronted with a particular administration. In the course of these events, faculty and administrators helped to define the political dimension of Michigan's academic culture. In the course of these events, the faculty actually cast out one of its members — the mathematician Chandler Davis[40] — a step it would not take again until 1983, when it cast out a member of the Psychology Department for sexual misconduct.

Everyone at Michigan was in favor of academic freedom, of course, but another ideal, potentially at odds with academic freedom, was suddenly on the agenda: "intellectual integrity." It was the possession of "intellectual integrity" that now entitled individual faculty to academic freedom. If it could be shown that a given colleague lacked this quality, the obligation to defend that colleague's academic freedom disappeared. Hence there was a great deal at stake when discussion turned to whether it was possible for a communist to have this supreme academic virtue, "intellectual integrity." By early 1953, when Congressional committees began the most active phase of their inquiries into American universities, a number of powerful voices had gone on record in the negative: to be a communist was to betray intellectual integrity, and to show oneself unfit to serve on a faculty. This argument was made most portentously in a statement signed by the presidents of all thirty-seven of the leading universities constituting the Association of American Universities (not to be confused with the faculty organization, the American Association of University Professors).[41] Michigan President Harlan Hatcher was of course a signer of this statement, and in May of 1953 he tried to get the Faculty Senate to endorse it. In the course of a lively debate — Senate meetings in those days were considerably more animated than they have been recently[42] — Kenneth Boulding attacked the presidential statement for weakening academic freedom, and historian Preston Slosson argued that mere membership in the Communist Party should not be taken as evidence that a colleague was simply a propagandist and was therefore subject to dismissal. Law

Dean E. Blythe Stason addressed the Senate in a neutral voice,[43] in an effort to clarify the meaning of the statement Hatcher had placed before it. According to this statement, the invoking of the Fifth Amendment, Stason explained, makes a faculty person guilty, in effect, until proven innocent: invoking the Fifth Amendment "places upon a professor a heavy burden of proof of his fitness to hold a teaching position and lays upon his university an obligation to reexamine his qualifications for membership in its society."[44] Although the Senate tabled the AAU statement and endorsed instead an AAUP document affirming academic freedom in more conventional terms, it was the Hatcher-AAU position — precisely as interpreted by Stason — that controlled events on campus a year later when pharmacologist Mark Nickerson and biologist Clement Markert pleaded the Fifth, and mathematician Chandler Davis pleaded the First Amendment, in refusing to answer the questions of a Congressional subcommittee at a session held in Lansing.[45]

Hatcher suspended all three the day after they refused to answer the subcommittee's questions,[46] and the University went forward with its own investigation. SACUA's Committee on Intellectual Freedom and Integrity, chaired by the distinguished psychologist, Angus Campbell of ISR, was ready to act as an appeal board, but the original jurisdiction fell to a Special Advisory Committee appointed by Hatcher and chaired by Law Professor Russell A. Smith. The Smith committee made clear at the outset that the issue was one of "integrity," not of research or teaching competence, and that the test of integrity was a willingness to answer specific and pointed questions about one's politics, especially about membership in the Communist Party. By this standard, Markert was found to have integrity. He was willing to answer for colleagues questions he would not answer when asked by HUAC. Yes, he had been a communist, Markert acknowledged, but he had become disillusioned with the party's dogmatism and its subservience to Moscow. The Smith committee recommended that Markert be retained on the faculty, and Hatcher accepted this recommendation.[47]

In the matter of Nickerson's integrity, the Smith committee split, voting three to two for his integrity and his retention. Nickerson, like Markert, had answered the questions put to him by the Smith committee, but Nickerson reported merely drifting

away from the party as he became more involved in his scientific work, not having experienced direct disillusion with the party. This was insufficiently decisive, and it was suggested that Nickerson had gone underground in 1948 and remained an agent of the communist conspiracy. As the chair of Pharmacology, Maurice Seevers, put the point when meeting with the Smith committee, Nickerson's table-talk at lunch "is a leftish type of conversation . . . basically following the communist line without saying so." When Hatcher eventually dismissed Nickerson, he characterized him as still "a communist in spirit" regardless of whether he happened to be a member of the party.[48]

The Smith committee had a more difficult time with Davis, who, unlike both Markert and Nickerson, refused to answer questions about his politics even when put to him by faculty colleagues, and who denied that his integrity depended on whether or not he was a communist. Davis, like Markert, had strong faculty support within LS&A. When the Smith committee met with the Executive Committee of LS&A, philosopher William Frankena took direct and repeated issue with the widespread presumption that Communist Party membership in itself compromised integrity and therefore justified dismissal. The contrary, more conservative side of this crucial theoretical dispute was argued, however, by economist William Haber, then also a member of the LS&A Executive Committee.[49] The Smith committee not only agreed with Haber but was unanimous in its own recommendation that Davis be dismissed. Yet before either Davis or Nickerson could actually be severed from the faculty, the two cases had to be heard by the SACUA-appointed Campbell committee, to which both Davis and Nickerson appealed.

The deliberations of the Campbell committee are by far the most important phase of this entire episode. Here, under the chairmanship of one of the most respected members of the faculty, was a group appointed by the faculty's own governance system. This group was charged not with the general task of advising the president how to handle a complex crisis but with the explicit responsibility of defending "Intellectual Freedom and Intellectual Integrity" in the face of HUAC-instigated inquiries into the politics of Michigan faculty. The Campbell committee was literally the interpreter and guardian on the Ann Arbor campus of the classical intellectual values at a historic

moment when these values were put under severe public strain. What limits would the Campbell committee place on the "freedom" of Davis and Nickerson? What did "integrity" mean to the Campbell committee?

Integrity meant, above all, a willingness to tell one's colleagues exactly what one's politics were, and academic freedom did not extend to a right to refuse to do so. The Campbell committee wanted Davis to say whether he was a communist at that moment, whether he had been a communist in the past, and specifically whether he had been a communist at the time he signed a routine oath when joining the faculty. These are precisely the questions Campbell personally put to Davis in the opening moments of the Campbell committee's hearing of August 11, 1954. "Are you being honest in your associations with the University?" Campbell summarized his concern.[50] Davis's response to the effect that honesty about whether or not he was a communist was irrelevant did not cut Campbell's ice, nor that of others on the committee. Hence Nickerson, who answered all the questions put to him by the Campbell committee, passed the "integrity" test. Nickerson's retention was unanimously recommended by the Campbell committee. Davis did not pass the "integrity" test, and the Campbell committee unanimously recommended his dismissal.[51]

The fact that Hatcher ignored the Campbell committee and fired Nickerson[52] as well as Davis[53] conveys familiar, unremarkable lessons about the limits of faculty authority. Hatcher, too, claimed to be applying the integrity test; he simply evaluated Nickerson's performance differently, agreeing with the negative conclusion offered by the Executive Committee of the Medical School.[54]

One can still argue about whether the Campbell committee was correct to judge Chandler Davis a moral failure, but a striking implication of that judgment was its affirmation of the supremacy of professional solidarity. Faculty who wanted to support Davis balked when he insisted on placing other principles or interests above this solidarity with his professional colleagues. Even had he told the Campbell committee that he retained communist sympathies, there is good reason to believe that all or some members of that committee would have defended Davis, arguing that no matter how "red" his politics

might be, his teaching and scholarship had "integrity." The Campbell committee and many other of Davis's colleagues desperately wanted him to join Markert and Nickerson in treating the professoriate as the salient community, distinct from the alien political world of HUAC and its critics. One can argue that Davis was wrong to hold out as he did for a higher loyalty, to his own conception of what he owed and did not owe to the academy, but his holding out was truly the gravamen of his dispute with those faculty most responsible for casting him out. Michigan's pluralism was thus narrowed by its professionalism: Michigan, at least in 1954, was not plural enough to accommodate the likes of Chandler Davis.[55]

The long-term and even the short-term effects of the Davis and Nickerson firings are not easy to assess. In the long run, the faculty cannot have been terribly intimidated; otherwise there would not have been by 1965 so many faculty in Ann Arbor ready to take a lead in organizing the earliest opposition to the Vietnam War.[56] But in the short run, there were some obvious indications at Michigan of the kinds of caution said to be characteristic of the academy nationally in the wake of the HUAC investigations.[57] The Economics Department put on hold the plans it was then making to add to its tenured ranks the ISR economist Lawrence Klein, even though Klein had repudiated communism in a public HUAC hearing, and thus passed the "integrity test" in spades. Even the following year when the economists, under the new and vigorous chairmanship of Gardner Ackley, tried to appoint Klein,[58] the appointment was stopped.[59] The chief agent in Klein's destiny was accounting specialist William Paton, for whom the Regents later named a building. Paton lobbied personally with five Regents against the appointment, pointing out that Klein sympathized with Norwegian socialism.[60] As Ellen Schrecker describes the incident in her recent book on McCarthyism and American universities, "the . . . Michigan administration, to its credit, never tried to hide the political nature of the decision" to stop Klein's appointment to tenure in the Department of Economics.[61]

Klein was an ISR man, and the work that had won the attention of his colleagues across campus and indeed throughout his discipline was econometric model-building, soon to become the most visible whitewater in the mainstream of professional eco-

nomics. Hence reference to Klein, and to the genuine excitement that Michigan's economists felt about his work, provides a convenient opportunity to turn to the matter of what styles of scholarship flourished here in the wake of the two sets of events I have just described.

Since I am suggesting that both of these very different sets of events were conducive to the consolidation at Michigan of mainstream academic professionalism, Klein's having been both an ISR stalwart and Michigan's most obvious and well-known victim of McCarthyism can serve to prevent the misunderstanding that ISR and McCarthyism were somehow allied with each other.

The concept of "mainstream academic professionalism" is fairly straightforward. It involves a suspicion of grand theory and of epistemological quibbling, a preference for concrete and clearly manageable projects, a penchant for technical methodological refinements, and, above all, attention to aspects of the social sciences and humanities least likely to be mistaken for political advocacy, cultural criticism, or journalism. The Michigan that had come into being by the late 1950s and early 1960s was a mighty engine of scholarship and science of just this type. In order to better recognize Michigan's mainstream academic professionalism for what it was, it may help to remember what was going on at the same historical moment at Columbia.

Columbia had plenty of mainstream academic professionalism of its own, of course, but it also had something else. Robert K. Merton, Paul F. Lazarsfeld, David Truman, and Ernest Nagel of Columbia helped to endow their generation of American intellectuals with a language in which to talk about empirical social research, and their colleague C. Wright Mills provided the era's most enduring, most widely quoted critique of quantitative social science. Yet there issued from Michigan no theoretical works of the stature of Merton's *Social Theory and Social Structure* and Nagel's *The Structure of Science,* no manifestos for social research as widely quoted as Lazarsfeld's papers, no theoretical synthesis of behaviorist political science as influential as David Truman's *The Governmental Process,* nor any critiques of the whole enterprise comparable in bite and in influence to Mills's *The Sociological Imagination.*[62] This is not to deny that Michigan faculty wrote creatively about these issues; but it is to insist that

the marks on the world of social science they made as theorists and critics were not nearly so deep as those they made as practitioners. Even behaviorist social science, Michigan's greatest glory during most of our period, was more commandingly practiced and exemplified at Michigan than it was vindicated theoretically or subjected to sustained criticism.[63]

Then in residence on Morningside Heights were not only Merton, Lazarsfeld, Nagel, Truman, and Mills, but also the historian Richard Hofstadter, the literary critic Lionel Trilling, and the all-purpose savant, Jacques Barzun. There, too, were Daniel Bell, Charles Frankel, Henry Steele Commager, John Herman Randall, Jr., Robert S. Lynd, Gilbert Highet, I. I. Rabi, Moses Hadas, and Meyer Schapiro.[64] Whatever else these men[65] accomplished or failed to accomplish, they articulated some of the central concerns of their respective callings in theoretical terms general enough to engage the attention of men and women of other academic fields.

Some of these Columbia scholars sought to address the implications for American politics and public doctrine of work within their disciplines.[66] Trilling and Bell, for example, functioned openly as moralists, as public intellectuals.[67] One can speculate on the role played by New York City in attracting these intellectuals to Columbia, in giving a special intensity to their collegial discourse, in providing them with inspiration to serve a public wider than their own disciplinary communities, and — through that city's unique media and publishing apparatus — in giving them the visibility that helped make them figures of national repute.[68]

Michigan at the same moment did have the popular naturalist, Marsten Bates,[69] and Kenneth Boulding, who, even while surrounded by Michigan's increasingly econometric economists,[70] had the brass to write a book entitled *The Meaning of the Twentieth Century.*[71] But the work then being done at Michigan making the most waves, at least in the social sciences and humanities, where campus-to-campus variation among elite universities is of course the most evident,[72] was rather different. In 1960 there issued from ISR the book remembered by one study of the era as "the great monument of postwar political science," *The American Voter,* by Angus Campbell, Philip Converse, Donald Stokes, and Warren Miller.[73] This book's unflinching picture of

an overwhelmingly apathetic, ignorant, irrational electorate was replete with implications for the state and fate of democracy, but the authors did no hand-wringing, foot-stamping, or arm-waving. Other political scientists disturbed by the book were quick to address its policy implications, but the Michigan group had produced an austere, methodologically painstaking volume now remembered as a landmark in the effort of political scientists to distinguish sharply between their scientific contributions and the discourse about policy in which any citizen could of course participate at will.[74] *The American Voter* was a scientifically self-conscious, rigorously professional work of data and methods which made no compromises with the world of *The New Republic.* Studied in its aloofness from political advocacy, this book was mainstream academic professionalism at its confident best. Some of us still look to it in 1988 for help in understanding the current presidential campaign. Shortly after *The American Voter* appeared, Rensis Likert produced *New Patterns of Management,* and yet another ISR mainstay, George Katona, published *The Powerful Consumer.*[75] All three of these very significant works emanated from projects in large-data-base survey research, connected to theories of middle-range.[76]

By far the most distinguished of Michigan's humanities departments in the late 1950s and early 1960s was the Department of Philosophy, then ranked second only to Harvard. Here, too, mainstream academic professionalism was practiced at its best. I have already alluded to the department's distinction in ethics, and it should be pointed out that the work of Frankena, Stevenson, and Brandt was not applied ethics; these men did technical ethical theory in a rigorous, disciplinary tradition.[77] Classical Studies, too, was very distinguished, and my emphasis on rigorous professionalism is borne out by the fact that the emblem for classics at Michigan was the great papyrologist, H. C. Youtie, not someone like the highly interpretive, even prophetic Norman O. Brown.[78] The Law School was filled with prolific scholars, known primarily for their codifications of private law.[79] Harold Wethey, the art historian, enjoyed a spectacular career as a cataloguer and classifier of the paintings of Titian. H. W. Nordmeyer, for twenty-five years chair of German, was famous chiefly as a bibliographer.

Wethey and Nordmeyer were both "scholars" rather than

"critics," in fields for which this distinction has traditionally marked off mainstream academic professionalism from a variety of alternatives. Michigan's English Department was then more oriented to teaching than to either scholarship or criticism, but its publishing members were certainly more scholars than critics. A major success of that department was *The Middle English Dictionary,* a monument of specific information.[80] Robert H. Super's enduring editorial work on Matthew Arnold is also a great legacy of those years, but Super himself accounted for two of his department's four Guggenheim Fellowships during one span of a dozen years in which some other, smaller Michigan departments won six, eight, or ten Guggenheims.[81] The illustrious critic Austin Warren was in isolated residence here at the midpoint of the Rackham era,[82] but he is the only Michigan person cited with any frequency in the many histories of literary criticism.[83]

In 1963 *The New York Review of Books* was established, but neither then nor in the subsequent quarter-century have Michigan faculty been prominent in its pages. Although most of us have misgivings about this magazine, in the 1960s and 1970s it was probably read by more American academic intellectuals than any other. The distance between Michigan and this important, transdisciplinary journal of critical opinion is at least consistent with the dominance here of the strict professionalism to which I have referred.[84]

Reference to the *New York Review of Books* can bring us back again to the matter of New York City vs. a small midwestern city as contrasting settings in which Columbia and Michigan had achieved their rather different character by about 1960. A striking fact about many of the great urban universities, including Columbia, is the number of Central European refugee intellectuals they added to their faculties during the era of World War II. Given its great size and prestige, and its relatively cosmopolitan prewar tradition, Michigan appears to have recruited disproportionately few of these scholars. Of the forty-eight leading humanists and social scientists whose careers are summarized in Lewis Coser's recent book, *Refugee Scholars in America,* only one, George Katona, ended up at Michigan.[85] Hence the legendary enlivening and deprovincializing effect these intellectual immigrants had on American academia was less pronounced at Mich-

igan.[86] More of these men and women might have made Michigan's pluralism yet more pluralistic, and its professionalism a bit more diversified intellectually than it was.

Is it possible that Michigan through the mid-1960s was the most persistently Protestant and native-born — with the exception, perhaps, of Wisconsin — of all the leading faculties in the United States? I have not been able to obtain reliable campus-to-campus data to support this impression,[87] but it is an intriguing hypothesis. The situation at Michigan seems to have varied considerably from unit to unit. The Law School was long a midwestern-Protestant monolith; it appointed no one of Jewish origin until 1952, no Jew who had failed to convert to Christianity until 1955, and no Jew of East European descent until about 1960.[88] In any event, of the sixteen names I invoked earlier to remind us of Columbia's reputation for theorists and public intellectuals, more than half were Jewish. The irony is that easy-going Michigan, traditionally not much concerned with the question of who was Jewish and who was not,[89] turned out to be less dramatically affected in the 1940s and 1950s by the great opening of academia's gates to Jews, than was Columbia, so long resistant to the Jewish population of the city around it and then suddenly so responsive to many of the nation's most prominent Jewish scholars.[90]

If Columbia in the late 1950s and early 1960s was distinguished by the number and brilliance of its theorists and its critically engaged, public intellectuals, and obviously enriched by the sudden ethnic diversification of American academic life, Stanford affords a contrast to Michigan of an altogether different sort. Not only were theorists and public intellectuals of any ethnicity harder to find at Stanford than at Michigan; Stanford then had almost no distinguished departments of any orientation in the humanities, and in the social sciences Stanford ranked well only in psychology and economics, the two social science disciplines closest to the mathematical, technological, and natural scientific fields in which Stanford had chosen to concentrate.[91] And concentrate is the right word. Back in 1938 Stanford had been an institution of little distinction in any area of learning, but after World War II it propelled itself upward in the rankings through intensive enterprise on behalf of selected programs. Frederick Terman, the engineering dean most influ-

ential in shaping Stanford's research policy, fought against comprehensiveness, and succeeded in directing Stanford's resources into what at Stanford were called "steeples." Terman sought to build "superb programs in a few crucial fields" rather than "to try for comprehensive coverage and end up doing lots of things well but none with distinction." Terman said he would rather have one seven-foot high jumper than lots of six-foot jumpers. While Michigan as a public university with a pluralistic tradition was trying to sustain its leadership and its comprehensive scope amid economic pressures threatening to reduce it to just another garden-variety state university,[92] Stanford, a relatively small, highly centralized, extremely wealthy private school, roared past Michigan in the rankings in physics, math, chemistry, biochemistry, zoology, mechanical engineering, and electrical engineering. These events at Stanford were predicated, in part, on a calculated decision to allocate resources without specific reference to the needs of undergraduate programs. When Terman retired, he explained privately to his successor that indifference toward undergraduate programs was among the secrets of Stanford's success.[93]

Stanford and Columbia afford more striking contrasts to each other than either does to Michigan, but all the more do these two relatively ungeneric universities serve to bring out Michigan's character at the midpoint of the Rackham era. If Michigan by 1963 had lost some of its eminence in the natural sciences, it had held much of its leadership in the humanities and had made social science its most distinguished specialty. Its proliferating institutes and centers, growing apace with the new entrepreneurialism, were making Michigan more pluralistic than ever, and more responsive to those intellectual initiatives of its faculty for which federal and private dollars could be the most easily found. The most widely influential and respected work done at Michigan, whether within departments or institutes, perpetuated the mainstream academic professionalism which had always been preeminent in Ann Arbor. Michigan's pluralism had flowered within, rather than beyond, this professionalism.

Mainstream academic professionalism as it flourished at this midpoint of the Rackham era was sustained by a certain epistemological confidence, a presumption of the autonomy of knowledge from its sociopolitical matrix, and a faith in the social

beneficence of knowledge honestly produced.[94] These protections were soon weakened by the work of Thomas Kuhn and Michel Foucault, by conflicts over the role of academic research in the Vietnam War, and by the development of its Marxist and feminist perspectives in many disciplines. Knowledge and the processes of its production as well as its use came to be analyzed in political terms; the technical languages of the disciplines, once heralded for their autonomy, were said to be constituted by power relationships. Although these new winds of academic doctrine have blown in a number of different directions in the 1970s and 1980s,[95] all have served to encourage an increase in theoretical and political self-consciousness. If Michigan has not become a conspicuous leader in defining and acting upon this self-consciousness, neither is Michigan a notorious hold-out against it. Recent changes of intellectual direction in the Law School and the English Department are among many signs that Michigan's mainstream academic professionalism is being supplemented by projects of a more theoretical and critical character than was once the norm in many units here. If American academia as a whole is moving in these directions, Michigan, true to its generic character and its propensity to follow the mainstream, is part of the action.

Whatever may have changed at Michigan in the past twenty-five years, the University has continued to set the national standard for productivity in professional journals. If Michigan faculty have not been writing for the *New York Review* and *Deadalus,* they have been prolific in advancing the technical progress of their disciplines. In a national assessment of research and doctoral programs carried out in 1979, Michigan's leadership in social science was even more more decisive in sheer bulk of publications than in perceived intellectual value.[96] But indicators of high intellectual value were also numerous. In many recent seasons, Michigan has produced more Fellows of the Center for Advanced Study in the Behavioral Sciences than has any other institution.[97] Although Michigan's natural science membership in the National Academy of Sciences in 1988 has slipped yet lower than it was in 1963, relative to our peer universities, Michigan's extremely high social science membership in that body is consistent with other signs of our continued leadership in social science.[98]

We learn something about the University of Michigan from national rankings, from lists of academy memberships and prestigious fellowships, and from citation counts, but the feeling persists — in me, and in many others — that Michigan is a more impressive university as a whole than in those of its parts that are measured by these conventional indices of excellence. Hence my constant harping on the range and diversity of the place. If Michigan's pluralistic tradition has been a liability in some respects, inhibiting the concentrating of resources in selected areas, that pluralistic tradition has also sustained Michigan's overall greatness. Pluralism is easy to fault. It offers few principles by which to set priorities, so it tends to respond uncritically to whatever initiatives and influences come upon it with the most force and capital. An institution devoted to pluralism is essentially passive, allowing itself to be pushed and pulled in various directions by agents who know what they want. Such pushes and pulls by political forces, by the shifting methodological and doctrinal fashions of the national disciplines, by the enthusiasms and prejudices of private capital and the federal government, have of course been a large part of the Michigan story during the Rackham era. These pushes and pulls have been contained and to some extent directed by two considerations, one of principle, one of chance.

The principled constraint has been the University's effort to govern itself by the standard academic values of free and open inquiry, veracity, objectivity, reasoned argument, and reliance on evidence. These are amorphous values, and their meaning is often contested. But mainstream academic professionalism is certainly an expression of these values. Both critics and defenders of Davis, Nickerson, and Markert saw themselves as the true champions of these values. The disagreements about classified and other secret research that have taken place on campus periodically during the last twenty years have been largely couched in terms of these classical cognitive values.

If this loyalty to the standard academic ethic has helped Michigan to resist or welcome different initiatives, a more decisive influence in shaping the University appears to have been chance. When I refer to "chance," I mean: Which department or school has been in possession of the basic vision and the leadership skills to promote a given enterprise at a time when funds

happen to be available and when the predilections of executive officers are propitious? Donald Marquis and Psychology and ISR together constitute a positive example we can all cite, but can we doubt that there were other chairs at other times in other units as talented as Marquis, other executive officers as responsive as Marvin Niehuss, other funds as available as that provided by the sponsors of early ISR research? It sounds like a simple combination of conditions, but I am not aware of any set of rules by which we can predict when this combination will come into being.

Multitudinous, sprawling, decentralized, contingent, imperfect, Michigan retains its capacity to inspire. That capacity derives in large part, I believe, not from any claims to uniqueness that might be made for Michigan, but from its strivings toward cosmopolitanism, from the enormous range of learned pursuits and doctrines available here. The University of Michigan has served the people of this state by its determination to remain a truly national rather than merely a state institution, making available here a diversity of intellectual opportunities and a level of excellence unmatched in the public sphere except at Berkeley and Madison. The University of Michigan has served the Midwest by refusing to be exclusively midwestern.[99]

NOTES

[1] Although the University now treats 1817 as the year of its founding, its distinction as a university dates from the 1850s. Wisconsin was founded in 1849, California in 1868. Neither attained distinction until the 1890s. The standard work on late-nineteenth-century American universities is Laurence R. Veysey, *The Emergence of the American University* (Chicago, 1965).

[2] "Report on Student Residency Issues," Office of the Provost and Vice President for Academic Affairs (December 1987), 18, contains a table showing residency figures in selected years, 1860 to 1987. For 1936, the breakdown was 56.6% in-state, 43.4% out-state. The table was complied from the Annual Reports of the Registrar. This document was made available to me by Vice President Richard Kennedy.

[3] The size of Michigan's alumni had long been a staple of conversation about American universities; see, for example, the popular book of 1910, Edwin E. Slosson *Leading American Universities* (New York, 1910), 477. Slosson, a prolific journalist, was the father of Preston Slosson, who was a member of the Michigan History Department from 1921 through 1962.

[4] Steven Sargent Visher, *Scientists Starred,* 1903-1943 (Baltimore, 1947), 151. Visher's compilation is actually for 1943, not 1938; by 1943 the leading baccalaureate producers of scientists honored with a "star" in *Leading American Men of Science* were as follows: Harvard, 233; Yale, 109; Cornell, 89; Michigan, 82; Columbia, 65; Chicago, 64; MIT 63; and Berkeley, 61.

[5] Wilfred B. Shaw, ed., *A University Between Two Centuries: The Proceedings of the 1937 Celebration of the University of Michigan* (Ann Arbor, 1937). Among the other participants was the first woman to be a faculty member at Harvard, Alice Hamilton, an 1893 graduate of the Michigan Medical School. This celebration was a relatively classy affair, by the standards of the era. I have been sensitized to its virtues by my study of a comparable, much less successful event of the same era attempted by New York University, an institution much less sure of itself than Michigan: David A. Hollinger, "Two NYU's and 'The Obligation of Universities to the Social Order' in the Great Depression," in Thomas Bender, ed., *Universities and Cities* (New York, 1988), 249-66.

[6] See the informative book brought out by the University's Center for Continuing Education of Women, Dorothy Gies McGuigan, *A Dangerous Experiment: 100 Years of Women at the University of Michigan* (Ann Arbor, 1970). Part of the significance of Michigan's decision to admit women in 1870, McGuigan correctly notes (30), followed from the fact Michigan was then "the largest university in the country and had by far the greatest prestige of any college west of New England."

[7] The chairmanships of Louis A. Strauss (English), Mordecai Levy (Romance Languages), and Leo Sharfman (Economics) were called to my attention by Otto Graf, interview, June 23, 1988. The story of Trilling at Columbia in the 1930s has often been told; see, e.g., Mark Krupnick, *Lionel Trilling and the Fate of Cultural Criticism* (Evanston, 1986), 38.

[8] See Cook, *American Institutions and Their Preservation* (New York, 1927), esp. 142, 146. See also *Michigan Alumnus XXXV* (1929), 626 ff., as cited by Elizabeth Gaspar Brown, *Legal Education at Michigan, 1859-1959* (Ann Arbor, 1959), 773-75, for the University's apparently unembarrassed public display of its tolerance for Cook's reactionary political views even in the form of explicit expectations for the scholarship appropriate for the law faculty (e.g., "Better no legal research at all than research for socialistic purposes").

[9] William Haber, interviews with Marjorie Brazer, May 2 and May 31, 1979, transcripts in MHC, Department of Economics, Box 5. Haber came to Michigan in 1936. Otto Graf, who was an undergraduate at Michigan from 1926 to 1930 and began teaching in the German Department immediately upon his graduation, recalls that antiradicalism was more prominent at Michigan in the 1930s than was anti-Semitism. Graf has the impression that admissions recruiters, on trips to New York, would exclude as "too liberal" applicants who admitted to reading the *New York Times* rather than one of the many papers with a more conservative editorial outlook. Graf, interview, June 23, 1988.

[10] The Madison campus's association with "The Wisconsin Idea" favored by turn-of-the-century reformers is properly emphasized in Merle Curti and Vernon Carstensen, *The University of Wisconsin, 1848-1925: A History* (Madison, 1949), one of the best institutional histories ever written of an American university. The state of Michigan's traditionally Republican politics established for the university at Ann Arbor a political context very different from that

provided by the state of Wisconsin for the Madison campus.

[11] In 1934 a study of the American Council on Education listed 14 of Michigan's departments in the "high excellence" category. On the basis of this study, a widely noted magazine article ranked Michigan sixth in overall quality of American universities, after Harvard, Chicago, Columbia, California, and Yale. See Edwin R. Embree, "In Order of Their Eminence," *Atlantic Monthly* CLV (1935), 655.

[12] On Novy, see Horace W. Davenport, *Fifty Years of Medicine at The University of Michigan, 1891-1941* (Ann Arbor, 1986), esp. 46-49. Novy was one of four Michigan faculty and emeriti to be members in 1938 of the National Academy of Sciences. See *Report of the National Academy of Sciences, 1937-39* (Washington, 1938), 108-115. The other three National Academy members with Michigan affiliations recorded on the 1938 membership list were astronomer Heber Doust Curtis, chemist Moses Gomberg, and psychologist Walter Bowers Pillsbury. Of the four, all but Pillsbury were baccalaurate graduates of Michigan.

[13] Spencer R. Weart, "The Physics Business in America, 1919-1940: A Statistical Reconnaissance," in Nathan Reingold, ed., *The Sciences in the American Context: New Perspectives* (Washington, 1979), 300; Stanley Coben, "The Scientific Establishment and the Transmission of Quantum Mechanics to the United States, 1919-1932," *American Historical Review* LXXVI (1971), 442-66; Samuel A. Goudsmidt, "The Michigan Symposium in Theoretical Physics," *Michigan Alumni Quarterly Review* LXVII (1961), 178-82. The Michigan Physics Department is the subject of a detailed intellectual and institutional history now being completed under the supervision of Jens Zorn. For an interim version, see Zorn, et al., *On the History of Physics at Michigan* (Ann Arbor, 1988), available from the Department of Physics.

[14] Visher, *Scientists Starred,* 485. See also the brief manuscript history by Wilfred Kaplan, "Mathematics at the University of Michigan," no date, c. 1987.

[15] Michigan's distinction as a research university at the end of the 1930s is emphasized by Roger L. Geiger, *To Advance Knowledge: The Growth of American Research Universities, 1900-1940* (New York, 1986), esp. 208-211.

[16] Perhaps this is why the large literature on the sociology of American higher education almost invariably treats the elite universities as a single entity, and offers little institution-by-institution comparison and specificity. This is true even of the work of the best students of higher education, Martin Trow and Burton Clark. See, e.g., Burton Clark, ed., *The Academic Profession: National, Disciplinary, and Institutional Settings* (Berkeley, 1987). For less distinguished examples, see Talcott Parsons and Gerald M. Platt, *The American University* (Cambridge, Mass., 1973); Howard R. Bowen and Jack H. Schuster, *American Professors: A National Resource Imperiled* (New York, 1986); Martin J. Finkelstein, *The American Academic Profession: A Synthesis of Social Scientific Inquiry Since World War II* (Columbus, 1984); and Logan Wilson, *American Academics, Then and Now* (New York, 1979). One of the most valuable books in this genre remains Charles H. Anderson and John D. Murray, *The Professors: Work and Life Styles Among Academicians* (Cambridge, Mass., 1971). At the same time, most histories of single institutions remain frankly antiquarian, avoiding the issues that engage the Walter Metzgers, the Martin Trows, and the Burton Clarks of the discourse about American higher education in general. Obliviousness to such issues is, for example, a feature of the standard history of this institution:

Howard H. Peckham, *The Making of the University of Michigan, 1817-1967* (Ann Arbor, 1967). This book is a useful source of basic information but offers little analysis. It was written "for Michigan residents, for alumni and students, and for parents of students." It was "not produced," Peckham continues, "for my faculty colleagues." The intellectual development of the schools and departments of the University is dealt with more directly in *The Encyclopedic Survey of the University of Michigan,* 6 vols. (Ann Arbor, 1941-1981), but the departmental entries vary greatly in orientation, scope, and quality. Separate histories do exist for several of the schools and colleges, but on the whole Horace Davenport is correct to observe that "the intellectual history of the University remains to be written." Davenport, *Fifty Years,* 16.

[17] For a refreshingly realistic acknowledgment of these truths, see Robert M. Rosenzweig, "Public and Private Universities: Much Alike, Usefully Different," in Leslie W. Koepplin and David A. Wilson, eds., *The Future of State Universities: Issues in Teaching, Research, and Public Service* (New Brunswick, 1985), 295-303.

[18] Clark Kerr, *The Uses of the University* (Cambridge, Mass., 1963). This remains one of the most thoughtful books yet addressed to the problems and potentialities of the large university determined to pursue excellence and comprehensiveness at the same time. Kerr deals with some of the same issues in his perspicacious but too-often ignored essay, "Remembering Flexner," which served as an introduction to a 1968 reprint of Abraham Flexner's important work of 1930, *Universities: American, English, German* (New York, 1968), vii-xx.

[19] My understanding of the history of Michigan's Department of Philosophy has been greatly aided by interviews with Arthur Burks (May 19, 1988) and William Frankena (July 14, 1988). See also Arthur W. Burks, "Department of Philosophy," *Encyclopedic Survey,* VI, 190-92.

[20] One does see references to the "Michigan School of Political Science," associated above all with the work of Philip Converse and his collaborators, discussed below. Marvelous as have been many of the contributions of the Chicago schools, they sometimes do foster a certain hermetic quality; Chicago's anthropologists advance a style of cultural-symbolic analysis so peculiar that our colleague Thomas Trautmann recently wrote of one such work, rhetorically, "Who thinks in this manner, outside the University of Chicago?" See Thomas R. Trautmann, "Marriage and Rank in Bengali Culture," *Journal of Asian Studies* XXXIX (May 1980), 520. This is an essay-review of a book by Chicago's Ronald B. Inden.

[21] See James Turner's essay in this volume.

[22] "Content to exemplify" might be contrasted to "vindicate theoretically," which Michigan leaders have not made much effort to do since the time of Henry Tappan, whose *University Education* (1851) is perhaps the most recent pronouncement of note on the nature and ideal course of American higher education to be written by a Michigan president (Tappan, moreover, wrote this book prior to his appointment at Michigan). Leadership in the national discourse about the aims and dilemmas of higher education has fallen to others, e.g., since the 1930s, Harvard's Conant, Pusey, and Bok; Chicago's Hutchins; and Berkeley's Kerr.

[23] The extreme of this mystification is perhaps Princeton's annual P-rade, in

which alumni march through campus in period-specific blazers. Princeton appears to be the only university to have convinced its alumni that merely to have attended a particular college was to have participated in a world-historical event.

[24] E.g., "Michigan is a good, grey, university," an eminent biologist at the University of Pennsylvania told one of his postdoctoral fellows as the latter departed Penn for a job at Michigan in 1949. Alfred Sussman, interview, May 2, 1988.

[25] I first learned of this incident from Donald Brown (interview, June 20, 1988). There are several versions of this tale still making the rounds in Ann Arbor. Some place the crucial Miller-Williams conversation chronologically after the Institute's creation but before its full capitalization.

[26] Robert Nisbet, *The Degradation of Academic Dogma: The University in America, 1945-1970* (New York, 1970), 72-73. At almost the same time Nisbet issued his jeremiad on behalf of traditional academic virtues, journalist Spencer Klaw identified "the academic entrepreneur" as "the most conspicuous symbol" of the "new order" of scientific life that had developed in World War II and its aftermath; see Klaw, *The New Brahmins: Scientific Life in America* (New York, 1969), 107.

[27] This transformation of the university research system is a major theme in Roger Geiger, "Research Universities and American Society, 1920 to 1970," in Alexandra Oleson and John Voss, eds., *Knowledge and Society in America, 1920-1970,* forthcoming. Geiger concludes (36) that the salient features of the new system "were shaped, not by any recognition of the importance of basic research, or by the considerations of science policy, but rather by the federal government's direct exploitation of university expertise in certain scientific fields during the war." See also the helpful discussion of the "commodification" of knowledge in David Dickson, *The New Politics of Science* (New York, 1984), 56-106. A thoughtful commentary is Dennis Florig, "The Scientist-Entrepreneur and the Paths of Technological Development," in Malcolm L. Groggin, ed., *Governing Science and Technology in a Democracy* (Knoxville, 1986), 98-117. There remains within academia a good bit of disagreement and uncertainty about just what effect, if any, the interests of federal and private patrons have on the intellectual shape of the science and scholarship carried out in this entrepreneurial environment. Assertions that researchers simply do "what they want" and are glad to get money for it are of course easy to come by. For an example in the social sciences of the contrary argument that the patron's interests can make a real difference in determining the direction of a discipline, see Peter J. Seybold, "The Ford Foundation and the Triumph of Behavioralism in American Political Science," in Robert F. Arnove, ed., *Philanthropy and Cultural Imperialism: The Foundations at Home and Abroad* (Boston, 1980), 269-303. An unusually careful, discerning discussion — taking issue with the increasingly conventional Gramscian wisdom — is Barry D. Karl and Stanley N. Katz, "Foundations and Ruling Class Elites," *Daedalus* CXVI (1987), 1-40. In the large and often contentious literature on this question as it applies to the military and the natural sciences, the most challenging and technically detailed study known to me is Paul Forman, "Behind Quantum Electronics: National Security as [*sic*] Basis for Physical Research in the United States, 1940-1960," *Historical Studies in the Physical Sciences* XVIII (1987), 149-229. Persons who doubt that military priorities shape the intellectual development of science

would do well to begin their refutation of this claim by answering Forman. See also Ian Hacking, "Weapons Research and the Form of Scientific Knowledge," *Canadian Journal of Philosophy* (Supplementary Volume 12, 1986), 237-60.

[28] The early history of the Institute for Social Research is one of the best-documented and most closely analyzed of any aspect of the intellectual history of the University of Michigan during the last half-century, thanks to a recent article by two major participants in the enterprise, Charles F. Cannell and Robert L. Kahn, and to a history of survey research in the United States published last year by Jean Converse. Charles F. Cannell and Robert L. Kahn, "Some Factors in the Origins and Development of the Institute for Social Research, The University of Michigan," *American Psychologist* XXXIX (1984), 1256-66; Jean Converse, *Survey Research in the United States: Roots and Emergence 1890-1960* (Berkeley, 1987); see esp. chapter 11 of this work, "The Survey Research Center at Michigan: From the Margins of Government," 340-78. I have not found a historical study of any other unit of the University of Michigan during the last half-century comparable in detail and sophistication to Converse's study of survey research at Michigan between 1946 and 1960. Especially notable is her balanced attention to institutional, personal, and methodological-ideological dimensions of the enterprise at Michigan, and her comparative perspective on similar projects at Chicago and Columbia.

[29] Another activist in the cause was Robert Cooley Angell, chair of Sociology. The pivotal role of Marquis and Angell is plain from the Michigan administrative documents collected in the Marvin Lemmon Niehuss Papers, Box 1, "Institute for Social Research," MHC. I have also listened to Niehuss's recollections of these events, interview, July 19, 1988.

[30] Converse, *Survey Research*, 344, 346. Just what to call these money-raising academics has been a delicate matter, Converse notes guardedly (264): "*Promoters, operators*, and certainly *hustlers* have all been used ironically among academics to lend a certain tarnish to these political skills of fund-raising and organizing." Converse appears to prefer "research entrepreneur" and "managerial scholar."

[31] ISR's high overruns did place the arrangement at risk more than once during the early years; see, e.g., the testy memorandum of W. K. Pierpoint to Rensis Likert, September 21, 1951, Niehuss Papers, Box 1, "Institute for Social Research," MHC. Converse describes (344-49) the salient relationships between ISR leaders and the central administration very well. Niehuss now remembers the early ISR social scientists as a very distinctive group; Niehuss and his colleagues in the central administration believed the group deserved special administrative attention; interview, July 19, 1988.

[32] "Department of Psychology," *Encyclopedic Survey*, VI, 207-8. Not all of the remaining 27 had the remainder of their appointments in ISR; Marquis also engineered joint appointments with other units. In Marquis, Michigan was blessed with one of the nation's most sophisticated social science planners, possessed both of a coherent vision of what the social sciences should be, intellectually, and of a program for organizing research communities in order to realize that vision. See his Presidential Address to American Psychological Association, "Research Planning at the Frontiers of Science," *American Psychologist* III (1948), 430-38, and the then-confidential (May 1952) Ford Foundation document outlining the vision of CASBS, coauthored by Marquis, and shared

with Vice President Marvin L. Niehuss; Marquis to Niehuss, June 17, 1952, MHC, Niehuss Papers, Box 1, "Ford Foundation."

[33] My understanding of the development of the Psychology Department depends heavily on Wilbert McKeachie (interview, May 6, 1988), and "Department of Psychology," *Encyclopedic Survey,* VI, 207-212.

[34] Of the many treatments of the behavioral revolution in political science, one of the most incisive and provocative is contained within the recent book by Raymond Seidelman with Edward J. Harpham, *Disenchanted Realists: Political Science and the American Crisis, 1884-1984* (Albany, 1985), esp. 149-86. For a complacent, whiggish perspective, bolstered by weak research, see Albert Somit and Tannehaus, *The Development of Political Science: From Burgess to Behaviorism* (Boston, 1967). Also relevant but needlessly melodramatic is David Ricci, *The Tragedy of Political Science: Politics, Scholarship, and Democracy* (New Haven, 1984).

[35] For political science rankings, see Allan M. Carrter, *An Assessment of Quality in Graduate Education* (Washington, 1966); this study, known colloquially as "the Carrter Report," was based on 1964 evaluations. Compare, for 1969, Kenneth D. Roose and Charles J. Anderson, *A Rating of Graduate Programs* (Washington, 1970), and for 1978-79, placing Michigan fourth in faculty quality, Lyle V. Jones et al., *An Assessment of Research-Doctorate Programs in the United States: Social & Behavioral Sciences* (Washington, 1982). According to the departmental history written by Joseph E. Kallenbach, "Probably the most profound influence upon the department's curriculum and the approach to the subject matter field of political science has come through its close relationship with the Institute for Social Research. . . . Employing the techniques and methodology of empirical research, rather than the normative, descriptive, and analytical approach characteristic of earlier stages in the development of political science as a field of study, the department's offerings now [c. 1977] heavily emphasize political behavior studies." Kallenbach, "Department of Political Sciences," *Encyclopedic Survey,* VI, 205-6.

[36] The striking growth in size and stature of the Department of Anthropology is a prime example of non-ISR social scientific distinction at Michigan.

[37] So far as can be gleaned from the Academy's published membership list for 1963, Michigan had eight members in 1963, compared with four in 1938. National Academy of Sciences, *Annual Report, 1963* (Washington, 1963), 141-64.

[38] In California, the enterprising President Robert Gordon Sproul exploited the Atomic Energy Commission and other federal agencies for all he could get, resulting in an unprecedented increase in buildings, equipment, and supporting funds for the natural sciences at Berkeley and UCLA. Verne Stadtman, *The University of California, 1868-1968* (New York, 1970), 369-70; Stadtman notes that Sproul's zeal for federal dollars was found to be excessive and incautious by some faculty leaders, including physicist Raymond Birge, chair of Berkeley's faculty Committee on Research. See also Robert Seidel, "A Home for Big Science: The Atomic Energy Commission's Laboratory System," *Historical Studies in the Physical Sciences* XVI (1986), 135-75. Any serious inquiry into the relative decline of Michigan's standing in the physical sciences in the postwar era would have to address the enterprise and initiative of several of Michigan's

departmental chairs in the sciences. I have made no attempt to do this, but the story told above about Psychology chair Donald Marquis and the development of ISR leads me to believe that Michigan's central administration was responsive to innovative initiatives, even if not inclined, as was Berkeley's Sproul, to do the initiating. Jens Zorn and his collaborators are discreet and circumspect in dealing with this issue in *Physics at Michigan*, esp. 45. There is an oral tradition in some circles complaining that Michigan physical scientists were too proud of being able to build their equipment with "candle wax and bailing wire" and insufficiently insistent about the needs of capital-intensive research. Some of Michigan's science old-timers complain bitterly, but not for specific attribution, about "social science hegemony" in the leadership of LS&A, especially during the deanships of psychologist Roger Heyns and economist William Haber.

[39] Michigan's importance is implied by the extensive attention devoted to the Michigan events in a recent, widely reviewed scholarly study by Ellen W. Schrecker, *No Ivory Tower: McCarthyism & the Universities* (New York, 1986). I have examined almost all of the documents in the Michigan Historical Collections used by Schrecker, and some she did not; I find her account of the Michigan events to be accurate, and her judgments about the meaning of these events to be essentially sound. In the book as a whole, however, I believe Schrecker subsumes under "McCarthyism" too wide a range of conduct and belief. I am also persuaded by Lewis Perry that Schrecker, by concentrating on the stories of victims of McCarthyism, diminishes the real significance of academic efforts to fight McCarthyism; see Lewis Perry, review of Schrecker, *History of Education Quarterly* (Winter 1987), 563-68.

[40] Michigan was subsequently censured by the American Association of University Professors. For the extensive justification of the AAUP's action, see the Academic Freedom and Tenure Committee's report, "The University of Michigan," *AAUP Bulletin* XLIV (March 1958), 53-101. For the recollections of a local AAUP activist concerning the censure and the events leading to it, see Wilbert J. McKeachie, "Reminiscences of the 1950's," *AAUP Newsletter, University of Michigan*, March 1988.

[41] The AAU statement, "The Rights and Responsibilities of Universities and Their Faculties," was adopted by the AAU at its meeting of March 24, 1953, at Princeton. For an account of the discussion among the AAU's leaders leading to the adoption of the statement, see Schrecker, *No Ivory Tower*, 187-89. Copies of the statement itself are in many files in MHC, e.g., Niehuss Papers, MHC, Box 2, "Angell's Loyalty Committee."

[42] The Senate and the Senate Assembly have engaged the rank-and-file faculty when the interests of the faculty are felt to be at stake in an issue that cuts across the lines of the schools and colleges. This was clearly the case during the McCarthy era, and again in the late 1960s when faculties debated the relationship of universities to the Vietnam War. Although Senate veterans of the 1930s and 1940s insist that a genuine, almost familial sense of community was once a reality at Michigan, during the last forty years the faculty seems not to have functioned very actively *as a polity* in the absence of crisis.

[43] Yet Stason's remarks imply sympathy for Hatcher's position. Three years earlier, moreover, Stason had chaired a commission that recommended state antisubversive legislation to Governor G. Mennen Williams; a copy of the

Stason Report, dated August 26, 1950, is in Niehuss Papers, Box 1, "Subversive Activities Report (Governor's Panel)." That Michigan was one of the state governments with the most initiative in antisubversion efforts has long been noted by historians; see, e.g., David Caute, *The Great Fear: The Anti-Communist Purge Under Truman and Eisenhower* (New York, 1978), 71-72.

[44] Minutes of Senate Meeting, May 11, 1953, Michigan Historical Collections, University Senate, Box 3. Stason was not, of course, declaring that persons who took the Fifth should be regarded as guilty of a criminal offense until proven innocent in court; the burden of proof he was addressing had to do not with crimes and courts, but with crime-like offenses and court-like determinations of fitness for membership in a faculty. Yet he spoke formally in his capacity as dean of the Law School, after all; the conflation of two realms was obvious and presumably intentional. In the absence of a desired legal aura, the text of the AAU statement could have well been interpreted for the Senate by a professor of English, like Hatcher himself.

[45] A passtime for some Michigan faculty has been speculating on why the HUAC subcommittee sent subpoenas to only four of its colleagues (Klein of ISR was also called; for a discussion of his case, see below) to appear at its session in Lansing. Part of the answer may be that Niehuss had gone quietly to Washington beforehand to try to learn what HUAC had in its files on Michigan faculty. Upon being shown this information by HUAC staff, Niehuss cautioned that the evidence was very weak indeed. He warned that the Committee would embarrass itself if it tried to depict certain individuals as communists. On other occasions, Niehuss also cautioned the FBI that its sense of who was subversive was open to question: an FBI agent once visited Niehuss's home and listed for him the Michigan faculty whom the FBI would "pick up tomorrow if war with the Russians broke out." On that list was LS&A Dean Hayward Kenniston. When Niehuss pointed to the absurdity of this, the FBI agent explained that Kenniston had once agreed to speak before a society devoted to American-Soviet friendship. Niehuss, interview, July 19, 1988. The same FBI agent once solemnly assured Niehuss in a phone conversation that the newly hired Wilbur Cohen — eventually, a distinguished dean of the School of Education and a member of the cabinet of President Lyndon Johnson in 1968-69 — had no record as a subversive. The character of FBI assessments of academic intellectuals and writers during this era has been addressed in detail by Herbert Mitgang, "Annals of Government," *New Yorker,* October 5, 1987.

[46] Hatcher's action was widely protested. About 200 faculty signed a statement published in the *Michigan Daily,* May 25, 1954, defending the constitutional rights of their colleagues and protesting the introduction of "extra-professional criteria" in the University's decision-making about faculty. The signers of this statement were almost exclusively from the College of LS&A. A list of the signers with affiliations is in Box 21 of the Niehuss Papers, MHC.

[47] Markert soon left Michigan for Johns Hopkins and later went to Yale, where he became chair of his department and was elected to the National Academy of Sciences. Schrecker concludes (227) on the basis of local FBI reports from the period found in Markert's FBI file that Hatcher accepted this recommendation because he believed he would be able to get rid of Markert when his contract came up for renewal. Niehuss disputes this vehemently; interview, July 19, 1988.

[48] "Proceedings at a Meeting of the Special Advisory Committee to the President on the Suspensions of Doctor Clement L. Markert, Doctor Mark Nickerson and Doctor H. Chandler Davis," Niehuss Papers, Box 21, MHC, see esp. I, 49, 67. The transcript of the Smith committee's session on Nickerson with the Executive Committee of the Medical School reveals many dimensions of anti-Nickerson feeling within the Medical School, especially on the part of Seevers. "Nickerson is basically anti-authority," Seevers told the Smith committee (50), "and that is something that I personally am unable to put up with." Hatcher's reference to Nickerson as a "communist in spirit" was an approving quotation from the minority report of the Smith committee; see his Report to the Senate, October 5, 1954, 16-17, in Niehuss Papers, Box 21.

[49] "Proceedings," II, esp. 76-81, 100.

[50] "Proceedings Had at the Appeal Hearing in Reference to the Appeal of Doctor H. Chandler Davis to the Senate Sub-Committee on Intellectual Freedom and Intellectual Integrity Held at Hutchins Hall . . .," page 3, found in Niehuss Papers, Box 21, MHC.

[51] In subsequent years Campbell remained adamant. When the AAUP censured Michigan, he joined his colleague Smith in an angry letter to the AAUP's executive secretary, declaring that all ten members of two faculty committees "became convinced that Mr. Davis was dishonest in his representation of his position as one of 'principle'." Russell A. Smith and Angus Campbell to Robert K. Carr, January 13, 1958, in MHC, Angus Campbell Papers, Box 7, "SACUA: Intellectual Freedom and Integrity, 1954-1956." See also, in the same file, Campbell to Alfred F. Conard, May 27, 1958: Davis "was dismissed on the very legitimate charge of lack of intellectual integrity."

[52] Nickerson went to Canada, taking a job at the University of Winnipeg.

[53] Davis, too, got to Canada eventually, at the University of Toronto. He first served a prison term for contempt of Congress.

[54] The "integrity test" was applied to Markert again early in 1956 when he was under consideration for promotion to tenure. Letters collected by Zoology chairman D. E. S. Brown from a dozen of Markert's senior departmental colleagues supplement their praise of Markert's scientific and teaching contributions with detailed and earnest evaluations of his candor and honesty. See "Markert, Clement L.," in MHC, Niehuss Papers, Box 5. Even the most negative letter in this file, written (April 11, 1956) by A. H. Stockard, insists that Markert's "political beliefs are of no concern to me, but integrity of character is important." The most favorable letter in the file includes a cogent attack on the integrity test, and a vindication of Markert within its terms, concluding that if Markert is a communist the university needs more communists; David L. Nanney to D. E. S. Brown, January 11, 1956.

[55] It is instructive that back in 1948 the integrity test helped determine the fate of philosopher Irving Copilowish in a case that appears to have been kept out of the press (neither the *Ann Arbor News* nor the *Michigan Daily* refers to Copilowish during the relevant period, September 18 through 24, 1948). I learned of it quite by accident, while scanning the minutes of the LS&A Executive Committee for 1948-49. The story of this remarkable case — so far as I have been able to piece it together — proceeds as follows. When Copilowish joined the Department of Philosophy in the fall of 1948, he warranted

that he had never advocated the violent overthrow of the government but, in fact, he had once been involved in a Trotskyist group then construed to be subversive. A day or two after having deceived an administrative officer of the University about this matter, he confessed that he had lied and gave his colleagues in Philosophy an extensive account of his political past. Since the final approval of Copilowish's appointment as assistant professor was still to make its routine way through the Regents, LS&A Dean Kenniston wanted to be prepared to defend Copilowish. Philosophy chairman William Frankena was flown in from Harvard, where he was on sabbatical, to convene an extraordinary meeting of his department, the results of which were conveyed in a letter written to Kenniston that same afternoon. "We confidently believe," Frankena reported on behalf of his department, "that Copilowish has genuinely and entirely renounced his questionable connections, opinions, and activities, and has no intention of returning to them." We detect "nothing subversive or radical in his thinking," Frankena continued, and we find in him no "Marxist or other [b]ias." (See William Frankena to Hayward Kenniston, September 22, 1948, MHC, College of Literature, Science and the Arts, Box 81, Dean's Files, Department of Philosophy; See also Box 65 of the same collection, Minutes of the Executive Committee in 1948-49, pages 7 and 8.) The Executive Committee of LS&A was delighted, and Kenniston immediately informed Provost James P. Adams that Copilowish was not "today a supporter of subversive and revolutionary ideas." (Hayward Kenniston to James P. Adams, September 23, 1948, MHC, Dean's Files, Department of Philosophy, College of Literature, Science, and the Arts, Box 81.) Copilowish was kept on. Kenniston was apparently the crucial force in saving him. (See Frankena's undated letter to Kenniston expressing his department's gratitude, ibid. I have also been helped by the recollections of these events shared with me by Frankena himself; interview, July 14, 1988.) Kenniston told Frankena, according to the latter's recollections, that Kenniston had carried his own letter of resignation when he went to see Adams about the Copilowish matter, but was not obliged to present it because Adams accepted the College's position on the matter. Copilowish, after changing his last name to Copi, wrote an exceedingly successful textbook in logic: Irving M. Copi, *Introduction to Logic* (New York, 1953). This book is now in its seventh edition. Copi left Michigan in 1969 to accept a position at the University of Hawaii. The Copilowish/Copi case is so interesting because it falls at the opposite extreme from that of Chandler Davis: Copilowish apparently told his colleagues all, threw himself on their mercy, uncompromisingly renounced political radicalism, and was willing to have it said of him that his "ideas," not simply his political conduct, were devoid of Marxism. The issue of Copilowish's candor was apparently reviewed again when he was promoted to tenure; a substantial folder dating from that era is closed until Copi's death, "Papers 1950-51, Copilowish (Copi), Irving," MHC, Provost, Box 13.

[56] Just how great a percentage of Michigan faculty were opposed to the war? The prominent, early opposition offered by Michigan faculty is of course a well-known and important aspect of the University's history during the 1960s, but an ISR study of 1967 suggested that at Michigan, "doves seem to be a minority group." See Howard Schuman and Edward O. Laumann, "Do Most Professors *Support* the War?" *Transaction* (November 1967).

[57] Some evidence of this was found in the spring of 1955, when 61 Michigan social scientists were interviewed by a survey research team from Columbia

University interested in the impact on faculties of the widespread pressure for ideological conformity. The individual questionnaires seem to have been lost (Schrecker, 416), but "patterns of caution" in scholarship, teaching, and lunchroom conversation are a major theme in the published results of the survey, which also included hundreds of social scientists from many other American colleges and universities. See Paul Lazarsfeld and Wagner Thielens, Jr., *The Academic Mind: Social Scientists in a Time of Crisis* (Glencoe, Ill., 1958), esp. 192-236. The Columbia investigators interviewed more faculty from Michigan than from any other single institution; see 434. The failure of Lazarsfeld and Thielens to disaggregate their data by specific institution is an early example of the tendency, noted above in note 16, of sociologists to treat the elite professoriate as a single entity.

[58] Klein received a favorable departmental vote by a margin of 16 to 2. The Executive Committee of LS&A and its then dean, Charles Odegaard, were in favor, too. Odegaard was careful to cover the "integrity" ground when recommending Klein's appointment, and to contrast Klein favorably in this respect to the three who had refused to answer the questions of the HUAC subcommittee (see Charles H. Odegaard to Marvin L. Niehuss, March 31, 1955, in "Lawrence Klein," Niehuss Papers, Box 5, MHC. Most of the documents relevant to the Klein case are in this file, and in one of the same label in Box 4 of the Niehuss Papers).

[59] There is a helpful account of this episode on pages 131 to 140 of Marjorie Brazer, "The Economics Department of the University of Michigan: A Centennial Retrospective," [1980], MHC, Department of Economics, Box 5. The same collection contains typescripts of interviews Brazer conducted in 1979 with the principals of the case, including Klein, Ackley, Paton, Haber, and Katona. Of special significance is Brazer's interview with Ackley, October 29, 1979. I have also profited from Ackley's comments about the case, interview, May 16, 1988.

[60] William Paton to Marvin L. Niehuss ["Dear Dix"], August 2, 1955, in "Lawrence Klein" folder, Niehuss Papers, Box 5, MHC. Paton sent copies of this letter to five Regents and advised his old friend Niehuss of this fact. Although there is no reason to suspect that the argument about Norwegian socialism carried any weight with Niehuss or Hatcher, the Regents were obviously moved by Paton's letter. Niehuss's response three days later reminded Paton of Klein's exceptional credentials and of the care with which the department and the College had prepared the argument, but continued circumspectly that "in view of all the circumstances" Niehuss was unwilling "at this time" to recommend Klein for tenure. (See Niehuss to Paton, August 5, 1955, ibid.) Although Niehuss eventually supported efforts to appoint Klein to a full professorship without tenure in the hopes of retaining him until regental opposition moderated and tenure could be awarded, Klein, then on leave at Oxford, wrote that he found this compromise gesture to Paton morally repugnant. (See Klein to Niehuss, December 9, 1955 and Klein to Gardner Ackley, same date, both ibid.) Klein accepted a position at the University of Pennsylvania. He paid a return visit to Ann Arbor in 1977, to receive an honorary degree from a University then eager to express its regrets.

[61] Schrecker, *No Ivory Tower*, 255. In the most thorough and comprehensive study of academia and McCarthyism, Schrecker judges (253) the Klein case at Michigan "perhaps the most egregiously political denial of tenure" known to her. Although Schrecker provides (254) an accurate account of the anti-Klein

activities of "a professor of business administration," she does not identify Paton as this professor.

[62] Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill., 1949; second, expanded edition 1957); Ernest Nagel, *The Structure of Science* (New York, 1961); David Truman, *The Governmental Process*, (New York, 1951); C. Wright Mills, *The Sociological Imagination* (New York, 1959). The Michigan work most comparable to Nagel's is Abraham Kaplan, *The Conduct of Inquiry: Methodology for Behavioral Science* (San Francisco, 1964). As its subtitle implies, Kaplan's work was designed more explicitly for social scientists than was Nagel's more comprehensive treatise in philosophy of science. "The work is not a formal exercise in the philosophy of science," Kaplan's readers were assured in an introduction by Leonard Broom, "but rather a critical and constructive assessment of the developing standards and strategies of contemporary social inquiry" (xvii). Although this disclaimer suggests a book less sophisticated philosophically than Kaplan's work actually is, the disclaimer is consistent with the distinction I want to make between Kaplan's more "practical" approach and Nagel's greater concern with the classical issues of epistemology and logic. The two books were cited with almost equal frequency by social scientists between 1966 and 1985; see *Social Science Citation Index*, cumulative volumes, 1966-70, 1971-75, 1976-80, and 1981-85. Yet Kaplan's role in the culture of Michigan is not remotely as great as Nagel's at Columbia. Nagel was a Columbia man from 1931, when he began to teach philosophy there, until his death in 1985; Kaplan was at Michigan from 1963 to 1973.

[63] Compare my observation about Michigan's presidents, note 22, above. Although two volumes of methodological essays published in the early 1950s out of Columbia's Bureau of Social Research and Michigan's ISR have much in common — as noted by Jean Converse, *Survey Research*, 385-86 — the Michigan book was a narrower, more practical collection eschewing the "philosophy of social science" which made up 70 pages of the Columbia equivalent. See Paul F. Lazarsfeld and Morris Rosenberg, eds., *The Language of Social Research: A Reader in the Methodology of Social Research* (Glencoe, Ill., 1955), and Leon Festinger and Daniel Katz, eds., *Research Methods in the Behavioral Sciences* (New York, 1953). Lazarsfeld had to face Mills in the elevator, but Jean Converse finds (534) no evidence that ISR social scientists made any effort to respond to criticisms of their brand of social science, including that of Loren Baritz, whose *The Servants of Power: A History of the Uses of Social Science in American Industry* (Middletown, Conn., 1960), she notes, makes frequent reference to ISR authors. But Baritz, interestingly, also cites the early (pre-Michigan) work of Theodore Newcomb as having been written from a refreshingly prolabor standpoint, and some of the work of Daniel Katz as a rare example of self-awareness on the part of social scientists of the function in social conflict of certain styles of "objectivity"; see Baritz, *Servants*, 136-37, 203-4, and 258.

[64] For convenient lists of Columbia humanities and social science faculty through the mid-1950s, see R. Gordon Hoxie, et al., *A History of the Faculty of Political Science, Columbia University* (New York, 1955), 310-16, and John Herman Randall, Jr., et al., A History of the Faculty of Philosophy, Columbia University (New York, 1957), 289-96.

[65] I employ the male gender here because the Columbia scholars I list were, indeed, exclusively male.

[66] It is striking, too, how many prominent Columbia scholars addressed McCarthyism in their professional work. The Lazarsfeld and Thielens study mentioned above (*The Academic Mind*) is such an example; so, too is Richard Hofstadter and Walter Metzger, *Academic Freedom in the United States* (New York, 1955), and Daniel Bell, ed., *The New American Right* (New York, 1955). If there was a comparable outpouring of critically engaged social scientific and humanistic scholarship at Michigan, it has eluded me. Kenneth Boulding's occasional efforts along these lines were not so widely noted. Columbia's record in dealing with suspected subversives, incidentally, is very different from Michigan's; see Schrecker, *No Ivory Tower*, 255-56, who notes that President Grayson Kirk knew very well that committees of his faculty would resist inquiry into the "outside activities" of radical colleagues, so he resisted the temptation to convene such inquiries.

[67] This role is as easy to idealize uncritically as it is to dismiss. An undiscerning example of the former is Russell Jacoby, *The Last Intellectuals: American Culture in the Age of Academe* (New York, 1987). I find this work an embarrassment to its cause, as it foolishly denigrates technical specialization, methodological rigor, and theoretical sophistication. I have made these complaints in "Why Can't You Be More Like Dwight Macdonald?" *Reviews in American History* XVI (December 1988), 657-61.

[68] Such speculation can begin, for example, with the fact that New York institutions are home to most of the 60-odd academics mentioned in a recent overview of the political discourse of "intellectuals" between American entry into World War II and about 1960: Richard Pells, *The Liberal Mind in a Conservative Age: American Intellectuals in the 1940s and 1950s* (New York, 1985). Those not affiliated with Columbia, NYU, or one of the CUNY campuses are almost exclusively from other urban campuses, especially Harvard and Chicago. Pells's book is largely a retelling of stories familiar to readers of *Commentary* and *New Republic*, and it would not do to accept uncritically Pells's notion of just what should count as the history of "American intellectuals" during the era. A weakness of the book is, indeed, its obliviousness to mainstream professional scholarship. Yet for my purposes, the book's conventionality is very much to the point: Pells confronts us with the most successful of the most journalistic endeavors of American academics during 20 years of the epoch I am addressing. That he finds no occasion even to mention *anyone* from Michigan helps us to determine just where Michigan faculty have and have not made an impact. Efforts to measure the standing of individuals outside their disciplines are even more impressionistic than the rankings of graduate programs. One scholar has tried to apply the techniques of survey research to the task; he produced a list of the "top 70" American intellectuals as of 1970: Charles Kadushin, *The American Intellectual Elite* (New York, 1974). Kadushin's list is heavily weighted toward nonacademics (e.g., Susan Sontag, Norman Mailer) but includes many academics. For whatever the survey is worth, no Michigan scholar made the top 70. Even within the "top 20," Columbia placed 3 (Bell, Hofstadter, and Trilling). See Kadushin, 30-31.

[69] Bates, a native of Grand Rapids, was an entomologist in his technical work. He published a number of popular works which went through several editions during his tenure at Michigan (1952-71); the best-known were Marsten Bates, *The Forest and the Sea* (New York, 1960), and Marsten Bates, *Man and Nature* (Englewood Cliffs, 1961).

[70] Marjorie C. Brazer, "Department of Economics," Encyclopedic Survey, VI, 144-48.

[71] Kenneth Boulding, *The Meaning of the Twentieth Century* (New York, 1967). Boulding cast his claim in the form of a version of modernization theory.

[72] It is a truism that each of the natural science disciplines is controlled by a research consensus sufficiently tight as to prevent physics departments, for example, from becoming as different as are the economics departments of the University of Chicago and the University of Massachusetts. The "departmental cultures" of chemists and cellular and molecular biologists seem not to be as distinct from one another as those of anthropologists and philosophers. Yet attention to the subtle differences among departmental cultures is now a promising direction in history of science scholarship. For an example of sensitivity to these differences as they relate to the work of physicist Donald Glaser at Michigan, see Peter Galison, "Bubble Chambers and the Experimental Workplace," in Peter Achinstein and Owen Hannaway, eds., *Observation, Experiment, and Hypothesis in Modern Physical Science* (Cambridge, Mass., 1985), 309-373, esp. 315.

[73] Angus Campbell, Philip Converse, Donald Stokes, and Warren Miller, *The American Voter* (New York, 1960). The characterization quoted is that by Robert Booth Fowler, *Believing Skeptics: American Political Intellectuals, 1945-1964* (Westport, Conn., 1978), 187.

[74] See, e.g., the discussion by Seidelman and Harpham, *Disenchanted Realists*, 151-69, esp. 152-53.

[75] Rensis Likert, *New Patterns of Management* (New York, 1961); George Katona, *The Powerful Consumer: Psychological Studies of the American Economy* (New York, 1960).

[76] For Katona's explicit reference to "middle-level theories," see his methodological appendix, *Consumer,* 263. When the distinction between middle-range and grand, or systematic, theory is now applied to the most influential social scientific works produced in the 1950s and early 1960s, Michigan's middle-range orientation is clear. Consider, for example, the rather different character of the Michigan and Harvard contributions listed among the 100 works most frequently cited by social scientists between 1969 and 1977. Two of the three Michigan items on this list are middle-range classics, *The American Voter* and Likert's *New Patterns of Management.* The third, Daniel Katz and Robert L. Kahn's *The Social Psychology of Organizations,* much influenced by the systems theories of Parsons and von Bertalanffy, is perhaps a borderline case. It is perhaps worth noting that Leon Festinger had left Michigan for Minnesota several years before he published *A Theory of Cognitive Dissonance* (Stanford, 1957), by far the most frequently cited work of social psychology in the Garfield study. Several Harvard entries on this list, however, are quintessentially grand theory: Talcott Parsons, *The Social System;* B. F. Skinner, *Science and Human Behavior;* and John Rawls, *A Theory of Justice.* Harvard's entries also include John Kenneth Galbraith's *The New Industrial State,* which might be classified as middle-range theory but is broad enough to push the category to its limit. See Eugene Garfield, "The 100 books Most Cited by Social Scientists, 1969-1977," in Garfield, *Essays of an Information Scientist,* 9 vols. (Philadelphia, 1963-1987), III, 621-32, reprinted from *Current Comments* (September 11, 1978). Citation counts are not, in my view, of much value in determining the

merit of a work, but they can help identify works that have been widely discussed. All of these Harvard books of grand theory are by single authors; yet two of the three Michigan works have multiple authors. Grand theory is almost always done by single minds — the collaborations of Marx and Engels are salient exceptions — while a major setting for team research in the social sciences has been the project of developing middle-range theories on a quantitative base, a project for which Michigan's ISR-dominated social science establishment has proven to be ideally suited.

[77] Abraham Kaplan did write in a more popular vein shortly before his departure from Michigan in the early 1970s, e.g., *In Pursuit of Wisdom: The Scope of Philosophy* (Beverly Hills, 1977), but the work through which Michigan philosophers were then making their mark is better represented by Frankena's *Ethics* (Engelwood Cliffs, N. J., 1963), a work distinguished, incidentally, by its accessibility as well as by its analytic rigor.

[78] O. M. Pearl, "Department of Classical Studies," *Encyclopedic Survey,* VI, 136-39. Michigan's classicists have established a distinguished record in epigraphy, numismatics, law, and especially papyrology but with few significant exceptions have not been as engaged by the more interpretive literary and philosophical dimensions of classical scholarship. The idiosyncratic Wesleyan classicist Brown published *Life Against Death: The Psychoanalytical Meaning of History* in 1959.

[79] See the complete list of publications of the law faculty through 1959 in Brown, *Legal Education,* 804-919. This book is a formidable archive of information about the Michigan Law School.

[80] The history of the Department of English written for the *Encyclopedic Survey* by Richard W. Bailey focuses on the department's teaching record; the dictionary is the one scholarly project mentioned by Bailey (VI, 148-52, esp. 152). For a brief account of this enduring feature of literary scholarship at Michigan, see "The Medieval World: Dictionary Project Chronicles Middle English," *University of Michigan Research News* (March-May 1988), 22-23.

[81] I refer to 1959 through 1971, during which time the Department of History, by far the leading Michigan producer of Guggenheim Fellows, won 10. During the entire half-century since 1938, the Department of English has won only 19 Guggenheim Fellowships, while Michigan's historians have won 29, all since 1957. When the rate of Guggenheim production is considered in relation to departmental size, only Michigan's philosophers — 10 Guggenheims since 1938 — compare to Michigan's historians in this distinction. These figures have been compiled from the annual *Reports of the President and the Treasurer* of the John Simon Guggenheim Foundation. During the past quarter-century Michigan has been the fifteenth ranking institutional producer of Guggenheim Fellows; the leaders are Berkeley, Harvard, Columbia, Yale, Stanford, and UCLA.

[82] To my knowledge, Warren was the only literary scholar from Michigan ever elected to membership in the National Institute of Arts and Letters. In understanding Warren's role at Michigan I have been helped by the recollections of Warner Rice (interview, May 6, 1988) and Otto Graf (interview, June 23, 1988). Warren was a devout but idiosyncratic Anglican, who crossed himself when passing portraits of Charles I.

[83] See Gerald Graff, *Professing Literature* (Chicago, 1987); Walter Sutton, *Modern American Criticism* (Englewood Cliffs, 1963); Rene Wellek, *American Criticism, 1900-1950,* Vol. 6 of *A History of Modern Criticism* (New Haven, 1986). Grant Webster, *The Republic of Letters* (Baltimore, 1979), points out that among "critics," Warren was something of a "scholar," if not an antiquarian. See esp. 163.

[84] Of the nearly 1000 names mentioned in a study of the first 10 years (1963-73) of the *New York Review,* I recognize only one that has ever been affiliated with the University of Michigan: Harold Cruse, Professor of History and Afro-American Studies; see Philip Nobile, *Intellectual Skywriting: Literary Politics & The New York Review of Books* (New York, 1974). The index of Nobile's book, while not a comprehensive list of contributors, is a helpful indicator of just who was and wasn't part of the milieu of this periodical during the 1960s and early 1970s. Nobile's work is sufficiently facile and gossipy to inadvertently encourage noncontributors to the *New York Review* to be quite happy to have had nothing to do with the enterprise.

[85] Katona's career at Michigan is the subject of a splendid study by Daniel Horowitz, "George Katona and the Heroic American Consumer," chapter 3 of Horowitz's book-in-press on American ideas about "the consumer." And see Lewis Coser, *Refugee Scholars in America* (New Haven, 1985).

[86] The chief institutional beneficiaries of the migration in the humanities and social sciences appear to have been Chicago, Columbia, and Harvard. The pattern is much the same in the natural sciences and mathematics, although in those fields Berkeley and NYU also hired many emigres. See Jarrell C. Jackman and Carla M. Bordman, eds., *The Muses Flee Hitler: Cultural Transfer and Adaptation, 1930-1945* (Washington, 1983); Bernard Bailyn and Donald Fleming, eds., *The Intellectual Migration, 1930-1960* (Cambridge, Mass., 1969); Laura Fermi, *Illustrious Immigrants: The Intellectual Migration from Europe, 1930-1941* (Chicago, 2nd ed., 1971); and Robin Rider, "Alarm and Opportunity: Emigration of Mathematicians and Physicists to Britain and the United States, 1933-1945," *Historical Studies in the Physical Sciences* XV (1984), 107-176.

[87] In 1969 the Carnegie Corporation conducted an ambitious survey of the ethnic and religious composition of the American professoriate. This study forms the chief basis for Stephen Steinberg, *The Academic Melting Pot: Catholics and Jews in American Higher Education* (New York, 1974). Yet the data were never broken down by specific institution. Michigan is not differentiated from others in the class of 17 "highly ranking" universities treated as a unit in the Carnegie study. "The extent of Jewish concentration" in these universities "is indeed striking," observes Steinberg (103): "Jews constitute 17 percent of faculty, 16 percent of graduate students, and 20 percent of undergraduates," while at the lowest-ranking institutions "the proportion of Jews hardly exceeds their proportion in the population," about 3 percent.

[88] See the list of faculty through 1959 in Brown, *Legal Education,* 470. From table-talk at the University Club — always a useful supplement to archival research — I have learned that S. Chesterfield Oppenheim, who joined the law faculty in 1952, was a convert to Christianity. In 1955 Eric Stein, a Jewish emigre from Czechoslovakia, was appointed.

[89] Although there were a number of Jews in the Department of Economics by 1955, William Haber, who was not especially quick to see signs of anti-

Semitism around him, believed that Paton's opposition to Lawrence Klein derived in part from Paton's antipathy toward Jews. See Haber, in transcript of Marjorie Brazer interviews of May 1979, MHC, Department of Economics, Box 5.

[90] Columbia was simply a major site of the transformation of American intellectual life by immigrant Jews and their children; I have tried to sketch the dynamics of this historic transformation in "Ethnic Diversity, Cosmopolitanism, and the Emergence of the American Liberal Intelligentsia," reprinted in David A. Hollinger, *In the American Province: Studies in the History and Historiography of Ideas* (Bloomington, Ind., 1985), 56-73.

[91] Carrter, *Assessment.*

[92] Michigan during these years had to confront a significantly altered funding relationship with the state, which had implications not only for science programs but for the entire University. During the 1950s and 1960s the Ann Arbor campus was gradually surrounded by an entire system of state-supported higher education. The old regional normal schools became full-fledged colleges and then "universities," and the old agricultural and technical college at East Lansing emerged as Michigan State University, a formidable competitor for the strategically vital social loyalties of citizens whose elected representatives appropriated state funds as they chose. For an account of the growth of public higher education in Michigan in the 1950s, see Willis F. Dunbar, *The Michigan Record in Higher Education* (Detroit, 1963), 349-62. In 1938 the University of Michigan at Ann Arbor had enjoyed the virtually undivided loyalty of all of the major elites within the state committed to higher education; 30 years later Ann Arbor was merely part of a system, its national standing and constituency potentially a vulnerability in the competition to prove to the state how much one could do for the taxpayers. The creation in Michigan of an extensive system of higher education was a natural response to the prodigious demand for public education that began to be felt soon after the war, but as the state increased its responsibilities, it diminished its capacity to support the Ann Arbor campus at the level required to maintain its traditional stature as one of the nation's leading research universities. Berkeley and Wisconsin confronted similar challenges as their respective state governments responded to demands for more public higher education. California was wealthy enough to finance an extensive system, and its flagship Berkeley campus enjoyed the unique, steady support of a sequence of strong governors. Wisconsin's predicament was closer to Michigan's, but with eventual results more threatening to the Madison campus: after years of contention over the place of this campus in the state-wide system, the legislature in 1971 diminished its autonomy by placing it under the control of a single board responsible also for the other campuses. See Clara Penniman, "The University of Wisconsin System," in Alan G. Bogue and Robert Taylor, eds., *The University of Wisconsin: One Hundred and Twenty-Five Years* (Madison, 1975), 113-30, and Philip G. Altbach, "The Champagne University in the Beer State: Notes on Wisconsin's Crisis," in David Riesman and Verne A. Stadtman, eds., *Academic Transformation: Seventeen Institutions under Pressure* (New York, 1973), 383-408. At Michigan, the result was higher tuition. It went up and up, and ever up, until in 1988 tuition accounts for about half of the University's revenue.

[93] These quotations are the characterizations of Terman offered by Stuart W. Leslie, "Playing the Education Game to Win: The Military and Interdisciplin-

ary Research at Stanford," *Historical Studies in the Physical Sciences* XVIII (1987), 55-88, esp. 57-58. This is the best single-institution study of research policy in the post-1945 era known to me.

[94] These presuppositions inform Kerr's *University* and a host of contemporary works, including Robert Lane's much-quoted article, "The Decline of Politics in a Knowledgable Society," *American Sociological Review* XXXI (1966), and Walter Lippmann's tribute to the disinterested professoriate as the arbiter of virtually all contested questions, "The University," *New Republic* May 28, 1966, 17-20; they are conveyed with unusual clarity and force by a classic of the period, which remains, however dated as "pluralist political theory," one of the most thoughtful treatises on science policy ever written: Don K. Price, *The Scientific Estate* (New York, 1965). Note especially Price's conception of a "spectrum from truth to power," with scientific-scholarly issues at one end and political issues at the other.

[95] E.g., some of the latest offerings: Hilary Lawson, *Reflexivity: The Post-Modern Predicament* (London, 1985); John S. Nelson, et al., *The Rhetoric of the Human Sciences: Language and Argument in Scholarship and Public Affairs* (Madison, 1987); Paul A. Bové, *Intellectuals in Power: A Genealogy of Critical Humanism* (New York, 1986); Joseph Rouse, *Knowledge and Power: Toward a Political Philosophy of Science* (Ithaca, 1987); Sandra F. Harding and Jean F. O'Barr, eds., *Sex and Scientific Inquiry* (Chicago, 1987); Mark Poster, *Foucault, Marxism & History: Mode of Production versus Mode of Information* (Oxford, 1985); James Clifford and George E. Marcus, *Writing Culture* (Berkeley, 1986); Zygmunt Bauman, *Legislators and Interpreters: On Modernity, Post-Modernity and Intellectuals* (Ithaca, 1987); J. Fisher Solomon, *Discourse and Reference in the Nuclear Age* (Norman, Okla., 1988); and Richard Levins and Richard Lewontin, *The Dialectical Biologist* (Cambridge, Mass., 1985). For a useful attempt at summarizing the state of this "conversation" about 10 years before these works were written, see Richard J. Bernstein, *The Restructuring of Social and Political Theory* (New York, 1976).

[96] Michigan's Political Science Department, for example, ranked 4th in quality but 1st in number of publications; History was 5th in quality but 2nd in productivity; Anthropology 2nd in quality, 1st in quantity; Economics 15th in quality, 8th in quantity. The pattern did not extend to the natural sciences, incidentally, where Michigan's programs were generally ranked lower in all categories, but had relatively higher ratings for intellectual quality than for number of publications. The study did not provide quantitative indicators for the humanistic disciplines. See *An Assessment of Research-Doctorate Programs in the United States*, printout by Daniel J. Fox, Statistical Research Laboratory, University of Michigan, April 26, 1983. I have been informed by Philip Converse, one of the designers of this study, that the study included some 20 pages of caveats and qualifications concerning the interpretation of these data; these caveats and qualifications were not attached to the printouts of Daniel Fox shown to me. Close attention to these methodological refinements may well invalidate my interpretation of the study's significance. In any event, in the gross results of this study, only one of Michigan's six leading social science departments, Psychology, ranked lower in quantity of publications than it did in overall faculty quality. It was only 4th in the nation in quantity, but 2nd in quality. Sociology ranked 3rd in both categories. In the 10 natural science programs addressed in this study, 5 Michigan programs did better in quality than in quantity; 3 the reverse, and 2 were tied. The figures, by program:

Chemistry 20th in quantity and 31st in quality; Geoscience, 5th and 24th; Mathematics, 11th and 11th; Physics, 24th and 23rd; Statistics, 20th and 20th; Biochemistry, 30th and 19th; Botany, 17th and 8th; Molecular and Cellular Biology, 7th and 28th; Microbiology, 28th and 17th; Physiology, 13th and 7th.

[97] Between the founding of the Center for Advanced Study in the Behavioral Sciences in 1954 and last year, 1987, Michigan produced 70 fellows, making it one of the 3 or 4 top producers of CASBS Fellows. I owe this figure to Robert Scott, Associate Director of the Center. The Center — nervous, it would seem, about complaints that certain universities are "underrepresented" there — will not release data for other universities, although the information is technically public; comparative figures can be compiled by studying the lists of fellows in the Center's annual reports. I have not done such a compilation, but my impression is that Michigan's numbers are matched only by Berkeley and Stanford, whose faculty do not have to change houses and transfer their children to new schools in order to accept appointment at the Center. Michigan's Psychology Department, incidentally, is by far the University's largest producer of CASBS fellows, with 20, followed by Sociology with 12, and Political Science with 11. Statistics from CASBS carry an interesting hint about patterns of mobility: of the 77 scholars who were at Michigan when appointed to CASBS, at least 27 later left Michigan for other institutions, mostly in California and the Boston-Washington corridor, while of the 46 CASBS fellows currently at Michigan, only 7 have been recruited from outside, and of these only one was a social scientist recruited from a major university in California or the eastern corridor (that one recruitment took place in 1987, from Stanford).

[98] Michigan membership in the National Academy of Sciences has never been large. Still, its 4 members in 1938 represented a larger segment of the total academy membership than its 8 members in 1963 and its 13 members (plus one emeritus member) currently. The difference between 1963 and 1988 represents a considerable decline in regard to the natural sciences: in 1963, all 8 of Michigan's academicians were natural scientists, but in 1988, by which time the academy itself had become larger and all of Michigan's salient peer institutions had sharply increased their numbers, only 7 of Michigan's 13 active members are natural scientists. The other 6 are social scientists. The Academy did not admit social scientists until the early 1970s. Today, Michigan is not even close to being among the top 15 universities in Academy membership, even when social scientists are counted. The following are the 15 highest ranking research universities (excluding Rockefeller, which is not the same kind of institution): Harvard, 111; Stanford, 85; Berkeley, 83; MIT, 80; Caltech, 52; Yale, 50; Chicago, 45; UC San Diego, 44; Princeton, 37; Wisconsin, 36; Cornell, 35; UCLA, 28; Columbia, 26; and Illinois, 24. These figures are based on the affiliations given for Academy members on the membership list currently being distributed by the Academy. Although I have not tried systematically to sort out the social scientists among the members from these other universities, it is obvious that for none of the 15 institutions listed above do social scientists account for more than a small fraction of the figure given. Michigan is exceptional among major research universities in having so many social scientists in the Academy, and in having so few natural scientists. Some figures for 1987 (I do not know the sections selected for the new 1988 members, so for this I am relying on the Academy's 1987 membership list) provide a sense of proportion: Michigan then had 3 of the 42 listed in the Academy's section on "social and

political science," 2 of the 47 in the Academy's anthropology section, but 0 of 166 chemists, 0 of 69 mathematicians, 1 of 146 physicists, and 2 of 141 biochemists. The point is borne out yet more dramatically if one looks at the total elections to the National Academy from Michigan during the past 15 years, 1973-88: 11 social scientists, 5 natural scientists (social scientists: Dudley Duncan, and Philip Converse in 1973, Theodore Newcomb and Ronald Freedman in 1974, James Morgan in 1975, Stanley Garn in 1976, Kent Flannery in 1978, Angus Campbell in 1980, Charles Tilly in 1981, Clyde Coombs in 1982, and Robert M. Axelrod in 1987; natural scientists: Richard D. Alexander and Horace W. Davenport in 1974, M. J. Coon and Thomas M. Donahue in 1983, and Warren H. Wagner, Jr., in 1985).

[99] A number of people have offered helpful recollections and analyses, and answered specific questions in relation to this project. Of these, I wish especially to acknowledge the help of the following: Gardner Ackley, Robert Blackburn, Donald Brown, Arthur Burks, Claude Eggertson, Sidney Fine, William Frankena, Otto Graf, John Higham, Wilfred Kaplan, Richard Kennedy, Wilbert McKeachie, Marvin L. Niehuss, Warner Rice, Albert Sussman, Margaret Steneck, Nicholas Steneck, and Jens Zorn. I want also to acknowledge the assistance of Francis Blouin and his staff at the Bentley Library, especially Marjorie Barritt, Karin Mason, and Chris Weideman. The work of my research assistant, Brian Lloyd, has been of great value to me. This essay would have many more mistakes in it than it does were it not for the critical advice of Thomas Green. I have also been helped by the comments of John D'Arms, Joan Hollinger, and James Turner.

RESPONSE

Disciplinary Response: Social Sciences

by Philip E. Converse

Philip E. Converse is Director of the Institute for Social Research and Robert Cooley Angell Distinguished Professor of Sociology and Political Science at The University of Michigan. He received his Ph.D. in Social Psychology from the University in 1958. He was the University's Henry Russel Lecturer in 1987.

His scholarly work has been addressed to a variety of subjects, ranging from electoral behavior and democratic institutions, the perceived quality of life in the American population, and the use of time in everyday life.

David Hollinger has turned over a remarkable amount of ground in his paper. At the same time he has given a good deal of attention to the development of the social sciences in general on this campus in the earlier half of the period between 1938 and 1988, zooming in more specifically upon the role and intellectual impact of the Institute for Social Research. Since I was a direct participant in at least some of the period under discussion, I shall focus on this portion of Hollinger's broader statement.

We should first recognize that, as David himself puts it, "a great deal of distinguished social scientific work was done at Michigan in the 1950s and 1960s with no ISR connection whatever." This is surely true: while ISR has covered and continues to cover quite a broad spectrum of research, the University has gained much luster from social science outside ISR as well. There were in this period whole social science research centers of national and international importance, such as the Popula-

tion Studies Center or parts of the Mental Health Research Institute; many graduate programs of great creativity not closely allied with ISR, such as Clyde Coombs's Program in Mathematical Psychology; and whole social science departments overlapping not at all with ISR, such as Anthropology, where seminal contributions were being made. Thus the University's towering excellence in the social sciences was in no sense an ISR monopoly, and that should not be forgotten.

At the same time, Hollinger is probably right in judging that ISR and its founding team were indeed pivotal in what he calls the "entrepreneurialization" of academic research, certainly of social science research, on campus and even nationally, although nationally there was a coconspirator or two. In effect, the University executive officers of the time gave this team a mailing address and then got out of their way.

I also agree with Hollinger about the broader substantive portent of this entrepreneurialism for the evolution of research universities in this country. But as his discussion proceeds into the questions of what he calls "mainstream professionalism" at the University of Michigan, as opposed, for example, to the broader-gauge, more "public intellectual" stance at Columbia, I become more than a little restive. At several points here I would like to offer an alternate perspective.

I do not mean I have any quarrel with the facts cited. I know that vastly more of that sparkling generation of scholars who fled Europe in the 1930s and 1940s just got off the boat at the port of New York and stayed rather than moving on to the port of Detroit or, for that matter, other points beyond the northeast coast. And I know that this influx had enormous impact on intellectual life across the range of scholarship. I also agree that the great warps in public visibility that are routinely associated with proximity to the concentration of the media industry in New York City, perhaps even more accentuated then than now, are real phenomena affecting the direction of professional careers. Even Rickey Henderson, the New York Yankees centerfielder, and Kirby Puckett, the Minnesota Twins centerfielder, could agree to agree on that proposition.

So the facts are sound enough, along with some of the implications. But there are interpretive nuances along the way that I would protest. Broadly speaking, Hollinger draws a contrast

between a glamorous "public intellectualism" at Columbia, which was evidenced, among other things, by publication in popular journals of elite opinion, including the *New York Review of Books,* and a kind of "mainstream professionalism," exemplified by social science here, which is portrayed by comparison as a rather journeyman enterprise.

I think it is important to understand that in the period being discussed, a large and self-conscious movement was attempting to transform "social studies" into something more worthy of the name "social sciences." There may not be an identity between "social studies" at their worst and essays of "public intellectualism," but both tend to rely on personal values and moralizing, rather than on any evidentiary base, either ignoring the need for the latter or exercising stringent selection of facts to bolster the argument.

Important as the public intellectual role is, it is not the scientific part of the enterprise, and one mainly hopes that its practitioners will at least try to stay up to date as best they can with the accumulation of scientific knowledge on the subjects they discuss. Since I came from something of a bellelettristic background myself, I was solicited for essays in journals of elite opinion in the late 1950s. I produced a couple and was asked for more. I decided, however, to stop this activity completely, since I felt it was pure ephemera. In short, I do not share Hollinger's relative valuation of these activities; and "the road not taken" of public intellectualism leaves me with neither regrets nor apologies.

At the same time, with his Columbia contrasts, Hollinger is including not merely writing on popular topics for journals of elite opinion, but also broad visionary statements about the shaping of true social sciences, of the kind being generated in this period by the Lazarsfelds, Mertons, and Nagels at Columbia. This is more to the point. But even here Hollinger's account misses, or at least inadvertently conceals, an orderly succession of stages in the development of modern social science research.

The heyday of social science at Columbia was the late 1930s to the mid-1950s. And a culminating programmatic statement about desirable futures for social science was, as Hollinger notes, Robert Merton's clarion call in the late 1940s for social scientists to turn their attention from grand social theories to what he

called theories of the middle-range.[1] Sociology had seen a century in which various large theories had been proposed, Marx being merely one. These were sometimes called "simple and sovereign theories" because they seemed intent on predicting an enormous range of complex outcomes from very few independent variables, like social class or the mores or the struggle to survive. Merton argued that instead of the confection of more of these grand theories, often so vague as to be totally untestable, social scientists should narrow down to more manageable topics, such as theories of demographic processes, or deviant behavior, rather than theories to explain everything societal at once. In the remainder of this twenty-five year period a great deal of narrowed-down work was done, a lot of the best of it at the University of Michigan.

Even this account is oversimplified: Researchers at Michigan were not responding primarily to Merton. In fact, they were already headed in their 1950s directions before Merton's essay appeared. Most of them were in psychology, which had had its empirical revolution long since and was already heavily invested in middle-range theory development at the time of Merton's essay. Both Merton in sociology and ISR social psychologists were part of a broader empirical movement, out of the armchair and into the field for more rigorous and systematic observation. And of course that very movement implied a turn of attention to middle-range theory, for the simple reason that it is hard to do meaningful rigorous empirical work about everything all at once. My issue here is that to observe that social scientists at Columbia wrote about broad topics while those at Michigan instead busied themselves with narrower ones, as though these were geographical fixtures of local character or culture, seems to miss the crucial point that these developments were taking place at Columbia in the 1940s but the ISR period being discussed was somewhat later.

A related point emerges out of Hollinger's ordering of topics. He focuses on the early days of ISR, then shifts at the proper chronological point to the extended episode in 1954 involving the House UnAmerican Activities Committee and faculty firings at Michigan, and then returns to pick up the ISR thread with a description of such later ISR products as *The American Voter,* stressing its value-neutral stance and antiseptic avoidance of

policy advocacy, despite its immersion in the subject of partisan politics. Although Hollinger intends no causal imputation here, it is easy to infer that in the wake of the McCarthy period witch hunts that had emerged so vividly on this campus, ISR investigators were sterilizing even a political subject matter.

This would be a misguided conclusion, as is best witnessed perhaps by the fact that political topics were treated at ISR in exactly the same way before the McCarthy intrusions as after. As a more careful reading of Hollinger's language makes clear, the inspiration for this style of treatment came directly from the same transition from social studies to social science that I described earlier. For a generation debate had raged as to whether or not a value-free social science was possible even in principle. Rather than add the five-hundredth theoretical essay to the "pro" side of this debate, it seemed more novel actually to undertake a value-free study in a domain — the political arena — where the difficulty of success would be maximal. The ISR investigators were dancing more to a tune from Max Weber than one forced on them by HUAC.

Even my several glosses here leave the story very oversimplified. The comparisons with Columbia inadvertently emphasize one quadrant of ISR only because the two institutions overlapped in middle-range theory. But ISR was already growing into a large and heterogeneous place. A number of other things going on at the same time have left major marks on subsequent intellectual history, including theoretical developments surrounding the dynamics of small-group processes, pioneering work in organization theory, consumer economics, and the like.

It should be clear that Hollinger's choice of Columbia as a foil was very far from haphazard, particularly with respect to ISR. What was going on at Columbia in the 1938-1955 period was in fact more relevant for the development of survey research at ISR than that at any other academic center in the land. Even more than Merton, Paul Lazarsfeld looms large here, since he was in the late 1930s and 1940s a fountain of insights as to the logic of designs and data analysis surrounding the new tool of survey research.[2] And although ISR researchers quarrelled with some facets of it, Lazarsfeld's work made up an important part of the common research culture.

But in this second period of the 1950s and 1960s, ISR was not only doing excellent middle-range work on specific substantive topics, but was also involved in the invention of certain broader perspectives on how social science research should proceed. For example, from very early on, a distinctive motif for ISR was an emphasis on what was called internally "programmatic research." This approach is best understood by contrast with its opposite, which was a kind of subject-hopping characteristic of most prior social research: a single-shot study of one topic, followed by a single-shot study of some other very disparate topic. The ethic of programmatic research argued instead that a given phenomenon should be studied over an extended period of time — that this is the only way that *cumulative* advancements of satisfying middle-range theory can develop.

Imbedded in this ethic was a strong belief in replicated measurement over time — what has in more recent years become central to the development of the observational social sciences as "longitudinal research." Lazarsfeld had anticipated one of the desiderata of this perspective: he argued that only with repeated measurements on the same people over time could observational work — as opposed to experiments — make at least faint causal inferences. The other desideratum in repeated measurement had not been so clearly discovered, although it came onto social scientists of the 1970s with a vengeance; that is, the degree to which various phenomena that seemed generic are nonetheless buffeted by historical situations. The only way to assess what was indeed generic and what was very sensitive to short-term historical variation in governing parameters was to monitor these processes over longer periods of time. This was the vision of programmatic research.

Here Hollinger might ask, "And where is the visionary public essay on programmatic research?" The idea was well crystallized in the corridors of ISR, and numerous short paragraphs of institutional prose from the 1950s describe "programmatic research." But as for a sustained essay, the closest I can come is not a professional journal manifesto, but a grant proposal submitted to the National Science Foundation, dated 1963. This statement was prepared by Angus Campbell, Dan Katz, and me. It argued that value of the programmatic research already underway at ISR in areas like election studies, consumer economics,

and so on was so clear that parallel programs of repeated measurement should be established in many other areas of daily American life, ranging from race relations to time use. NSF responded that it definitely wished to provide some support, although the total enterprise would capture more than 100 percent of its social science budget.

A sustained hortatory essay of great eloquence on this general vision of research was indeed written, and written at Michigan, but not by an ISR member. Rather, it was written in 1969 by Dudley Duncan, who pleaded with the community to begin to invest in repeated measurements of the same phenomena. There are numerous other visionary developments that I think took root first at ISR in this period, including some for which ambitious statements of theoretical justification were indeed published. These include a number of the changes in workways brought on by the advent of large-scale social research, such as the death knell for values of proprietary control by the principal investigator held in perpetuity, the exploitation of the computer for large-scale sharing of data sets collected with public money, as embodied in the institutional development of the Inter-university Consortium for Political Research, and the like. Many of these changes in the infrastructure and workways of the social science enterprise nationally and internationally were blueprinted at ISR.

In closing I should like to return to the broader question of the social sciences at Michigan in this period, in order to put a somewhat different light on one of Hollinger's final points. His comparative data on the accomplishments and excellence of social science departments around the country is drawn from the *Assessment of Research-Doctorate Programs in the United States.*[3] These data help document the high esteem in which social science at Michigan has been held nationally in the recent period. For peer ratings of overall departmental excellence, almost every one of our social science departments falls in the top half dozen nationally for the discipline involved. But Hollinger goes on to note that in almost every case, our departments rank slightly higher on sheer numbers of publications than in the quality ratings. He concludes, "Michigan's leadership in social science was even more decisive in sheer bulk of publications than in perceived intellectual value."

Perhaps this is not intended to be an embarrassment, but it is hard to read it otherwise. We all know quality is more important than mere quantity. As one of the designers and implementers of the study cited, however, I wish to suggest a basis for questioning Hollinger's conclusion. The quantity/quality differences being singled out — such as falling in third or fifth rank over a set of seventy to one hundred fifty universities — are trifling on the face of it. But more to the point, our committee in putting together these materials was very concerned to discourage overinterpretation of many of the numbers supplied. Therefore we attached to the tabulations an elaborate series of caveats to be considered before drawing any conclusions. The caveats surrounding the measures of perceived quality are so numerous and intricate I must pass them by here.

But let me summarize the fewer caveats that surround the quantity measure:

(1) the measures are not adjusted for program size (numbers of faculty)

(2) by the way they were accumulated, the counts overestimate the contributions of faculty members who publish articles and underestimate the contributions of those who publish in books. In the degree article writers more often do experimental and quantitative research than book writers, "programs emphasizing experimental and quantitative orientations are likely to receive higher counts on this measure."

(3) the numbers shown are not adjusted in any way for multiple authorship, all authors receiving separate credit for the same publication. Thus the measure overestimates the work of faculty members given to collaborative publications.

The large size of Michigan social science departments already tends to boost the quantity measure. But more notably, Michigan social science has been at the very forefront nationally as social science workways have shifted from the publication of books to the publication of shorter technical papers with marked quantitative orientations and from solo scholarship to team research. Given these facts, we would expect the measure of quantity of output to run a bit higher — although for artifactual reasons of measurement limitation — for Michigan social science departments relative to others around the land. These distinctive features of social science at Michigan are already

familiar. And I think that this is all I would read into this particular patch of national comparisons.

NOTES

[1] Robert K. Merton, *Social Theory and Social Structure* (Glencoe, Ill., 1949).

[2] See Jean Converse, *Survey Research in the United States: Roots and Emergence 1890-1920* (Berkeley, 1987).

[3] Printout by Daniel J. Fox, Statistical Research Laboratory, University of Michigan, April 26, 1983.

RESPONSE

Disciplinary Response: Physical Sciences

by
Homer A.
Neal

Homer A. Neal is Professor and Chairman of the University of Michigan Department of Physics, and is Chairman of the University Science Development Council. He has served previously as Dean of Research and Graduate Development at Indiana University, as Provost at the State University of New York and Stony Brook and is a former member of the U.S. National Science Board.

Inasmuch as I have been a member of the University of Michigan faculty only for a short time, I will limit my comments to specific issues primarily in my own discipline. I hope that much of what I say will apply, with appropriate adaptation, to the other disciplines in the physical sciences.

Professor Hollinger's paper focused on several issues that, due to the nature of the scientific disciplines, were not as critical in the development of the physical sciences at Michigan as they were in other academic areas. That is not to say that the HUAC played no role in the sciences. Nor is it to say that the concept of academic culture has no place in the sciences. It is just that the content of the physical science disciplines is, by and large, neutral with regard to geopolitical matters while, in many of the social sciences, it is much easier for there to be an overlap between one's professional and personal agendas.

Nevertheless, Professor Hollinger's paper provides many points of contact with the physical sciences. The points I have

chosen to address concern: a) the impact a single individual can have on a science department and its culture, b) the question of whether there is a distinctive Michigan culture in Physics, c) eminence and entrepreneurship, d) evolution of science funding and its impact, and e) prospects for the future of the sciences at Michigan.

Professor Hollinger refers to the role of several individuals in the development of ISR. In the physical sciences individuals of vision were similarly important. An example is the role of Harrison Randall in building the Physics Department. Physics was first taught at the University in 1843, six years after its move to Ann Arbor. But it was not until 1888 — one hundred years ago — that it was possible to give significant attention to the development of a first-rate experimental research program, marked by the completion of the old West Physics Building. In 1887 the state legislature had appropriated $35,000 for "the construction of a building for scientific laboratories and for equipment of the same".

The Department was poised, with a new laboratory building and a collection of very good faculty, when the major upheaval in modern physics was about to occur. During the period 1895 to 1905, a tremendous number of discoveries took place that forever changed the face of physics. During this time Roentgen discovered X-rays, Thomson discovered the electron, Einstein published the special theory of relativity, and the work of Planck and Einstein revealed that in atomic processes energy is quantized. The impact of these remarkable discoveries was tremendous; the whole field had been redefined, and in a way that broke many cherished notions.

To transport a department of physics — one located thousands of miles from where these advances were occurring — across this threshold would require the leadership of an unusual person. This was provided by an alumnus of the Michigan Physics Department, Harrison Randall. Randall grew up in Burr Oak, Michigan, did his undergraduate work at the University in 1890 and, following a stint at teaching high school in the Saginaw area, returned to the University and received his doctorate in 1902. Following the receipt of his doctorate, Randall joined the department as an assistant professor and conducted research on the thermal expansion of metals. In 1910 he took a

sabbatical leave in Germany and focused on learning the latest techniques in spectroscopy. Upon returning to Ann Arbor, Randall pursued this line of research, making several significant contributions and indeed opening a new field of research in which molecular structure could be studied through the use of high resolution infrared spectroscopy.

With a strong experimental program established, Randall set out to bring into the department a collection of outstanding theorists who were in the forefront of the quantum mechanics developments of the day. In 1926 and 1927 he accomplished this by recruiting Otto Laporte, Samuel Goudsmit, George Uhlenbeck, and David Dennison. Goudsmit and Uhlenbeck had discovered what we now know as "electron spin." Dennison had been credited with the discovery of "proton spin." This set of appointments was extremely important to the future success of the department.

Members of this group and the fine researchers they hired, such as Richard Crane, provided the senior leadership of the department through the 1960s. And some of our key faculty today were students or postdocs under these original figures. So we do indeed retain a direct link to the thinking and the approach to physics embraced by the early members of the department.

During the early decades of this century Michigan was unquestionably one of the world centers in physics. We quickly mastered the new quantum mechanics and made numerous contributions to its refinement. Through the renowned Summer Schools, held between 1928 and 1941, where the giants of the field would assemble to address the key problems of the day, we literally brought quantum mechanics to America. This would not have been possible without the vision of Harrison Randall.

Professor Hollinger discusses the concept of academic culture and its distinctiveness at different universities. I am led to consider whether the Michigan Physics Department has a culture of its own, and if so, what it is. What does culture mean, anyhow, in this context? Could it mean that atmosphere which would determine, if an individual wished to attack a certain problem in physics, whether he or she would likely approach it differently at Michigan than somewhere else? Or even more basic, perhaps, might it determine whether one would naturally think about a

different class of problems if one were at Michigan rather than elsewhere? Or are there particular experimental techniques that we use that are unique? Another aspect of the term "culture" might apply to our propensity to be international in outlook. Given the fact that our early eminence was grounded in the importing of brilliant European physicists, is there an aspect even today of our looking overseas for collaborations, or making special efforts to invite foreign visitors?

These questions are, of course, very difficult to answer. Partly, this is true because all of physics is now international. Moreover, there are hundreds upon hundreds of conferences, workshops, and symposia each year, many of which are attended by one or more of our faculty. As a result, almost everyone is aware of what the key issues of the day are, who is working on them, and what techniques are being used. Furthermore, in some areas a faculty member is more likely to be collaborating with a colleague at some other institution than with a colleague down the hall. And such collaborations can be intense, with interactions occurring via computer links several times a day, rather than once a month by train (or once a year by boat) as in yesteryears. So for many reasons, there is no clean test of the proposition that we somehow might have a unique culture within the department.

There can, however, be no denying that we benefit from a distinctive legacy. There are currently active faculty members whose world-class work, in choice of topics studied and in approach used, can be traced back to Randall, through the people he hired to pursue the type of work that most interested him. Work today on precision measurements of fundamental phenomena grows directly from the work of Richard Crane, who was hired by Harrison Randall for his great promise and talents in this area.

The present high quality work on spin polarization now being conducted by Professor Krisch, and the past contributions of Professors Longo and Overseth in this area, are reminders of the role of the early Michigan faculty in discovering this basic property of the electron and proton.

One might ask how this rich legacy has translated into current eminence. I am reminded of the fact that fifty years ago we had three members of the National Academy of Sciences, and now

we have none on our active faculty. Nor do we have Nobel laureates. It is perhaps appropriate to ask why not, especially since, in my view, the work of many of our faculty exceeds in quality and imagination that of many members of the National Academy at the peak of their careers. Have we been too quiet about just how good our faculty are? Are we outside the political circles that tend to bring large numbers of members into the Academy from those institutions that already have many members? Is it a part of the University of Michigan academic culture to pay little attention to such matters? That more of our faculty are not members of the Academy or present Nobel Prize winners may indeed be an anomaly associated to some extent with our degree of institutional entrepreneurship, a trait that many would claim to be admirable, though the issue clearly requires more attention.

Whatever the answers to these questions, it is clear that the Michigan Physics Department remains a giant in its field. Dr. Donald Glaser received the Nobel Prize in 1960 for pioneering work, funded by the Michigan Phoenix Project, in developing the bubble chamber. We must not forget his remarkable accomplishments while he was with us. Also, one of my classmates in graduate school during the 1960s was Samuel Ting, who went on to receive the 1976 Nobel Prize in Physics for his work on the discovery of the charmed quark. Furthermore, it was work done here that spawned the entire multibillion dollar industry of nonlinear optics. Our faculty, just last year, were the first to observe particles (other than light) from outer space that were associated with a known extragalactic event (supernova 1987A). Moreover, two of our most recent appointments to the faculty received last year the prestigious Presidential Young Investigator Awards, given to a total of only twenty physicists nationwide.

There can be no doubt that our academic culture and sociology has to some extent been influenced by external funding options. Research has, in many areas, become very expensive, greatly exceeding in cost what a single university would be able to provide. Thus, certain types of research can now be pursued only if a faculty member is successful in identifying a source with the capital to fund it.

Over the past fifty years there have been enormous changes in the way research is funded in the United States. Even forty

years ago, there was no National Science Foundation, for example. It was only after the war that the federal government acknowledged explicitly that it was in the best interests of the country for basic university research to be funded by the government. While there is general agreement that the system of federal support, provided through a peer review system, has served us well, serious concerns have arisen from time to time.

For example, to what extent has the choice of research topics to be explored been determined by the amount of research funding available in an area? Does not centralized funding or funding by committee naturally stamp out creativity? While I was a member of the National Science Board, we often worried about the prospects of an individual scientist not being able to pursue a brilliant idea because it did not conveniently mesh with one of the mainstream disciplinary programs recognized by the Foundation. This problem is compounded by the fact that what appears to be a crackpot idea today may represent tomorrow's breakthrough. The peer review system developed over the years is certainly not perfect, but it perhaps represents the best of the options available for choosing what we should gamble on. Moreover, when properly functioning, the advisory committee system, through which agencies such as NSF and DOE receive advice from university faculty regarding what their priorities should be, permits many of the country's best minds to help chart the evolution of our fields.

But, beyond a doubt, there has been a change over the past fifty years in just how free we are to decide what research we can do. The Graduate School and the Office of the Vice President for Research must continually be vigilant, through their various advisory roles to the federal agencies, in finding ways to keep the grant award process fair, open to innovation, and accessible to young scientists.

As to the future, there are visible signs of activity in strengthening the sciences at our University, examples being the new chemistry building and the expansion of physics. The sciences have changed in character over the past fifty years. Randall only needed a few hundred square feet to carry out the frontier experiments he was engaged in. A new assistant professor in solid state experiment requires a few thousand square feet, with liquid helium provisions, special power, and special cooling fa-

cilities. Universities not willing to make this type of investment simply will not be competitive in the years ahead. Indeed, there is evidence that many of the problems faced by our science departments now grew out of the University's neglect and acceptance of noncompetitiveness over a critical period of roughly three decades, during which many other universities were making great strides. We should not let this happen again.

In many of our departments there will be a significant number of retirements in the next decade or so. How well we replace our retiring faculty will determine Michigan's eminence in the sciences in the years ahead. To stress, however, the nature of the competition, I should relate an episode I witnessed last year at the Annual Meeting of the Midwest Physics Chairs. At the beginning of the meeting, each member of the group was asked to state recruitment plans for the coming year. Almost every department chair stated that he or she intended to add two to three condensed matter experimentalists during the year. At the end, we tallied up the number of physicists required, and then noted that there were not that many being produced. And certainly not that many in the top tier suitable for faculty positions at universities. In such a climate, just how competitive will Michigan be prepared to be?

Professor Hollinger raised the question of comprehensiveness versus selectivity at Michigan. Such a choice will have to be made with respect to subdisciplines as well as disciplines. A department chair is often faced with students asking for courses in new emerging areas, while faculty members exclaim that we have so many subdisciplines now that their own cannot be properly supported. What should the balance be? How should it be determined? Randall distinguished the department by emphasizing spectroscopy and a quantum theory group. We have multiplied the number of subgroups over fivefold. Is that the right thing to do?

Michigan, as well as other graduate schools across the country will have to deal with the question of the changing nature of research. In many subfields, high energy physics being perhaps a prime example, there is the risk of the contributions of a single faculty member or graduate student being lost. A single high energy physics experiment may have five hundred members attached to it today, and that will certainly become almost the

norm during the era of the superconducting super collider (ssc). How do we make sure that the innovative work of a single graduate student within such a large collaboration becomes known to the scientific community, rather than just reported as a footnote during some conference presentation? Indeed, the contribution of junior faculty can even have the same fate. We must see that individual contributions are not lost in the cloud of modern experimental modalities. Moreover, we must see that, even though a modern-day student must learn not only much of what Harrison Randall had to learn when he was a student but all of the remarkable changes in the field that have occurred since then as well, we do not make it impossible for a graduate student to receive a degree in a reasonable time. To focus again on the high energy physics example, permitting a student to finish a thesis within a period of six years or so may require some creative approaches, particularly when that person's thesis experiment may take eight years to complete.

The physical sciences must also pay attention to their future manpower needs. Last year I served on a committee of the National Academy of Science's Government Roundtable that looked at the career choices of the best and brightest young college freshmen. We observed a disturbing downward trend in the fraction of the high achieving students who are expressing an interest in the physical sciences. Some of the outflux is attributable to the increasing interest in engineering. Some is due to the growing interest in fields that society has somehow determined are worth more in personal compensation, such as business. We must remind these bright young people that, if they have the aptitude and interest, there is essentially no career as rewarding or as satisfying as a career in the basic sciences. This is not in any way to ignore the value of the other disciplines. It is simply a statement that it is not in the best interests of any discipline, or of the nation, to allow the physical sciences to decay. Furthermore, it is very important that the sciences and engineering do all they can to attract minorities and women into their ranks. If we fail to recognize the tremendous talent pool represented by minorities and women, the very engines that are now driving the economic development of the country will come to a halt. At present we have been able to keep these engines running by drawing upon foreign talent but, as noted by Erich

Bloch and others, this may not be a reliable basis for building the future of the country.

A final note has to do with the maintenance of integrity in physical science research. Almost nothing is as important to the culture of academic science or to academic freedom as the basic premise that truth guides all of our actions. I envision that we are all on a treacherous path through a swamp infested with the scariest creatures one can imagine. Our goal is to reach the other side of the swamp, at which point we will have a full revelation of the secrets of Nature. As we go along our path we learn more and more, even as we encounter and set aside obstacle after obstacle. The path is marked only by a slender thread called "truth." If we follow that thread, we will eventually reach the other side — even though it may take centuries or millennia. If we deviate from following that thread, we will be consumed by the most voracious beast imaginable, if the quicksand does not get us first. So-called scientists who fabricate data or make wild unsupported claims for the purpose of self-advancement are doing great harm to our professions. The academy, including the Rackham School, must do more in stressing to those who are still forming their professional values that data falsification is a crime of the greatest magnitude.

RESPONSE

Disciplinary Response: Language and Literature

by
Martha
Vicinus*

Martha Vicinus is Professor of English and Women's Studies. She is the author of articles and books on Victorian women and nineteenth-century popular culture, including The Industrial Muse *(1974),* Independent Women *(1985), and two collections of essays on Victorian Women. In 1987 she received the University of Michigan's Distinguished Achievement Award.*

Perhaps the most famous teacher in the humanities at the University of Michigan during the fifty years we are celebrating was Austin Warren, the distinguished New Critic who wrote on Alexander Pope, the Renaissance poet Richard Crashaw, American Puritan sermon writers, and the father of Henry James. Certainly he was the most eccentric, for memories of him mention such idiosyncrasies as a shrine in his home to King Charles I, whom Warren always referred to as "My beloved martyred saint," crossing himself each time he passed the shrine.

But in addition to his self-consciously mannered behavior, Warren was also a great graduate teacher. He wrote in 1947 that "The teaching of the humanities is a vocation like that of a

* I owe a particular debt of thanks to my research assistant, Susanmarie Harrington, who tirelessly pursued elusive leads, interviewed retired professors, and supplied necessary books. My thanks also to Dean John D'Arms for his confidence in my work, to Richard Bailey for information about the English Department, and to Ruth Bordin and David Hollinger for research suggestions and ideas.

physician or priest; and the teacher must consider himself not only 'called' but always 'on call'."[1] He believed profoundly in a community of men (*sic*) of letters; moreover, he never doubted who were the great writers and what should be taught. One of his first acts upon arrival in Ann Arbor in 1948 was to organize a weekly get-together of students and faculty from a variety of disciplines to discuss ideas. "The Bull Ring" met on Friday evenings at a restaurant not normally open evenings; the only refreshment was beer. Members included "botanists, mathematicians, engineers, musicians, philosophers, astronomers, chemists, literary men, at least one highly skilled artisan, our Dutch host and his workers, and many others besides."[2] Such heady evenings — both literally and metaphorically — had a profound influence upon students and colleagues, whether or not they accepted Warren's odd brand of Anglo-Catholicism or his imperious critical judgments. Guided by his sense of the absolute truth of certain moral values that only the humanities could teach, Warren confidently created a small community of like-minded scholars.

Warren, however, was always out of step with what Professor Hollinger has defined as the "pluralistic ethos" of Michigan. His scholarship and his life were both antithetical to pluralism. Although many different specialists participated in the aptly named "Bull Ring," I suspect all were white, male, and Christian, and convinced that intellectual debate could yield moral truth. Now, those of us in the humanities come from more varied backgrounds and, under the influence of such postmodernist thinkers as Derrida, Foucault, Thomas Kuhn, and Hayden White, we no longer believe in the pursuit of a single moral truth.

Yet Warren's ideal of an intellectual community was and is something we still seek. Certainly those who witnessed the opening of the Rackham building in 1938 hoped it might foster just such a community. At the dedication ceremony Dean Clarence Yoakum said,

> To be a real memorial, it must be a vital force in the research and graduate activities of the university. . . . The building thus conceived is a center for gathering together those stirred by this fundamental curiosity to know. Here they will be given the opportunity to meet to discuss the

> border lines of knowledge which fascinate and urge toward investigation . . . In discussion rooms, lecture halls, and attractive lounging and common rooms, it is planned that the boundaries between subjects may be less evident. The possibility of intellectual recreation is evident, and the specialist has an opportunity to become a scholar.[3]

Yoakum's prognostication came true, in part. Rackham has welcomed an extraordinary range of humanistic enterprises since 1938, including local, regional, and national conferences, art exhibits, departmental club meetings, and journals such as the graduate-student-run *RAJAH* and the *Michigan Quarterly Review.* More recently it has found space for the Michigan Society of Fellows and the Institute for the Humanities. The variety of these activities indicates the continuing commitment of the Rackham Graduate School to encourage intellectual communities that transcend departmental barriers.

But an ongoing humanistic community for and by faculty and graduate students has been more difficult to sustain. Historical circumstances, local priorities, and personal preferences have colluded to create an often fragmentary and isolated scholarly world here at Michigan for those in the humanities. The basis of this isolation, I believe, is our longstanding disagreement about what we should teach, about what the canon of humanistic knowledge should be. More than a hundred years ago the belief in a single body of knowledge that all college graduates should master had already disappeared, although generations of commentators, professors, and students have longed for a syllabus that would encompass the best that has been known and thought.

As Gerald Graff has documented, the debate about what should be taught and how was temporarily resolved in the 1870s and 1880s when most American universities created separate departments and an elective course system.[4] As he points out, the decision to organize departments along the principle of hiring specialists to cover specific fields had far-reaching results that we are living with to this day. Its chief advantage, according to Graff, "was to give the institution enormous flexibility in assimilating new ideas, subjects, and methods" (Graff, p. 7). But if specialization encouraged tolerance for those outside one's own field, it made intellectual debate more difficult. Wherein lay the

common ground for an active scholarly life?

The obvious solution to this dilemma was to create a smorgasbord of courses, but to contain them within a ruling, hegemonic culture that can, until the last twenty-five years, be described as male, white, European, and Christian. Within these constraints — upheld by academics themselves, who were virtually all white males of Protestant North European backgrounds — individuals and departments were allowed to develop as they — or more likely, a strong-minded individual — wished. The foresight, energy, and personal wealth of Francis Kelsey, Professor of Latin from 1889 to 1927, insured that Michigan was a pioneer in classical archeology and papyrology. To this day the Classics Department holds a preeminent position among American universities in these specialties.[5] Theoretical ethics flourished under the leadership of William Frankena, who chaired the Philosophy Department from 1947 to 1961, during a period when the department grew from six to twelve faculty, and its number of graduate students to sixty.[6]

The histories of other departments were more subject to political changes. The German Department was almost destroyed by anti-German feeling during and after World War I, but it flourished during and after World War II, thanks in part to Defense Department contracts to teach elementary German to officers scheduled to serve in Germany. The English Department, with the massive growth of the University after World War II, came to teach more and more service courses, bearing a disproportionate share of the teaching of composition until the formation of the English Composition Board in 1976. Freshman composition, like the teaching of elementary foreign languages, offered gainful employment to the vast numbers of new graduate students that came to the University in the 1950s, '60s and '70s. Many humanities departments, in effect, found their niches in the multiversity and quietly did what they could do best, turning out literate undergraduates and competent graduates.

Departments, however, could not remain untouched by the larger changes occurring in their own disciplines. I want now to look briefly at the ways in which my own department was affected by the debates about the literary canon. Since, alas, 1938 does not appear to have been a watershed year, I have chosen three other dates as illustrative of crucial changes in regard to

what we should teach and how. These are 1948, '68 and (more tentatively) '88.

The year 1948 brings me back to Austin Warren. Warren was a major theoretician in the growing school of New Critics who privileged close textual readings of poets from the seventeenth century or the recent past. These authors became part of a canon of the good and the great, from whom moral lessons could be drawn by Americans forced to bear the "burden of world power."[7] The New Critics fought hard to establish their primacy over traditional literary scholars, trained in Germanic philology and historical facts. Warren self-righteously proclaimed the difference between the two types of academics by declaring "Fact, then, is the primary concern of the scholar; value, of the critic."[8] With such a simple formulation, it is no wonder that New Criticism gained so many converts so readily.

Even at a school such as the University of Michigan, whose major humanistic achievements in English have been in areas of traditional, historically based scholarship — the Middle English Dictionary and Robert Super's edition of Matthew Arnold's prose works — room could be found for Warren. This was made possible, however, in large measure because the New Critics did not argue against a canon of major male authors; rather, they wished to overturn the existing canon of "sentimental" writers, such as Wordsworth, Keats, Tennyson, and Longfellow, and to replace it with those who embodied rigor, complexity, and irony — Donne, Herbert, Yeats, and above all, T. S. Eliot.

More dangerous were the claims of 1968. The 1960s and early '70s saw student demands not only for a more truly pluralistic canon but also for a reconsideration of the political implications of the existing canon. A new generation of university professors bit the hand that had fed them. New Criticism, they claimed, was a false god that had pretended to an impossible objectivity. At its worst, it had concealed a highly conservative agenda while pretending to present eternal truths. At its best, it provided a simplistic formula for reading poems.

The Michigan humanities departments appear to have been largely reactive in this period of change. Old, rigid course requirements were eased, and some popular undergraduate courses were added. In 1948 the English Department had sought out a leader from the upstart school of New Criticism,

but in 1968 it appears to have pushed or encouraged innovators to start their own independent programs, such as American Culture, the Center for Afroamerican and African Studies, and Women's Studies. Those in English who were most concerned by the remoteness of the curriculum from the needs of teachers of English in community colleges, urban high schools, and abroad started the English Language Institute, the Doctorate of Arts, and a reenergized Ph.D. in English and Education. Faculty were no longer tolerant of one another's specialties; those who wanted change left their departments, while those who resisted change welcomed their leave-taking.

The opening up of new programs and institutes was accepted largely because the traditional requirements for the Ph.D. were left intact or only marginally altered, and because the number of graduate students in the new programs remained small. Moreover, the increased diversity in curriculum masked a failure to achieve a diversity of faculty. As long as tenure was in a department, rather than a program, the traditional disciplines could control the degree of deviance. The major victory of these years was the incorporation of Jewish faculty, following a period of endemic anti-Semitism among intellectuals and academics. This overdue change has brought important intellectual benefits to Michigan.[9] Yet the Department of English did not have a woman full professor until 1981, and she came from another university at this rank; it now has only one tenured person of color out of seventy faculty.

The political situation in 1988 is very different from both 1948 and 1968. But here too we are faced with making decisions that are reactive to external events. There is no doubt in my mind that academia has been altogether too slow in recognizing the diversity not only of the student body but also of knowledge itself. Our failure to recognize the validity, nay, the importance of neglected and devalued cultures, genres, and authors, has finally caught up with us. The Stanford debate about what to teach in the basic survey courses is symptomatic of larger issues confronting those of us who teach the humanities. The time has come to reconsider what and how we teach or risk becoming misunderstood and ridiculed by not only the general public but also those with political power.[10] The 1968 demands upon the canon — to replace some white male authors with some writers

who were Jewish, female, of color, and non-Western — has been insufficient. We must now reconsider the nature of our discipline, of our intellectually confining departments, and of our graduate training.

Will Michigan take part in these debates? Can we lead the way to a more flexible notion of humanistic knowledge? I have spoken of the continued power of the departments, of their ability to absorb different critical perspectives as long as these spoke to a familiar canon. The proliferation of programs in the 1970s has been only a partial answer to new ways of thinking. These additions, however valuable, do not necessarily foster new ways of thinking, new ways of approaching humanistic knowledge. How do we encourage our graduate students and young assistant professors to take risks when they know that their jobs and tenure depend upon a familiar packaging of knowledge, upon performance within clearly defined approaches and literatures?

The most promising sign for future change is the increasing number of individual scholars who are restive within the confines of a specific department. Rather than describing themselves as "literary critics," many now see themselves as "cultural critics," implying both a critical perspective upon all cultural endeavor and a distrust of the narrow study of set texts. Such multidisciplinary endeavors as the "Comparative Study of Social Transformations" study group, composed of faculty drawn from Anthropology, History, and Sociology, might well be imitated by those of us in the humanities. The Rackham Graduate School has been receptive to interdisciplinary doctoral programs, which encourage the necessary crossfertilization, in the words of Dean Yoakum, "to discuss the border lines of knowledge which fascinate and urge toward investigation" (Yoakum, p. 1). Finally, departments in the humanities have begun to seek out experts in nontraditional fields; for example, the English Department this year is advertising for a specialist in Asian-American literature. Encouragement from the central administration should insure the hiring — and one can only hope, the retention — of people of color and women.

But how do we create that elusive community of inquirers, so eloquently defined by Dean Yoakum and so brilliantly realized by Austin Warren at a time when the Michigan faculty was more homogeneous than it is now? We know that a beautiful building

is not enough to create such a community, but neither is an exclusionary value system, embodied in the New Criticism. Communities cannot be forcibly created by institutions, but they can be fostered by a climate that encourages time to think, to share ideas, and to be foolish. Excessive competition, both among ourselves and in comparison with other institutions, is destructive of the free exchange of ideas and of risk-taking. As a relative newcomer to Michigan, I am struck by how frequently we compare ourselves to other institutions, as if we lacked confidence and conviction in our own ideas.

Professor Turner described the historic creation of a graduate training edifice composed of many separate rooms, of many separate specializations. In conclusion, I want to turn this metaphor around to an asset: I like to imagine Rackham, as well as nearby restaurants and offices, abuzz not with one community but with a diversity of communities, linked only by a shared zeal for learning. Such communities, of course, can only be held together by a passion for knowledge, and a conviction that taking risks, stating opinions, and learning from others are worthwhile activities. As Warren said, The practical conclusion isn't that we, as critics, should refrain from current polemics or expression of present conviction, prompted by present need, and instead utter generalities which, in a general way, are always true — if one know what they mean. It is rather that, with whatever sense of the past we really, and not merely "notionally," have, we should participate as teachers and critics in that archetypal balance which is not compromise but tension and equilibrium.[11]

NOTES

[1] Austin Warren, "True and False Shepherds," *Teacher and Critic: Essays by and about Austin Warren*, eds. Myron Simon and Harvey Gross (Los Angeles, 1976), 51.

[2] Myron Simon, "The Spirit of Community," *Teacher and Critic*, 125.

[3] "Article [on the opening of the Rackham Building]," Rackham Box 5/Folder: Horace H. Rackham School of Graduate Studies/Correspondence, University of Michigan Archives, Bentley Library, 1-2.

[4] It is no accident that the German Department is celebrating its centenary this year, and that most of the other humanities departments, with the obvious

exception of Classics, were also founded approximately a hundred years ago. Gerald Graff, *Professing Literature: An Institutional History* (Chicago, 1987), 1-15, 65-80.

[5] Factual information in regard to this department and to others mentioned here is drawn from *The University of Michigan: An Encyclopedic Survey, In Nine Parts*, ed. Wilfred B. Shaw (Ann Arbor, 1941-44).

[6] Arthur Burks, "Department of Philosophy," unpub. paper, 3, 7-8. Burks also points to the importance first of idealism and then mathematical logic before 1947.

[7] The phrase is quoted by David Hollinger in his critique of the moral pretensions of the 1940s and '50s intellectuals, "The Canon and Its Keepers: Modernism and Mid-Twentieth-Century American Intellectuals," *In the American Province: Studies in History and Historiography of Ideas* (Bloomington, 1985), 77.

[8] "The Scholar and the Critic," *Teacher and Critic*, 39.

[9] The anti-Semitism was encouraged by the very authors that the New Critics championed, such as T. S. Eliot. See also the comments made about Lionel Trilling, the first tenured Jew at Columbia, quoted by Graff, 154-55. See also Hollinger's discussion of these issues, "The Canon and Its Keepers," 88-89. He points out the irony of Jews such as Delmore Schwartz praising Eliot, even after he had specifically attacked free-thinking Jews as a threat to modern society. Midwestern universities were, if anything, even slower in hiring Jews than eastern universities, which seem to have recognized the value of refugee Jewish intellectuals.

[10] These issues are cogently discussed in the most recent issue of the ACLS *Newsletter*, I/3 (Summer 1988), 2nd. ser. See especially the editorial by Douglas Greenberg and the response by Lynne V. Cheney, Chairman of the National Endowment for the Humanities, 3-7.

[11] Austin Warren, "The Teacher as Critic," *Teacher and Critic*, 50.

RESPONSE

Disciplinary Response: The Arts

by Rudolf Arnheim

Rudolf Arnheim, Professor Emeritus of the Psychology of Arts, Harvard University, moved after his retirement from Cambridge to Ann Arbor, where he taught for another ten years at the University of Michigan until 1984. His doctorate in psychology is from the University of Berlin, and his first book Film as Art, *was published originally in Germany. His later books, written in America, are translated into the major languages. Among them are* Art and Visual Perception, Visual Thinking, Picasso's Guernica, The Dynamics of Architectural Form, *and* The Power of the Center.

The human mind goes about its business of coping with the world by means of two principal media: verbal language and visual images. Therefore, the university, being an arena of the mind, is also occupied by words and pictures. Even the most verbal disciplines rely on illustrations, models, and diagrams, and even in the most pictorial fields of study there is plenty of talking.

If there were more justice in the academic world, the two media would thus be equally appreciated, but such has not traditionally been the case. We Westerners have been heirs to a verbal culture ever since the ancient Greeks, with their contempt for manual labor, classified painting and sculpture among the mechanical arts. Even the medieval monastics barely moderated this contempt, positing that manual labor, after all, had been imposed upon mankind as a punishment after the Fall and

that there was penitential value in working with one's hands, whether as carpenters and blacksmiths or as painters and sculptors. The liberal arts, worthy of free men, were limited to grammar, rhetoric, dialectic, astronomy, mathematics, and also music, which was a kind of mathematics. This academic prejudice in favor of words and numbers has hampered the proper appreciation of visual studies up to our own day, except perhaps in the fifteenth century when, as participants in our University's Florence program discover in the stone reliefs on the campanile of the Duomo, emblematic representations of painting, sculpture, and architecture appeared as a separate group between those of the liberal and the mechanical arts.

In fact, the students entering our University come from a secondary education in whose curricula the studio practice and history of the visual arts tend to be all but absent. Even in the halls of higher education the arts have received due recognition only recently — a recognition arrived at in curiously indirect and sneaky ways. At the University of Michigan, the first courses in the arts were offered in the 1850s by a Detroit portrait painter, Alvah Bradish, who had ingratiated himself with the Regents by sending them an alligator and some tropical fish as the first items for a repository of collectible objects. Significantly also, the University's fine arts collection was begun in 1855 by a professor of Latin, Henry S. Frieze.

If it is the task of the humanities to transform, as Erwin Panofsky has put it, the chaotic variety of human records into what may be called a cosmos of culture, this task has been undertaken only recently in art history. At Michigan, the transition from informal courses in art appreciation to a systematic science of art history came in the 1940s with Harold Wethey's monumental account of the work of Titian. Since then, leading experts in the fields of medieval and Renaissance art, as well as Indian, Far Eastern, and French Impressionist painting, have joined the Michigan faculty in art history. These relatively few decades, however, have witnessed remarkable changes and continual progress.

Until recently, art history suffered from a tunnel vision limited to Greek and Roman antiquity, a hasty glance at the Dark Ages, followed by the Renaissance and its aftermath in subsequent centuries. Sometime in the nineteenth century, re-

spectable art was assumed to have petered out. And, with the possible exception of the Far East, acknowledged as a remote and exotic wonderland, Western art was seen as surrounded by what the Greeks would have called the barbarians.

This situation has changed spectacularly. For one thing, art history has discovered America, with research and academic courses reaching from the pre-Columbian cultures to the abstract painters in New York City. The Middle Ages came to light, and we now have intensive work on the Islamic Near East, Asia, and Africa. What matters is that these new areas of study are not mere additions to the inventory of the discipline but have initiated a comprehensive view of art as a worldwide human concern, ranging from the prehistoric caves to our own time and connecting the entire expanse of the globe by a network of interrelations. Art as a property of every known society has begun to reveal the inexhaustible wealth of its aspects, the many stylistic facets of what is basically a universal trait of human nature.

Along with this broadening of the vista, we witness an equally impressive extension of the kinds of media now considered legitimate. Surprisingly, the very first act establishing the University of Michigan in 1817 provided for a department to be called *callitechnia*, which was to teach all the arts that "require the intervention of taste, genius, skill, and a sense of beauty" and was to include such subjects as naval architecture and typography. This piece of humanistic fancy would have been considered ludicrous not too long ago, when the study of the arts was limited to painting and sculpture and even architecture was looked upon with suspicion because buildings were used for something beyond the pursuit of beauty. When those were the standards, it would have been hard to foresee our present situation: today the chairperson of the Art History Department is as familiar with the cinema, computers, and photocopying machines as she is with the painting and sculpture of the twentieth century; a professor of Renaissance art also specializes in the history of photography; and the dean of the Art School is a ceramicist.

Inevitably, fascination with the new media tempts not only many students but some professors to dismiss the traditional media, together with the criteria of quality and wisdom embod-

ied by them. The new instruments threaten to prescribe the nature of their products, and not infrequently the eyes and hands of their users take credit for what has actually been invented and produced by the progressive equipment. I confess that when in the stairwells of our Art School I see the dusty plaster casts of classical sculpture display their irrepressible message, I keep hoping that those silent admonitions will not go unheeded.

To be sure, there is something thoroughly wholesome about the new awareness of the media. Young architects realize that good buildings are more than ornamental patterns invented on the drawing board, landscape architects like to get their hands dirty, and sculptors are sensitive to the different shapes suggested by wood, stone, metal, and plastics. And while it was once not unusual to come across art historians who had never touched a brush or a chisel, I discover among my friends many who chastely hide in their basements the visual artefacts of their spare hours. There are also welcome indications that the denizens of our two monasteries, the School of Art and Architecture on the hill and the History of Art Department in the valley, are beginning to notice each other and to realize that they need each other's service.

I can refer to one more example of the comprehensiveness and the pluralism that Professor Hollinger has called characteristic of the University of Michigan. Until not long ago, the theory of art was largely limited to the analysis of stylistic form. This narrow formalistic approach is being supplemented by an influx from other areas of scholarship, notably the social sciences, psychology, and anthropology. The work of art is, as it were, taken out of its frame and placed in its context. It presents itself as the product of complexly motivated human beings, controlled by the standards of their society and dependent on the demands of their patrons. The benefits of this broadened view work both ways. They enrich the offerings of the curriculum in art history, but they also alert the adherents of other disciplines to a large field of application. It is nice to see philosophers, anthropologists, linguists, and psychologists profit from the hospitality of our slide collection, now one of the finest in the world, and from the holdings of our equally excellent art library.

One can best describe the overall trend of this recent develop-

ment by saying that it considers art not simply by itself but as the outcome of the mental characteristics of its makers and consumers. As such, a work is affected and recreated by whoever casts his eyes on it, and the result is an endless variety of images brought about by a single target. The danger created by this increased sophistication is all too well known. It threatens to undermine the foundation of the humanistic edifice by a doctrine according to which no thing of our experience possesses an objective character of its own, let alone a value that would transcend individual preference. This challenge has introduced a dramatic tension into the study of the arts. In practice, I have yet to meet any historians who hesitate to offer their interpretation of a painting or historical situation as what, to the best of their understanding, deserves to be accepted and believed. Nor have I noticed studio instructors hesitating to criticize what they see as wrong and praise what they see as right on the easels of their students. Both types of instructors, however, are likely these days to be defied by the kind of students who have been inspired by deconstructionist readings or relativistic philosophy to ask their teachers what makes them think that their statements and judgments are any more valid than the utterances of any other particular individual.

It is here, I believe, that the university of today and tomorrow will need the courage of its convictions. There is no possible justification for teaching anybody anything unless we are willing to assert that in our search for the truth there is a wonderful adventurous interaction between our subjective sifting and weighing of the facts and the objective presence of what may be mysterious, remote, and elusive but exists and is perhaps attainable after all.

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RESPONSE

Disciplinary Response: Health Sciences

by
James V.
Neel

James V. Neel, Lee R. Dice Distinguished University Professor Emeritus of Human Genetics, and Professor Emeritus of Internal Medicine, was for 25 years Chairman of the Department of Human Genetics. He earned both his Ph.D. and M.D. from the University of Rochester. Honors include the Lasker Award, the Allen Award, a Smithsonian Institution Medal, the Russel Award, and the National Medal of Science. Elections include the National Academy of Sciences, the Institute of Medicine, the American Philosophical Society, and the American Academy of Arts and Sciences. He is a past-president of the American Society of Human Genetics and of the Sixth International Congress of Human Genetics.

The academic history of the Medical School during the Rackham years was essentially untouched in Professor Hollinger's presentation. This, I presume, was by design. There were time limitations, and this was not an area with which he felt as comfortable as with his other subjects. I would feel equally uncomfortable, attempting to cover this history in twenty minutes. It is a distinguished history, but on balance, one susceptible to many of Professor Hollinger's analytic comments about other schools; we have in general been a sub-apotheosis of the pluralism he descibes.

Instead of pursuing this impossible assignment, I propose to go off in another direction. Looking over the program of this commemoration, I found it strange there was no scheduled discussion of the role of the Rackham Fund in the intellectual life of the past fifty years we are celebrating today. Fear not, I shall also avoid the mistake of trying to condense a complex history into less than twenty minutes. On the other hand, as one seeking a niche in this complexity of commentary, I decided to focus on an early vignette in the history of the Rackham School and its Fund, one with which by force of circumstance I have considerable familiarity, and one which carries several morals.

In 1940 the Executive Committee of the Graduate School voted to allocate $10,000 from the Rackham Fund for the initiation of an investigative program on Human Heredity and Aging, under the direction of Professor Lee R. Dice. This was in those days a sizeable grant. A similar application to finance this project had been turned down by the John and Mary Markle Foundation and by the Rockefeller Foundation in 1939. The year after the program was initiated, the Regents, at Dice's instigation, authorized the establishment of an Heredity Clinic at the University of Michigan. It was to function as one of the outpatient clinics of the University Hospital, but its staff would be members of a Department of Human Genetics within the Laboratory of Vertebrate Genetics, of which Dice was the director. The Clinic opened in November, 1941, with Dr. C. N. Herndon in charge. Insofar as I can determine, both the clinic and the department were the first to be so designated in the United States.

The stated purpose of this clinic was to supply information concerning hereditary disease to the people of the state of Michigan, and to be a base for research on such disease. In retrospect, by any of several standards, this grant from the Rackham Fund and the associated initiatives were most unusual. First, the American Eugenics Movement through its uncritical excesses had by 1940 thrown the study of human genetics into considerable disrepute among many thoughtful scientists and others in this country, and there was at that time very active controversy concerning this area of investigation.[1] Dice had been careful to distance himself from an extreme eugenics position, although his support of what we might term an enlightened eugenics

movement was clear, and he obviously hoped the clinic would help people make reproductive decisions that would lessen the impact of hereditary disease on society.[2] There must have been considerable concern over the eugenics issue among those who acted on the application; publicly supported institutions, as we have again been reminded recently, must be wary of appearing to support elitist sentiments, such as were embodied in the eugenics movement.

Secondly, Dr. Dice, to whom this grant was made, was an outstanding ecologist, one of the pioneers in this field, but not in any sense a professional geneticist. That he should be entrusted with such a role was unorthodox. Thirdly and finally, given the watchfulness of medicine over its prerogatives, this accommodation to an "outside" idea is noteworthy — although the Medical School did specify that the clinic should be supervised by a clinician. Rackham support for this activity continued for nine years, after which it was absorbed into the University budget. M.C. Brazer refers to it as "one of the last of the very large, multiple-year grants in the biological and health sciences."[3] The total value of the grant was $80,093.23.

The past thirty year are often referred to as the beginning of the third great period in humankind's understanding of self. The first period was initiated by Copernicus, who in the mid-sixteenth century hypothesized that planet earth was not, as was believed, the center of the universe but only a component of a heliocentric system, which we now know is one among many such systems, occupying a space so vast that it nearly surpasses comprehension. The second period was initiated by Darwin, who, far better than any of his predecessors, marshalled the case for human kinship with other life forms, most logically explained by a process of biological evolution. The third period, in which we now find ourselves, is characterized by an explosion of insights into our genetic nature — how genetic information is coded, how it finds expression, how it can be manipulated and transferred between organisms not ordinarily exchanging such information, and how we overlap genetically with other life forms. The demonstration of the universality of the genetic code, from bacteria to humans, completes the revolution in the pre-Copernican view of humankind: we are one among many highly adapted organisms, all variations on the same code, in an

intertwined ecosystem whose complexity we best realize before we do it irreparable harm.

By its actions in 1939-1940, the University had positioned itself both to contribute to and to take unusual advantage of the developments of this third period. With Dice's retirement in 1956, the University gave the activity in human genetics the status of a full-fledged department within the Medical School — again, so far as we know, the first of its kind. Today that department is fully engaged in all the ramifications of contemporary genetics, with especial reference to humans. Over the years the department has developed one of the largest graduate programs in this discipline in the country.

I recount this story not because I came here in 1946 as the physician-geneticist in charge of that clinic but because of what the story illustrates about University process forty years ago. Dice's application was not considered fundable by two of the outstanding national granting agencies of the time, and probably would not be fundable today, either nationally or locally. The moving force behind this proposal was not only untrained in the field but had not published even peripherally on the subject. By contrast, it is a standing joke among investigators today that to be a successful applicant for national-level funding one must already have done much of the research for which one is requesting support, in order to demonstrate feasibility and competence. One then uses the current grant to prepare for the next one. Getting a start on the funding ladder is increasingly difficult.

It is clear from the files of the Bentley Library that Dr. Dice had spent at least three years formulating the proposal that was finally funded. Even so, it was sketchy by current standards. Nevertheless, the University risked funding it, presumably at least in part on the basis of repeated discussions concerning this program, plus confidence in the man behind it. How many other such gambles, based as much on knowledge of individuals as on the precise programs they were espousing, did the Rackham Board take in its earlier days? Looking over the record of past grants to members of the Medical School, I recognize many illustrious names and wonder to what extent these grants constituted seed monies of the utmost importance to the individuals in their formative years. Brazer's history of the fund reminds us

that it was also used to make a number of innovative grants outside the medical arena. Although the totality of current annual grants to faculty from this fund — less than $500,000 — is often exceeded by a single large federal grant, this can be very special money.

Let me conclude with a few words about what I see as the future of genetics at Michigan — some of its prospects, some of its dilemmas, on both the research and administrative fronts. On the research side, even as we pursue our own lines of inquiry, most of us are struggling to keep up with the cascade of new knowledge concerning the genetics of bacteria, plants, animals, and humans. It is simply impossible to predict where this new knowledge of the nature of the gene and how its expression is controlled, plus the ability to construct absolutely new genes to be introduced into a variety of species, will lead. There are obvious potential gains for society from the genetic engineering of plants and animals. There are also potential applications to human disease, but the diseases that are the primary targets for this new technology are fortunately rare. Thus, the health gains from these developments will probably be relatively modest, compared to those to be achieved by modifications of the diet and the environment. More specifically, I suggest it is imperative that our enthusiasm for these new developments does not result in a blind confidence that genetic biotechnology will meet the pressures on planet earth created by relative overpopulation, soil erosion, depletion of natural resources, and atmospheric pollution. We desperately need an integrated approach to these problems equal in magnitude to the so-called Star Wars program, and, may I hope, at the expense of the Star Wars program.

On the administrative side, I offer a few words about the University's strategy in developing and maintaining an advanced position in any field of biomedicine or, for that matter, any other field of science today. Professor Hollinger mentioned the relatively few members of this University elected to the National Academy of Sciences, by comparison with the institutions with which we like to be compared. What he did not mention — could not, for lack of data — were the current members of the Academy who did their seminal work here and then were lured away just as they were blossoming. This University has been

remarkably even-handed in its treatment of its scholars, in the honest conviction — as Professor Hollinger has emphasized — that we could and should have excellence in all fields. We have succeeded remarkably well in attaining unusual competence in many areas, but, as Hollinger points out, given our size, we have a commanding intellectual position in only a few. Our most outstanding example of academic entrepreneurial success in the past thiry years — ISR — was thrust upon us by a small but determined group who were impressed by the convenient centrality of Ann Arbor. For the past twenty years I have, for many reasons, but especially because of the relative erosion in our state support, been concerned over the viability of the concept of broad excellence. Given the tremendous proliferation of scholarship everywhere, I wonder whether, at least for biomedicine, we will have to consider altering our tactics a bit. Like Professor Hollinger, I have for some years detected a trend on the part of our competition, especially of institutions of lesser stature and industry to single out exceptionally competent individuals on this campus and build entire developments around them. While we can take some pride in seeding the provinces, I wonder whether, given the burgeoning of biomedical science, we will be forced increasingly to limit our breadth, select areas in which we will be strong, hold the people we want, and let other areas lapse to a reasonable teaching level by default. This policy requires much more interdepartmental cooperation than we have had in the past. It also requires a keen sense for the future — it's much better strategy to get on the wave while it is forming than to try to climb aboard after it has crested — and maybe even receding underfoot.

Since the Rackham Fund was initiated, the pattern of funding for scholarly research in both the sciences and humanities has changed greatly, not only externally but internally. Schools and departments now receive returns from indirect costs on grants. This should relieve some of the pressure on the fund for small start-up or carry-over grants, which seemed to dominate its middle years. I sense that recently there has been a growing emphasis on truly innovative uses of these funds, for activities that fall outside the usual range of funding. Although, as I noted, the amount of funding available is now modest by federal standards, these funds have the flexibility to let us explore new directions.

This may entail fewer but relatively larger grants, directed towards probing and defining the areas in which we propose to initiate or maintain excellence. These grants will be somewhat risky — the right decisions will not come easily and some will miss the target — but the potential returns are high. Yet, as we struggle to maintain excellence, I hope the Rackham Board will continue to practice within reasonable limits the kind of unorthodox thinking and funding that brought Human Genetics into being on this campus.

NOTES

[1] See D. J. Kevles, In *The Name of Eugenics* (New York, 1985).

[2] L. R. Dice, "A Proposed Laboratory for the Study of Human Heredity in Michigan," *Thirty-eighth Annual Report of the Michigan Academy of Science, Arts, and Letters,* 1937, 84-87.

[3] *Biography of an Endowment* (Ann Arbor, Rackham Board of Governors, 1985), 208.

Intellectual History and Intellectual Community in the Public University

by James Boyd White

James Boyd White was educated at Amherst and Harvard and began his teaching at The University of Michigan in 1967. He moved to The University of Chicago in 1975, returning to Michigan in 1982, where he served as Hart Wright Professor of Law, Professor of English, and Adjunct Professor of Classical Studies. His main interest has been the study of the relation between law and the humanities. His books include The Legal Imagination, When Words Lose Their Meaning, *and* Heracles' Bow.

I would like to approach our subject by talking first in a general way about the character and importance of intellectual community in university life.

I will begin with an anecdote. When as a young man I was teaching at another large state university (which shall remain nameless), a candidate for governor of the state — who apparently thought of the value of the university solely in terms of its economic effect on the local community — had the bright idea of dismembering the university and scattering its several parts all over the state, in order to spread the wealth it generated. One way to approach our subject today is to ask how, by what arguments couched in what terms, we would respond to such a proposal.

Or, more realistically, we might ask how we would respond to the view that each unit of our own university happens to be here in Ann Arbor only by accident or for convenience, and that each should be regarded as fundamentally separate from the others, except insofar as it makes economic sense to share certain facilities. Or someone might carry the principle of dismemberment even further, and ask us to think of each faculty member as a distinct unit, each doing its own work, in principle distinct from all others. The quality of the university would on this view be nothing more or less than the sum of the quality of these individual actors and their achievements. It would not be seen, or judged, as a community. My thought is that to ask how we would respond to such a way of talking and thinking about the university may open up for us what we actually think about the importance of intellectual community in its life.

In my example I have moved from what most of us would consider to be a ludicrous proposal, to dismember the university, to ways of talking that are actually rather close, perhaps distressingly close, to those we hear around us, and that we often use ourselves.

It may once have been possible to talk about a university in a coherent and sensible way, using perhaps: the language of Christianity or some other religion; the ideals implicit in the high culture of the West; or some notion of ways of committing the institution to certain substantive standards or values, to an image of life by which the whole could be organized, to a way of creating a community of discourse and sentiment.

Now, however, there seems to be no such unifying language. The best we seem to be able to do, here and elsewhere, is to talk about the university in the language of business organization: we speak of units, and goals, and progress in attaining them, of means and ends, of priorities and programs, of the quality of our various products, both human and intellectual, of effectiveness, of inputs and outputs, and of measurements of success and failure. Sometimes we borrow the language of sports competition, and talk about ourselves being number one or number three, as a team playing a game, or even the language of military prowess, as we "mobilize our resources" for assaults on certain problems.

Of course the university is, among other things, a business organization, and it is engaged in forms of competition with others, but when we find ourselves talking in this way about it and its life we should stop for a moment and ask how adequate the language we are using is to the community and activity that we are talking about. How would someone overhearing us know that we are talking about a university, for example, rather than some other bureaucratic organization, private or governmental? Could we find a way to talk about the university that more nearly reflected what is distinctive about it?

What is for me the most inadequate about bureacratic talk is that it erases the reality and importance of the communal character of the life we lead. The image of the solitary worker, carrying out research by himself or herself, is, as we all know, deeply false. All of our work is interactive with the work of other people, here and elsewhere. It takes as a given what others have done and seeks to respond to it. We could not do what we do if we were separated from each other.

I have no certain solution to the question, how we should talk about ourselves, but it does occur to me that a better image for the central activity of the university would be that of the conversation: the conversation with the work of others, the conversation with data, the conversation with our colleagues and our students.

This way of talking imagines the university as consisting of a set of minds engaged with other minds: instead of a bureacratic organization, built around projects and problems, it imagines the university as a conversing community. It leads to a concep-

tion of research not as individual but as collaborative; not merely as the atomistic acquisition of knowledge, but as informed by talk with others, leading to invention, to the uses of the imagination, perhaps even to inspiration. For conversations with each other are essential to: figuring out where we are; to defining quesions worth pursuing; to choosing methods of approach; and to creating the compositions in which our results are presented.

It leads to a conception of teaching not merely as the transmission of knowledge but as the contact of mind with mind. The teacher does not simply convey information, but engages the student in conversation; it is in the quality of this conversation that the real teaching lies. Think for example of the teaching of Greek: this language could be taught simply as a system of rules; at Michigan I am glad to say the tradition is to teach it as the object of thought: the student is invited to start thinking about the language at the very beginning — what is this thing called an article? When are verbs put in participial form, in Greek? in English? This teaching, and thinking, have their life in conversation. It is the quality of such conversations that give the university its character, for good or ill.

With this much of what I have said perhaps few will disagreee. It is an invitation to think about how far our lives are in fact characterized by conversation in community with others, and how far that conversation should extend, both horizontally among us here now, and vertically between generations. But when we start to do this, and look at our own university with this question in mind, we see that conversation takes place within the "units" but seldom between or among them, or so its seems, and one might ask whether such conversation was possible at all. Perhaps the image of a university that could actually be dismembered with only economic and not intellectual damage is the right one after all.

I think it is not, but here there may be a difference between "ought" and "is." For many of us, the conversations that take place across departmental lines are of enormous value, even when they seem quite casual — remarks over lunch, or talk in university committees, and the like — and many of them are not casual at all. But we should learn much more fully than we now do how to talk to each other across our differences of training

and of aim. It is in fact essential that we do this in part because our larger world is an increasingly diverse and pluralistic one, in which no imperative is more central than learning to talk across the lines that distinguish us one from the other. This is true in international relations, in internal politics, in our social life more generally. If we cannot learn to talk across the lines that divide us, we will be teaching our students, ourselves, and the world a very bad lesson indeed.

And a bad lesson not only in political and social relations but in intellectual life, for we may learn to participate in our own particular communities of discourse in a more original and critical way if we have access as well to others, with which they can be compared, by which they can be criticized. The educated mind is the mind that speaks more than one way; the conversation that should characterize the university is in this sense multilingual. We should learn each other's languages.

What can unify the modern university, then, is not a language of bureaucracy or social technology, not I think a return to old-time values or a vision of the primacy of western culture, but a recognition that we do speak differently, think differently, coupled with an eagerness to talk across these lines. The result will not be a superdiscourse or metalanguage, by which all can be explained and categorized, but the creation of a living intellectual community: a community of translators, if you will.

What I think is needed here and in other universities is less attention to competition and status, and more attention to the conversations that now take place among us, that could take place. This focussing of attention is in part a function of how we think and talk about ourselves. To the extent that we accept a language of bureaucratic organization as adequate to our life, we will discourage our own impulses towards conversations of diverse and fundamental kinds; to the extent that we insist upon the university as a conversing community, we will draw our attention repeatedly to the problems of its diversity and complexity.

What I have been saying may seem bland enough, but it has real consequences for the way in which the university evaluates itself, for the way in which we evaluate ourselves. To say that we should think about the kind of conversational community we are is not to say we are a good one, but that this is where our

attention should be directed. I think we should speak much less in terms of the excellence of our "products," and much more in terms of the vitality and originality of the conversation that we create, that creates us. Here, not in the quality of our outputs, is where our true character lies. This is an impossible measure for a bureaucracy — administrators cannot apply it — but it is not an impossible measure of us as members of the university to use in evaluating ourselves; nor is it impossible for our future colleagues to use in deciding whether to join this community or another one.

One word in closing about the importance of our own intellectual history: As we begin to think about the ways in which this university is in fact held together by common ways of talking, and how that side of our life might be improved, I think we shall find ourselves turning increasingly to our intellectual past, as a way of providing a shared understanding of the place from which we start. To take our conversation seriously requires in us a vivid sense of the past that makes us what we are.

As for the public character of our university: it is partly because we are a public school, and belong to a region and its people, that our life can be rooted in something other than the hierarchical culture of international academia, in the language and practices and concerns of an actual people. This forces us to reflect in our talk what we might otherwise leave out, just as the presence of the public in the court room, in the form of the jury, requires the lawyers and judges to make sense not only in the bureaucratic terms of official talk but in the language of an actual people. On the other hand, I think it is especially important at universities like this one to insist upon talking of the University as a conversational and educational community, as being of value in and for itself — as a symphony or a museum or a novel is — rather than as a bureaucratic organization, to be defined in terms of outputs and results, because the pressures are so great the other way: to reduce the University to social and economic function, as one bureaucracy among many. Not that we have no public obligations, quite the reverse: but that our obligations are not reducible to a language of social function, nor to the acquisition or transmission of something called knowledge, but lie in our capacity to extend and improve the intellectual community by which our minds and our culture live.

I want to close by reading something. I have talked about conversation a lot but not done much to define it, except perhaps by performance in my own words. I want to rectify that now by reading you a very famous passage, from Claredon's *History of the Rebellion,* about the kind of community his friend Falkland created around him at Great Tew, and its conversational life.

> In this time, his house being within ten miles of Oxford, he contracted familiarity and friendship with the most polite and accurate men of that university; who found such an immenseness of wit and such a solidity of judgment in him, so infinite a fancy bound in by a most logical ratiocination, such a vast knowledge that he was not ignorant in any thing, yet such an excessive humility as if he had known nothing, that they frequently resorted and dwelt with him, as in a college situated in a purer air; so that his house was a university bound in a lesser volume, whither they came not so much for repose as study, and to examine and refine those grosser propositions which laziness and consent made current in vulgar conversation.

The University and the Aims of Professional Education

by Terrance Sandalow

Terrance Sandalow, the Edson R. Sunderland Professor of Law at The University of Michigan, holds A.B. and J.D. degrees from the University of Chicago. Before joining the Michigan faculty in 1966, he served as law clerk to Judge Sterry R. Waterman of the United States Court of Appeals for the Second Circuit and to Justice Potter Stewart of the Supreme Court of the United States and as a member of the faculty of the University of Minnesota Law School. He has written extensively about constitutional law, urban government, and higher education. From 1978 to 1987, he served as Dean of the Law School at Michigan.

The graduate schools of elite American universities, Daniel Bell wrote not many years ago (though before "elite" had become a term of opprobrium), stand at the center of their parent institutions, a position from which they dominate not only American higher education but, increasingly, the intellectual life of the nation.[1] Michigan was, of course, high on Bell's list of elite universities, and it is, therefore, fitting that we mark the fiftieth anniversary of the establishment of its graduate school as an occasion worthy of celebration.

The existence of a center implies the existence of a periphery. If Rackham is at the center of the University, it seems fair to ask, who or what inhabits the periphery? Since the periphery is defined by its distance from the center, the most obvious candidates include the University's professional programs, which are generally beyond Rackham's purview. By this measure, the Law School is to be found at the outer edge of the periphery. Alone among the University's schools and colleges, it offers no program leading to a Rackham degree, and its faculty, unless they also hold an appointment in another school or college, are unique in not being recognized as members of the University's graduate faculty.

The outer edge of the periphery is not exactly a place of honor. My colleagues and I must console ourselves with the thought that our situation might be worse. We might be excluded from the University altogether. Thorsten Veblen, to mention but one prominent proponent of that position, once wrote that "a law school belongs in a modern university no more than a school of fencing or dancing."[2] Veblen's *bon mot* may seem to lack point in a university that awards degrees in dance and, if not in fencing, in football and basketball, but the question he answered, if not necessarily the answer he gave, deserves to be taken more seriously than it customarily has been. Not everything belongs in a university, not even everything that is socially useful. Why, then, should universities house programs for the training of lawyers — or, for that matter, for the training of accountants, nurses, engineers, social workers, pharmacists, and dentists, all of which (and more) Veblen would have excluded from the university?

A prominent academic to whom I recently put that question observed that the inclusion of professional programs in the uni-

versity serves many ends. A requirement that its practitioners hold a university degree, especially a graduate degree, is generally thought to enhance a profession's prestige. It is also a useful barrier to entry, reducing competition among members of the profession and increasing their incomes. The university also benefits by bringing professional programs within its walls. Its budget is augmented, its influence in the society becomes more pervasive, and — in some circles at least — its prestige is enhanced as it is seen to be training young people for useful occupations. No one familiar with the history of higher education during the past century will doubt the part that each of these considerations has played in the decisions to locate professional education in universities, but however important they may be in explaining the decisions, they are not very satisfying as justifications for them. One searches, rather, for justifications that relate professional education to the university's central role, as a center of intellectual activity.

Veblen's conclusion, that law schools and other professional training programs have no place in the university, rested upon a precise, though narrow, conception of that role. The only proper function of the university, he maintained, is research, an activity that he defined as the search for knowledge that arises out of "idle curiosity" and is not "in the slightest degree" concerned with the practical effects of the knowledge sought. It followed for Veblen that not only professional, but also undergraduate education should be lodged in other institutions. Even graduate education, he argued, should be regarded as secondary to, an incident of, the university's true mission, justified only by the need to train the next generation of researchers.

Veblen's conception of the university is so at odds with the history of American higher education that it would be futile to attempt to breathe life into it. Since the latter part of the nineteenth century, when they began to emerge in a currently recognizable form, American universities have been shaped by competition among a number of rival beliefs about the ends to which they should be directed. In a useful study of the origins of the modern university, Laurence Veysey identified three that were especially significant in the early years.[3] The continuing influence of each will be apparent to most observers. The first, stated by Veblen in its most extreme form, is that universities

exist to foster research, especially what is now often called "pure research." The distinction between "pure" and "applied" research is, to put the point generously, not altogether clear, but those who believe that universities should devote themselves to the former seem to have two criteria in mind: first, that research should be driven less by perceptions of social utility than by the intrinsic intellectual interest of a subject, and, second, that it should have theoretical significance.

A second objective held out for universities was,to use Veysey's phrase, "a diffusion of the standards of cultivated taste," an objective that today we might more comfortably render — undoubtedly with some change of meaning — as "liberal education." Universities were (and are), on this view, held to have responsibility for cultivating the intellectual virtues and understanding of the world that their presidents presumably have in mind when, on commencement day, they welcome graduates to "the company of educated men and women."

Still a third objective, generally associated with the Morrill Act, but in no way limited to the universities that directly benefitted from it, is that of "practical service" to society. The purpose of a university education, it was (and is) widely held, is to fit graduates for the practical affairs of life, especially by preparing them for socially useful occupations. So understood, a university education is responsive both to the economic needs of the nation and to the democratic ideal of "careers open to talents." Applied research, by increasing our mastery of nature and pointing the way toward the amelioration of social ills, offers analogous benefits.

It is tempting to identify each of the three objectives with a different component of the university — liberal education with the undergraduate program, research with the graduate school, and practical service with the professional schools. The reality is, however, more complex. Undergraduate education is not insensitive to the goals of liberal education and doubtless achieves some of them in some measure, but it is nonetheless true that the idea of liberal education is a more vital force in the discussion of undergraduate education than in its practice. A great deal of undergraduate education is explicitly professional, either directed immediately toward the training of professionals — as it is, illustratively, for nurses and engineers — or somewhat less

directly aims at that goal — as in premedical programs. Although students in professional and preprofessional programs are commonly required to devote a portion of their undergraduate years to so-called "liberal arts" courses, the requirements are insufficient to blunt the professional thrust of the programs.

The idea of liberal education plays a larger role in undergraduate programs in the liberal arts, but even these do not display a deep commitment to it, for in a significant sense they too have become "professionalized." Typically, a student's program focuses upon a "major," a sequence of courses that, to the extent it achieves any coherence, is aimed primarily at preparation for graduate study in the same field. The consequence is a considerable sacrifice of the breadth of understanding associated with liberal education, an understanding for which that gained by satisfying "distribution requirements" is at best a pallid substitute.

In any event, the structure of the typical liberal arts program is not the only, nor necessarily the most important, reason for concluding that undergraduate education is not significantly informed by the idea of liberal education. The spirit of professionalism enters more pervasively in the way courses are conceived and taught. Since my own credentials might not qualify me to testify in support of that judgment, it seems prudent to call as a witness a scholar who undoubtedly would qualify. In an essay published nearly twenty-five years ago, Jacques Barzun wrote:

> The reality is that the best colleges today are being invaded, not to say dispossessed, by the advance agents of the professions [among whom, the context makes clear, Professor Barzun meant to include faculty members in the arts and sciences] . . .
>
> Consider the forces at work. First, it seems desirable to have the great scholar teach undergraduates, and he naturally teaches them as if they were future scholars in his own line, as professionals. . . . An even stronger influence is that of the young teachers, all Ph.D.'s who need to establish themselves. This they can do in only one way: by showing productivity in research. . . . Accordingly, these junior scholars decline to teach anything not related to their own

> specialties. As one of them said to me, they do not want to teach "secondhand subjects." Firsthand subjects are necessarily narrow, and what is worse, they are treated as if everyone in the class were to become a professional, a duplicate of his own teacher. . . . [The student] is not addressed as a person or a citizen, but only as that dreadful model of our age: the useful member of society who must be clothed in qualifications and armed with licenses to practice.
>
> In short, both teachers and students are responding to the spirit of the times. They are impatient with everything that is not directed at the development of talent into competence.[4]

One need not suppose that Professor Barzun has accurately described all undergraduate teachers, nor indeed share all of his judgments, to appreciate that twenty-four years have not lessened the force of his point.

The temptation to identify research with the graduate school is more justifiable. It is, after all, because of its success in fostering research and because research has become the predominant concern of the nation's major universities that Professor Bell placed the graduate school at the center of those institutions. Nevertheless, Veblen would not be pleased. The research that accounts for this ascendancy is not the so-called "pure research" that arises out of "idle curiosity," but research driven by intensely practical concerns. In this sense, research too has become professionalized.

Differences among the disciplines must, of course, be recognized. Explicit concern with the practical importance of problems probably plays a larger role in determining the research agenda of most professional schools than it does in determining that of most departments in the arts and sciences, a larger role in some sciences than in others, and a larger role in the sciences taken collectively than in humanities departments. Yet, even the latter, despite the illusions they at times seek to foster, cannot sensibly be regarded as the last redoubt against a rising tide of professionalism within the university. Thus, to the extent that the research of their faculty members is self-consciously political, it too aims less at "knowledge for its own sake" than at a kind of practical service to the community.

My purpose, however, is not to deny that intellectual interest accounts for some, perhaps much, research within the university, nor to claim that all university research is directed solely toward the achievement of some tangible benefit for society. "Intellectual interest" and "practical service" are not, after all, mutually exclusive categories. The relationships between the two ideas are complex, and an elucidation of those relationships, which would require a paper of its own, is not central to my point. What is central is an awareness that universities have become the research arm of the society and that their faculty members are as a consequence engaged in the work of the world in much the same way as are the members of other professions. As Daniel Bell put it:

> The university today, whether public or private, has come to be a quasi-public institution in which the needs of public service, as defined by the role of the research endeavor (whether initiated by the government or by the faculties), becomes paramount in the activities of the university.[5]

As the importance of research within the university has increased, other indicia of professionalism have also appeared, most significantly the specialization of knowledge and of the means by which it is acquired. The burden of acquiring and maintaining competence becomes increasingly heavy as the volume of research grows and research techniques become increasingly sophisticated. Disciplines thus divide into subdisciplines and subdisciplines into fields. A special language may then develop, perhaps useful for those who work within the field, but reducing its accessibility to others. As work within a field proceeds, adepts may even lose interest in how it is regarded by "outsiders," asserting — as professionals so often do — that only others within the same field are competent to judge their work.[6]

We come round in this way to Professor Barzun's concerns about the professionalization of undergraduate education. Graduate programs, especially those leading to a Ph.D., quite naturally reflect the faculty's understanding of what it means to be competent within a discipline, an understanding that over the years has increasingly emphasized technical proficiency over breadth of intellectual perspective. Quite naturally, too, those who pass through the programs transmute this understanding

of competence within the discipline into an understanding of the discipline, and it is that understanding of the discipline which they bring to their undergraduate courses. A decade ago, in the course of another Rackham-sponsored conference, Gregory Vlastos lamented the narrowness of graduate education, especially because of its consequences for undergraduate education. "For the production of specialists who could reproduce their kind," he wrote, "our leading graduate schools are now probably unsurpassed anywhere in the world. But," he went on, "for the production of teachers of undergraduates our graduate instruction is a failure." As Vlastos described the intellectual deficiencies of the students emerging from these programs — "little history, less of political or social sciences, perhaps not even a single substantial course in English or European literature" — one might be forgiven for thinking that he was discussing the education of engineers. What is striking is that his subject was graduate education in the humanities.[7]

My earlier suggestion that professional education is at the periphery of the university may, therefore, require revision. If the entire university has become professionalized, professional education may perhaps claim a place at the center, not necessarily displacing the graduate school but equal to it in dignity and importance because not fundamentally different from it in aim. A conception of the university that places professional education at its center is less novel than some may suppose. Preparation for the professions — at least the learned professions of law, theology, and medicine — was the *raison d'être* of the medieval university. An expansion of the university's program to encompass preparation for other professions is a natural, if not necessarily inevitable, consequence of the increased knowledge and technical sophistication now required to practice those professions.

My objective in emphasizing the professionalization of the university is less to enhance the status of professional education than to lay the foundation for a more important claim: to discuss professional education at the graduate level is also to discuss what are generally called academic programs at the graduate level, not only Ph.D. programs in the professional schools but graduate programs in the arts and sciences as well. At this point in our history, the critical issues confronting academic programs

and those confronting professional education are remarkably similar, perhaps — at an appropriate level of generality — identical.

The central issue that each faces is how to define the aims of graduate education. Or, to put what I regard as the same question in quite different terms, how should we think of students as they pass through one or another program. Most people are unlikely to consider the question very difficult or very interesting on either formulation. The common response is likely to be that we should think of our students as future practitioners in their fields. The appropriate objective of graduate education, it seems to follow, is to produce competent — or better yet, outstanding —lawyers, economists, historians, pharmacologists, or whatever. That goal, as I shall argue presently, tells us very little about the desirable content of professional education. The difficult questions are what it means to be a good professional — a term that I now use to include academics — and how universities can best contribute to their students becoming such.

Initially, however, I want to maintain that that goal, however understood, is seriously incomplete. To think of our students solely as future practitioners is to think of them only as instruments to be shaped in accordance with someone's conception of how they can best serve their future patients or clients or someone's conception of social utility. Students are not merely instruments, however. They are themselves an important end of the educational process. The proper object of a graduate education, as of any other education worthy of the name, is to enlarge their capacity to realize their human potential as that is understood in our culture. It should aim not merely to equip students for the eight or ten or twelve hours a day in which they will be performing in professional roles, but to assist them in developing character traits, intellectual skills, and an understanding of the world that will enrich their lives and enhance their capacity to act as moral beings. A good graduate education is in this sense a continuation of a liberal education.

In saying this, I do not mean to suggest that medical and engineering schools or departments of biology and classics must seek to develop their students' appreciation of art and music, important as that may be to the full development of the human spirit. Nor need physics students be required to acquire an un-

derstanding of legal institutions or law students an understanding of cosmology or quantum mechanics, however desirable it may be for educated men and women to have some comprehension of both. Education at the graduate level is, appropriately, specialized. But each of the fields of graduate specialization — at least each that belongs in a university — offers opportunities for cultivating intellectual skills and virtues whose importance is not confined to professional activity, skills and virtues that are integral to our idea of what it means to be not merely a sociologist or teacher or chemist but an educated person. And each also offers, to employ a phrase that Francis Allen once used to describe the intellectual opportunities offered by the study of law, "a path to the world."[8] Graduate education must, of course, equip students to traverse the path, but in doing so it must take care to remember that the world, not the path, is the object of their studies.

To flesh out these very general ideas, I propose, by way of illustration, to consider briefly the ways in which legal education, properly conceived, can contribute to liberal education. The discussion will, I hope, also serve as a response to the question that I posed early on, why legal education should take place in universities. Although one would not discuss other professional programs or academic disciplines, especially in the natural sciences, in precisely the same terms, I think that something very much like what I shall have to say about legal education can be said of other graduate programs and that justification for their being lodged in a university must occur along similar lines.

Laymen, including beginning law students, often suppose that the object of legal education is to acquaint prospective lawyers with a body of rules that constitute "the law." Students are quickly disabused of that notion, if for no other reason than that, as they learn, there are too many rules and the rules change too rapidly to make the effort worthwhile. Alumni can often be heard to say, therefore, that legal education makes its most important contribution in teaching students to "think like lawyers." Rightly understood, however, the skills that they identify with "thinking like a lawyer" are not merely professional techniques useful in the office or courtroom, but intellectual capacities that are of pervasive importance in life. Thus, the ability to identify and articulate the premises of an argument, to

reason in an orderly fashion from those premises, and to form and test suitable hypotheses for synthesis are not only craft tools, but capacities of mind essential to understanding the world around us and to undertaking intelligent activity within that world. Similarly, the ability to draw meaning from the printed word and to understand the possibilities and uses of fixity, vagueness, ambiguity, and change in language is not simply a professional necessity. It is indispensable to participation in a community of thought that extends beyond very narrow boundaries of space and time.

Let me pause for a moment on the last point. Determining how a text should be understood is a central problem of the law, so central that a legal education that fails to grapple with the issues it poses is quite inconceivable. Interpretation is not, however, a problem that lawyers alone confront. It has long been recognized as presenting issues of similar importance in other disciplines — e.g., theology, history, music, and literature — and more recently has come to be regarded as a central problem of social life. In studying the interpretive problems and traditions of the law, law students thus open a door onto a much wider world. The obverse is equally true. An appreciation of the interpretive problems and traditions of other disciplines deepens understanding of law. As my colleague James Boyd White has for some years been demonstrating in discussing law and literature, the point is not that the interpretive traditions of other disciplines offer a technology that will somehow unlock the meaning of legal texts, but that in attending to those traditions "we can come to see and understand more fully what we do when we read and speak in the law . . . in part by drawing our attention to the activity of language use itself, of which law and literature are related versions."[9]

Several years ago, a prominent lawyer responded to somewhat similar remarks by one of my colleagues by saying that "the Law School ought not to admit students who don't know how to read." That comment reflects a serious misconception. The ability to read, like the other skills I have mentioned, is not a competence that we either have or do not have, in the way that we either have or do not have a baccalaureate. Abilities such as these are the product of a continuous struggle to wrest meaning from disorder. They are developed and maintained only by con-

tinually undertaking activities that require their use. Skill in reading and in analysis and synthesis is broadened and deepened as it comes into contact with new subject matter. Similarly, knowledge of a subject, except at a very superficial level, depends upon its having been acquired through these tools of critical inquiry.

The same might be said of a number of intellectual qualities that we normally refer to as virtues rather than as skills. A traditional aim of education is to strengthen the abilities of students to avoid common hazards to clear thought, such hazards as self-interest, provincialism of time and place, sentimentality, the inability to tolerate uncertainty, and overdependence on familiar categories of thought. The development of these virtues is commonly associated with liberal education, but it is not for that reason a less appropriate goal of graduate education, however specialized the latter may be. To understand a discipline is to have a command of its subject matter and its methods that can be achieved only through the practice of the intellectual virtues. And the latter, in turn, can be acquired and maintained only by engaging in activities that call for their use.

Understanding a discipline, to put the point a bit differently, entails not only the ability to work with its regnant concepts, but also the ability to work free of them.[10] Students are more likely to acquire that understanding if they know something about theories of knowledge, about how, for example, concepts organize and influence the selection of data and about how the conceptual lens through which we apprehend the world may affect perception. Some attention to epistemology is, therefore, an important element of graduate education. Of at least equal importance is an appreciation of alternative ways of conceptualizing that fragment of the world with which a discipline is concerned. Just how that appreciation is to be developed will differ somewhat from discipline to discipline. Even within a single discipline, many avenues are available. In law, the comparative study of legal systems offers an obvious means of acquainting students with alternatives to familiar concepts. The study of legal history affords similar opportunities for standing outside the familiar and thereby gaining a perspective on it. So too does an exploration of the increasingly powerful critique that, in law as in other disciplines, has been mounted by feminist theorists. I do not

mean to suggest that any one of these areas of inquiry is an indispensable element of legal education, though each doubtless contributes to an enlarged understanding of law and that part of life touched by law. For my present purpose, their importance lies elsewhere, not in their particulars but in the opportunities they offer to acquaint students with the many ways in which life and law can be understood and in their tendency to enhance the capacity of students to think seriously about those possibilities. To the extent that legal education avails itself of these opportunities, it not only deepens the students' understanding of law, but assists them in developing virtues whose significance extends well beyond the performance of professional tasks.

Although graduate programs thus share responsibility with undergraduate education for cultivating intellectual skills and virtues that are the common property of educated men and women, they also have distinctive obligations. Graduate education is disciplinary education. It seeks to acquaint students with a subject matter and methods that will enable them to undertake independent work within their disciplines. But specialized education need not be narrowly professional. It may also address students at a more fundamental level. The difference between addressing students only as professionals and addressing them at that more fundamental level lies in the questions they are led to consider, whether the questions are those of a discipline that has turned inward upon itself or whether they reach outward toward an understanding of the world.

Law, for example, can be studied solely with a view to learning how to perform the tasks that engage lawyers professionally. Presumably that is how it was studied during most of our history, when lawyers qualified by serving an apprenticeship, and how it is still studied in some law schools. But law is not only a professional activity. It is also a central feature of the social order, one that touches large areas of life directly and that in some respects may be said to affect all. The issues with which it deals and the ways in which it deals with them are expressions of the ideas, values, and tensions that are to be found in the society that law helps to order. One may study law, therefore, for the same reason that one studies poetry or anthropology, as a means of acquiring a better understanding of the human condition.

From this perspective, legal arguments are to be seen not

merely as moves in a game, as they may come to be viewed if the study of law is regarded solely as preparation for professional activity. Alternative and opposing arguments are to be seen, rather, as ways of exposing the full complexity of the issues they address, drawing attention to the varying ways in which human behavior can be understood and to the full range of values relevant to a judgment about the manner in which law should address the issues.

To see the study of law from this perspective is also to recognize why it cannot be carried on in isolation from other areas of academic inquiry. Many of the issues that law confronts have been investigated by scholars in other disciplines. If the object of a legal education is to enlarge understanding of law — both of its internal operations and of the ways that it can, does, and should influence life — students of law will necessarily look to those disciplines for whatever help they may offer. If economics generates plausible hypotheses about the inner dynamics of law or the competitive consequences of vertical integration, learning about them is appropriately part of an education in law. If techniques of empirical investigation employed by social scientists may be used to shed light on the efficacy of legal sanctions or the consequences of racially segregated schools, it is difficult to see how they can be ignored in the study of law. My point is not that law is reducible to the concepts of other disciplines, nor that other disciplines furnish answers that law may simply import. It is, rather, that in law, as in other areas of inquiry, the search for understanding ought not to be impeded by disciplinary boundaries. What is required is a conversation among disciplines, a conversation in which students must learn to participate if their education aims at knowledge and not merely at equipping them to perform the familiar tasks of the profession.

There is yet another reason to draw upon other disciplines in the study of law. Burke's aphorism, that "the study of law sharpens the mind by narrowing it," is also true, as the modern university seems intent upon demonstrating, of every other discipline. As John Stuart Mill wrote more than a century ago,

> Experience proves that there is no one study or pursuit which, practiced to the exclusion of all others, does not narrow and pervert the mind; breeding in it a class of

> prejudice special to that pursuit, besides a general prejudice, common to all narrow specialties, against large views, from an incapacity to take in and appreciate the grounds of them.[11]

The obvious safeguard against this narrowing of mind is to acquaint students with the perspectives of other disciplines, so that they may acquire an enlarged view of their field of specialization and of the world of which it is a part.

I have been considering ways in which legal education — and, by implication, other areas of graduate study — might address students not merely as future professionals but as men and women, individuals whose education is itself a valuable end. Graduate education is, however, also concerned with preparing its graduates to undertake the work of the world, i.e., to be professionals. We need classicists who can extend our knowledge of the ancient world, clinical psychologists who can address the pathologies of the mind, and perhaps even lawyers. In many, perhaps most, programs the burden of bringing students to a level of professional competence within the time available presses heavily even now. If graduate study is to be contained within any reasonable period, which probably means that it may not be lengthened at all, how is room to be made in the programs for intellectual perspectives that are now omitted? Very likely, there is no general answer to that question, but a number of issues common to all programs can be identified, and I want to touch briefly upon them in closing.

If the experience of law schools is a guide, those who doubt the wisdom of expanding the intellectual content of graduate education beyond its traditional disciplinary base may be expected to contend that liberal education is the task of the undergraduate years. So far as a grounding in other disciplines is important to a student's field of graduate specialization, the argument continues, it should be acquired in college so that graduate study may concentrate on the task of developing disciplinary or professional competence. It is, perhaps, a sufficient response that students generally do not acquire that grounding in the course of their undergraduate education, but the argument fails, in my view, for another and more central reason.

The intellectual skills and virtues at which education aims are not, as I suggested earlier, merely brought to graduate study.

They are developed as it proceeds, through a process that is intrinsic to acquiring an understanding of a discipline. Similarly, the knowledge of other disciplines that graduate students require is not merely knowledge that can be brought to their field of specialization, but knowledge that enters into their understanding of that field, informing both the questions that they ask and the way in which they go about addressing those questions. The understanding of economics that law students require, to take but one example, is not the knowledge acquired in intermediate or even advanced courses in price theory. It is an understanding of the uses and limits of economic analysis in thinking about legal issues, an understanding that deepens as their understanding of law increases. An understanding of that kind can be developed only by exploring, in a variety of settings, the ways in which the methods and concepts of economics may be used in thinking about law.

Of course, students who have been broadly educated as undergraduates, who have acquired some understanding of the different ways of knowing characteristic of different disciplines and who have some knowledge of the concepts employed in different disciplines, will be better equipped than those more narrowly educated to pursue a graduate education informed by liberal values. Broadening the intellectual content of graduate education is, therefore, likely to exert pressure for a similar reform of undergraduate education, a nice bonus for those of us who think that such a reform would be independently desirable. The implications of the reform for graduate education, however, would not be to relieve the latter from the "burden" of considering the uses and limits of other disciplines, but to enable students to address those issues at a more sophisticated level.

Doubts about the wisdom of broadening the intellectual content of graduate education center upon the question whether it is consistent with bringing students to a level of professional competence within the discipline.[12] Beneath the doubts, however, lie two premises that are rarely articulated, one that concerns the meaning of competence and a second that concerns the relationship of graduate study to the achievement of professional competence. Practicing members of the professions typically have in mind a notion of competence that equates it with the ability to perform the tasks that they are most immediately

conscious of performing. The second premise, that graduate education should aim at professional competence, then quickly leads them to the conclusion that professional programs should train students to perform those tasks. It would be gratifying to suppose that academics have a more sophisticated understanding of competence and of the role of graduate study in producing it, but before congratulating ourselves, we might first ponder the implications of Gregory Vlastos's judgment, quoted earlier, that the leading graduate schools mainly succeed in the "production of specialists who could reproduce their kind."

Both premises oversimplify very difficult problems. Professional competence is a more protean concept than is customarily assumed by those who invoke it. Competence is the ability to perform a task, not a definition of the tasks to be performed. Until the tasks are specified, the idea of professional competence is empty. It is, in part, for that reason, as I suggested earlier, that a conception of graduate education that emphasizes the objective of professional competence tells us very little about the desirable content of graduate education. Even if one assumes that conception, the appropriate content of the educational program depends upon what it means to be a good professional. Most physicians, I suspect, would define professional competence in terms of the diagnosis and treatment of disease, a conception of professional responsibility that has important implications for medical education. If the professional responsibility of physicians were thought to include the prevention of disease, medical education would, presumably, have a content very different from that which it would have under the former conception. I have no view about which conception of the physician's role is preferable, but I do want to insist that a choice between the two must be defended. It cannot simply rest upon assumptions grounded in nothing more than conventional practice.

In this light, doubts about whether time constraints permit a broadening of the intellectual content of graduate education may be seen to rest upon a generally undefended assumption about professional competence, specifically, that it consists of the skills and knowledge associated with the discipline as it is now understood. The tasks of the professions and the subject matter of the disciplines are, however, more fluid than such an

assumption recognizes. Within my own professional lifetime, to take but one example, the subject matter of even so ancient a discipline as history has significantly expanded. One reason for broadening the intellectual content of graduate study is, precisely, to permit a continuing examination of the disciplines that makes such changes possible. Thus, it is at least possible to imagine that economists might take a quite different view of their field — and, accordingly, of what it means to be competent within that field — if they spent some time examining it from the perspectives suggested by other disciplines.

Most graduate students will, of course, not be engaged in producing seismic changes. Their work will consist of what Thomas Kuhn called "ordinary science."[13] But as I attempted to convey in discussing the ways in which the study of law might be approached as a continuation of a liberal education, the skills and knowledge that such a program aims to develop are not merely an intellectual adornment. Their object is a deeper understanding of the discipline and, therefore, a more competent performance of professional tasks. The point I wish to make is suggested by the comment of a wag who said that history should be studied so that one can refute false historical analogies. The point of that witticism, as I understand it, is that all of us have an accumulated fund of ideas, many of them false. False or not, they are likely to enter into our work. Lawyers will develop arguments that, whether they know it or not, rest on economic models. Historians will write history that, consciously or not, embodies theories of social behavior. Sociologists will develop theories of social control that, knowingly or ignorantly, rest upon assumptions about the legal system. If I am right in suggesting that work in a discipline, if not inevitably, at least often, rests upon ideas about the subject matter of other disciplines, we had best do what we can to increase the likelihood that our students will have access to better rather than worse ideas.

Fashioning educational programs that are responsive to these goals is a formidable task, so formidable that we may be deterred from even making the effort. It may help to acknowledge that, as goals, they are unlikely ever to be reached by any graduate program. We are all aware that it is the work of a lifetime to achieve a level of professional competence equal to our aspirations, let alone to become an educated person. The question,

then, is how we can best assist our students to move toward those goals. That question poses a classic economic problem, how a limited resource — in this case, the time of our students — can most efficiently be employed. Since the problem is an economic one, I want to suggest that there are two economic concepts that are useful in thinking about it.

The first is the concept of comparative advantage, which I think needs to be taken more seriously than it has been in professional programs. The tendency of professional programs to accept the premise that they should equip their students for the professions has led them to devote time to developing skills that are currently understood to be professionally important. Law schools, for example, have in recent years devoted a not inconsiderable portion of their resources to training students in the arts of trial advocacy and negotiation, both of which we may assume to be important in the practice of law. Yet neither the importance of a skill in practice nor even the judgment that the skill can be better acquired in an academic institution than in practice justifies a conclusion that professional programs should expend limited resources on its development. Because resources are limited, they should be directed toward educational objectives with respect to which universities have a comparative advantage. One needs to know whether, taking account of the other settings in which a particular skill might be developed (e.g., in practice or in continuing education programs), student time might better be devoted to gaining knowledge and capacities, also important to professionals, that are less likely to be acquired outside an academic setting. It seems plausible to suppose that the comparative advantage of university-based professional programs generally lies in their ability to educate students broadly, not in assisting them to acquire the practical arts of a profession.

The other principle to which greater attention might usefully be given is that in deciding among the uses to which a limited resource should be devoted, inquiry should be directed toward a comparison of gains at the margin. The marginal gain associated with the study of even the most central elements of a discipline may well be less than the increment produced by devoting some part of a student's program to intellectual perspectives that bear upon, but are not central to, the discipline. In the

study of classical literature, for example, knowledge of Latin and Greek is presumably of central importance. It does not follow, however, that all of a student's time should be directed to perfecting a knowledge of those difficult languages. Once a certain level of proficiency has been reached, the gain from devoting time to enhanced mastery of language — even if measured only by the student's ability to think intelligently about classical texts — will be less than that which would flow devoting that time to, say, modern critical theory or the interpretive traditions associated with English literature.

Of course, efficiency principles alone cannot determine whether graduate programs should be reformed along the lines I have suggested. My purpose in invoking them is only to suggest that possibilities exist for breaking free of the perceived constraints that now play so important a role in shaping the programs. In the end, however, the question is whether we wish to break free of those constraints. One way to answer that question is to ask a slightly different version of the one that I asked at the outset. If the aims of graduate education are not those that I have suggested — if they are, rather, only to equip students to perform the familiar tasks of a profession — why should lawyers, dentists, and social workers — or, for that matter, chemists and classicists — be trained in a university rather than in separate technical institutes, each directed toward its own area of specialization?

NOTES

[1] Daniel Bell, *The Reforming of General Education* (New York, 1966), 88-110.

[2] Thorstein Veblen, *The Higher Learning in America* (New York, 1918), 155.

[3] Laurence R. Veysey, *The Emergence of the American University* (Chicago, 1965).

[4] Jacques Barzun, "College to University — and After," *The American Scholar* XXXIII, No. 2 (Spring 1964), 212-20.

[5] Bell, *The Reforming of General Education,* 89.

[6] A personal experience usefully illustrates the point. Some years ago, as a member of the executive committee of the Institute for Social Research, I participated in a discussion of the means by which the quality of its programs might be assessed. I suggested that any panel conducting an assessment include a number of persons from related disciplines who might, from varying

perspectives, be able to comment upon the significance of a research program as well as the technical proficiency of the research. A program director, a man of considerable scholarly reputation earned in a narrow corner of one of the social sciences, responded that he didn't care what people from other disciplines thought of his research; indeed, he did not even care what those in other subspecialties in his own discipline thought of it. Only those engaged in research similar to his were fully competent to judge what he was doing.

[7] Gregory Vlastos, "Graduate Education in the Humanities," *The Philosophy and Future of Graduate Education,* ed. W. K. Frankena (Ann Arbor, 1978), 64, 73 ff.

[8] Francis Allen, "The Law as a Path to the World," 77 *Michigan Law Review* (1978), 157.

[9] James Boyd White, "Law and Literature: No Manifesto," 39 *Mercer Law Review* (1988), 739, 741.

[10] Some years ago, as a new dean struggling to understand the Law School's system of accounts, I asked the school's bookkeeper why some expenditures were charged to an account labelled "special activities" and not to our general fund current account. She patiently explained that the former account was for activities that are special and then began to show me the previous year's receipts, saying — as she turned each one over — "See, this was for a special activity." No doubt, this is an extreme example, but it nicely underscores my point. Although her allocation of charges may faithfully have followed a long-standing practice, the bookkeeper plainly lacked an understanding of the activity in which she was engaged. At the most elementary level, she had no theory to explain why expenses were to be charged to one or another account. Nor, surely, did she understand that accounts might be organized in a variety of different ways, depending upon the purpose to be served. The accounting categories with which she was familiar were, for her, rooted in the nature of the universe. Perhaps for that reason, shortly after I reorganized the accounts to provide information that was inaccessible under the old system, she announced her decision to take early retirement.

[11] John Stuart Mill, *Inaugural Address, Delivered to the University of St. Andrews* (Boston, 1867), 7.

[12] The risk of dilettantism is also likely to be cited. The nature of that risk and ways in which it can be mitigated deserve fuller exploration than I can undertake here. It seems worth noting, however, that the fear of dilettantism reveals a good deal about contemporary attitudes toward the appropriate ends of graduate study. A "dilettante" is an "amateur," both words that we have come to asssociate with superficiality. But "amateur" is rooted in the Latin word *amare,* to love, and "dilettante" is etymologically related to our word "delight," suggesting that the mildly pejorative connotation that those words have acquired has come at a cost.

[13] Thomas S. Kuhn, *The Structure of Scientific Revolutions* (Chicago, 1962).

The Next Generation of Scholars, Academic Values and the Reform of the Ph.D.:

The Benefits and Costs of Broader, More Liberal Education

by Billy E. Frye*

A graduate of Piedmont College, Billy E. Frye received his Ph.D. in Biology from Emory University. He joined The University of Michigan's faculty in 1961 and served as Michigan's Vice President for Academic Affairs and Provost from 1980-86.

In 1986 he became Dean of the Graduate School and Vice President for Research at Emory University and in 1988 he was named Vice President for Academic Affairs and Provost.

These comments will address a few of the practical problems of reforming and liberalizing graduate education. Let me say at the outset that I believe that doctoral education could be better than it now is if its content and contexts were broader and if certain fundamental values of the scholarly profession were brought more to the forefront of our consciousness and our behavior.

Certain recurring questions, however, suggest that the problem is more difficult than it might initially seem. First, I believe we need to ask what we mean by "breadth" and "more liberal education" at the graduate level. Are we speaking of breadth in the sense that "the liberal arts curriculum" is usually taken to imply — breadth of *knowledge* about things and ideas, the *perspective* that comes from knowing something about other cultures, fields, methods of knowing, and so on — or do we mean breadth in the sense of a receptive attitude, a tendency to universalize ideas, mastery of reasoning skills, and intellectual uncertainty, as matters of personal habit? I do not mean to suggest by this question that these two viewpoints about breadth are unrelated. Surely liberal education influences, even inculcates these latter tendencies *by* providing breadth of knowledge and perspective. But, by the time we reach the level of educating people for a professional life of scholarship, other factors affecting attitude and behavior may take precedence. The point I intend to emphasize with this question is that the prevailing culture of scholarship itself may have more to do with how these habits are cultivated and sharpened than does the content of the graduate program *per se*. Erudition and knowledge are *not* the same as liberalization and imagination.

As a variation on the question of what we mean by breadth, and what we intend to accomplish by it, we might break it down by field. What *kind* of breadth would be useful in the physical sciences? or in the social sciences? in the humanities? Terrance Sandalow's remarks would suggest that the capacity to move back and forth between what one might call context-limited thinking about one's field and a more universal frame of reference is both the measure of and objective of liberal education. Presuming we agree on this, I think a question remains when

* I am grateful to my colleagues Professor James Gustafson and Dr. Sheila Bennett, for raising some of the points that I have included in these remarks.

the matter is looked at in the context of particular fields of doctoral study. For example, I have no doubt that talented scholars in, say, literary criticism or philosophy or cultural anthropology would change their methods if more of them understood modern biological theory and what it implies for human nature. These changes would occur not necessarily because biological ideas are intrinsically any better, but because (1) the ideas of biology *are* relevant, and (2) the ability to use them would enable scholars in such fields as those I have mentioned to see their subject from a vantage point detached from their immediate and usual frame of reference.

On the other hand, I am less sure what the study of, say, literature or political science at the graduate level might do for the student of biology today. Surely, it would make them more interesting people and their lives richer; it would probably make them better thinkers; and it might make them more socially responsible in the ways they use their knowledge and expertise. But would it change their scholarly methods as biologists? A negative answer says as much about the prevalent methodological approaches of current biology as about the relevance of other fields; remember the impact of Malthus on Darwin! But the point is that the nature and uses of that broader knowledge and perspective that we speak of in the abstract may well vary according to the intrinsic methods and goals of the field of study. Obviously we should not advocate broadening and liberalizing doctoral education without consideration of such differences. After all, if the skills and attitudes of liberal thought can be honed in almost any disciplinary context, the *kind* of information and knowledge that should be sought outside the field of specialization is surely pertinent to the field of study.

Similarly, I ask whether the call for greater breadth might better be looked at in terms of the competencies and needs of individual students than as a general rule. Some students come to us well educated and "well inclined" to see and use larger ideas; others do not. Some competent students may have aptitudes or attitudes that would preclude any real benefit of a forced broadening or liberalizing experience at the graduate level. Should not such differences be taken into account? Notions about reforming the Ph.D. should not overlook the possibility that more will be accomplished by concentrating upon the

abilities and aptitudes of the individual student than upon generic reform.

This leads directly, of course, to the question of student quality. It is widely believed that there has been a decline in quality over the past ten years or so in most fields, and particularly that the share of best minds being attracted into careers of research and scholarship has declined significantly. The evidence on this seems not to be absolutely clear, and it may or may not be true at outstanding schools like the University of Michigan. But one study I have recently read does show a decline in the share of top quality students, measured in terms of high school grades, going into most academic fields (business and engineering were exceptions) between 1971 and 1978. Given the additional considerations of grade inflation, the fall in applicant pool size, and the decline in graduate enrollments in most fields during this period, this putative decline in quality seems especially significant. When contemplating reform of graduate education, we must therefore consider whether the shortcomings we attribute to excessive specialization may arise from the changes in student aptitude or preparation rather than from the intrinsic content of the graduate experience.

Underlying these kinds of questions is a set of "prior" questions that pertain to the adequacy of undergraduate education. What kinds of degree programs do our students come from? Platitudes to the contrary, do we preselect for specialists by our graduate admission policies? If, as seems widely believed, most undergraduates entering graduate programs in recent years come from preprofessional B.A. or B.S. programs, do we really have any choice about preselecting? But the main stumbling block for me as I contemplate the prospect of liberalizing the doctoral degree is twofold: First, if the baccalaureate degree itself provided a more liberal, broader education, would we have this problem at the graduate level? Second, if not, what makes us think we can wrestle the titanic problem of liberal education to the floor at the graduate level when the faculties of most of the liberal arts colleges of the country have been unable to do so over the past ten to twenty years? Even the most fervent proponents of reform of liberal education may disagree fundamentally about what it really means. For example, Professor James Gustafson has recently pointed out that "one way to understand

Allan Bloom's interpretation of the perils of higher education is to say that *for Bloom* there is *insufficient* prejudice, i.e., prejudgment, in the minds of students to direct them through the course of their studies. Their minds are too open." This would seem contrary to the common notion that the purpose of study in the arts and sciences is to liberalize the student.

Jerry Pelikan, former dean of the graduate school at Yale, who has thought a lot about these matters, seems to leave little doubt about where the primary problem lies. In his essay, "The Aesthetics of Scholarship," he says "the difference between bad scholarship and good scholarship is the result of what we do in graduate school; but the difference between good scholarship and great scholarship is the result of what we do in college." For "the appropriate context of specialized scholarly research is nothing less than the full range of the arts and sciences, as represented by the undergraduate enterprise."

As a matter of conviction, I'm inclined to agree with this, and similar positions Pelikan has enunciated on the desirability of breadth; but *my* convictions, at least, are not founded on as much certainty. Unlike the man who, when asked if he believed in baptism by immersion, replied, "Believe in it? Hell, I've *seen* it!" I cannot actually claim to have seen the results of the connection between a graduate and a liberal education. Perhaps this is because the Ph.D. and modern scholarship, based so much on empirical research, are relatively new and changing. Perhaps it is because neither the content nor the purposes of liberal education have ever been stable or ideally achieved notions. But if we do embrace Pelikan's view, there would seem to be two corollaries: the first is that it is undergraduate education that is in need of reform; and the second is that perhaps we should concentrate on what we do best in graduate school — and that is offer specialized education — rather than suppose that graduate training can lay the foundation for a life of intellectual pursuit if it has not already been laid.

Sandalow, has, I think, said something rather different and more important than this: both that the skills, knowledge, and attitudes that liberal education presumably imparts need to be continually honed and practiced by mature scholars, and that they can be within almost any disciplinary context. It's as much a matter of approach as of content.

Let me turn briefly to another line of thought that bears on the problem. That is, for what purpose do we offer — or think we offer — the Ph.D.? We are accustomed to thinking of the Ph.D. as the "research degree" — the one degree that is particularly aimed at educating persons for lives of productive scholarship, albeit sometimes for other purposes as well. It is the usual avenue whereby we prepare people for the profession of scholarship itself. Yet — and this is not a new observation — a large fraction of Ph.D.s do not go into academic life or into scholarly careers; today we can say the majority do not. In a study entitled *Underemployed Ph.D's*, published a few years ago, only 32 percent of all Ph.Ds were found to enter academic life; 22 percent took employment in the private sector — business and industry — and 46 percent were employed by government, in laboratories, in the military services, in the civil services, and so on. I recognize, of course, that by no means all significant scholarship or research takes place in universities; but we also have to recognize that by no means all of what is called research today, outside or inside the university, can pass for creative scholarship by any stretch of the imagination. Yet we train Ph.D.s to do it. While some of the employment pattern that I just cited is due to the relatively recent — and we may hope soon to be over — phenomenon of underemployment, these numbers also remind us that, in practice, the Ph.D. now serves much broader purposes than preparing people for careers in original scholarship in the traditional, if idealistic, sense.

We may further presume that a substantial fraction of these jobs require the Ph.D. for its expertise, technical or otherwise, and not for any significant original scholarly or research function. Moreover, probably only a modest fraction of Ph.D.s, including those in academic careers, function as original scholars after the degree, at least as evidenced by publications. Hence we are forced to consider that the Ph.D. degree has been inflated widely from its traditional primary purpose, whether by design or not. I suspect not only that this change has been by intent (albeit not by universal consent) but, worse, that in many instances the research or scholarly component of the degree work itself is so inconsequential as to be little more than a bow toward the scholarly tradition, in order to justify the prestigious credential.

I make these suggestions not out of cynicism but to remind us

of two things: first, when we speak of "the Ph.D.," we are speaking of a degree that has in practice become very diverse and can no longer be fairly described by the singular notions of research or scholarship, or, to use Frank Allen's felicitous phrase, preparation for "the life of the mind." And second, if this observation about inflation of the Ph.D. is valid and if it reflects inconsistency of purpose or of standards (deliberate or not) on the part of the faculty, then I think it suggests that more fundamental concerns about doctoral education may need to be addressed before we can deal fruitfully with the enticing idea of greater breadth: questions of purpose, quality, and standards. Taken in this light, I can well imagine that certain practices designed to enhance breadth might, if they only treat the symptoms and not the disease, aggravate rather than solve core problems of content, purpose, and quality. In short, if we seriously mean to reform the Ph.D., I think we may have to begin with some more basic problems before we can deal with the relative issues of specialization and breadth.

What role, then, should academic values play in reform of the Ph.D.? In reflecting upon how university or scholarly values impinge upon the education of doctoral students, it is useful to recognize academic values in two categories. In the first category, I would place those values that we regard as matters of principle: conditions that are agreed to apply universally and that generally have been institutionalized or codified. In this sense, I think of these values as "objective," though they ultimately rest upon abstract principles that we must each understand in our own way. The two main examples of this class of values are, first, the cluster of familiar principles upon which Derek Bok builds his book, *Beyond the Ivory Tower:* academic freedom, autonomy, and neutrality; and second, the cluster of values that we associate with the ethical conduct of scholarship: uncertainty, toleration, intellectual integrity.

When I was a graduate student, I perceived academic freedom, autonomy, and neutrality as virtually absolute principles, handed down, as it were, "in the beginning." I confess that I still feel that way, even knowing that these principles were promulgated at least as recently as the pleistocene, have never been perfectly achieved, and for good reasons cannot be. Nonetheless, when taken in proper balance, they are the foundation

principles that enable today's universities to serve society best by fostering independent and original thought. It is these principles that make it possible for university scholars to be the more uniquely useful by distancing themselves from that which is merely utilitarian.

Our freedom, autonomy, and neutrality have, however, long been intruded upon. The sins of the federal government are legend. Almost everyone recognizes that the extraordinarily productive — and now inescapable — partnership that university faculties have developed with national funding agencies has its costs. The more recent rush to form ties with business and industry seems as much a threat as an opportunity. And of course the pressures that all universities are experiencing from state government to attend to immediate social interests have placed unprecedented strains upon these traditional principles at the University of Michigan.

The external relationships to which I am alluding may variously be justified as necessary because we need the money, as morally right because we have a social responsibility, or as intellectually desirable because intercourse with the real world infuses life into otherwise sterile scholarly pursuits. Within limits, I embrace these views. But there are important ways in which we may let ourselves become compromised, including:

1. the inherent conflict of commitment, by which I mean not just loyalty to one's primary interest as a scholar, but the reduction of time and attention to scholarship that these relationships often necessarily entail;
2. channeling our choices of scholarly problems toward immediate and pragmatic — more bluntly, fundable — problems as we struggle to find and sustain a common ground of interest that can justify our partnerships with outside interests;
3. the inevitable shift of our intellectual energies away from universal or theoretical thought toward more context-limited ways of thinking, as we focus on immediate problems; and
4. the introduction of commercial motives that may limit personal openness and objectivity.

Problems in the area of academic integrity have been amply attested by recent accounts in such journals as *Nature* or *Science*, as well as by the determined interest that Congress has taken,

and intends to excercise through the NIH, in regulating academic fraud. We take it as a given that intellectual integrity is the essential value upon which the university is founded. And we understand this to mean more than the obvious, that cheating and dishonesty are capital crimes in academia. More broadly, the concept of integrity embraces a set of values that includes truthfulness, uncertainty, and tolerance for views and beliefs other than one's own (to use the formulation of Jacob Bronowsky). These are essential values that must be as universally shared and practiced as possible. Otherwise, those conditions necessary for scholarship, teaching, and research — openness, trust, cooperation, diversity — cannot exist.

In the second category of values I would place the more subjective matters of academic taste and preference, sources of self-esteem, anxiety or security, and professional prestige. These are values in the literal sense of "things we individually place value on." They are generally reflected in (and reinforced by) community norms, but they are not usually codified as such, except insofar as they might be implicitly written into documents like promotion guidelines. Yet they eventually express themselves pervasively by our choice of research topics; our decisions about when, where, and how to publish; our respect or disrespect for other disciplines or individuals; our concern for teaching, for students, and for one another; criteria for salary increases; as well as hiring and promotion decisions.

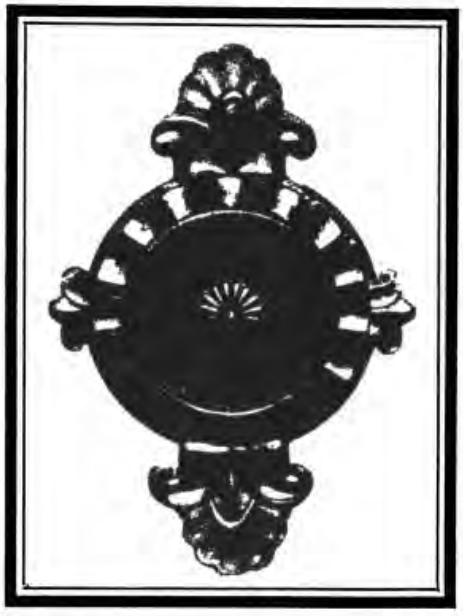
To state that there is a connection between what has been happening in the area of codified values or principles and the subjective values or tastes of the scholarly community would be, in the words of one beloved Michigan colleague, to state an obviosity! And it would be equally obvious to suggest that our values as played out in everyday scholarly life are the most influential element in graduate education. If a certain puritanical innuendo has crept into these words, it is perhaps intentional, but it is not the main point. The point is that when we raise the question of reform of the Ph.D., we do not raise an issue that lies to one side of our path, to be picked up or not as we choose. Rather, we raise the question of the fundamental character of the university itself.

In conclusion, then, we could propose specific ways to improve the course of doctoral study. We could consider reforming

the curriculum: making the cognate a universal, and more importantly, a genuine requirement; requiring a minor of every Ph.D. candidate. We could debate the virtues and shortcomings of interdisciplinary work as a means of broadening the doctoral program: is interdisciplinary work an academic sandbox as some pejoratively assert, or when it is effective, is it characterized by even greater focus and specialization than the disciplines themselves? We could explore reforming the dissertation, examining the pros and cons of such common practices as assigning the student a fragment of the mentor's research problem rather than requiring a truly independent idea; or permitting the candidate to substitute several smaller papers for a larger, and one might hope more integrated, synthetic work. Or, we could examine the conditions and quality of scholarship and therefore of mentorship itself. In this I think we would be getting closer to the essence of the issue. As Alfred N. Whitehead observed:

> Imagination is a contagious disease. It cannot be measured by the yard . . . and then delivered to students by members of the faculty. It can only be communicated by a faculty whose members themselves wear learning with imagination . . . . The whole art in the organization of a university is the provision of a faculty whose learning is lighted up with imagination. This is the problem of problems in university education. *And* unless we are careful, the recent vast extension of universities in number of students and in variety of activities — of which we are so justly proud — will fail in producing its proper results, by the mishandling of this problem.

Those words of Whitehead were written in 1929, and perhaps if we are dissatisfied with the result of graduate education, it is because Whitehead was right. If so, the source of the solution is within ourselves. But that does not mean that it is either easy or obvious to decide what to do. As I have tried briefly to underscore, the matter is caught up in a much larger set of problems from below (undergraduate preparation), from within (content, values, and mentorship), and from above (social and political pressures) that constrain our ability to see and make choices. Nonetheless, self-evaluations like this symposium are an important step in the right direction.



GRADUATE CONVOCATION

This fall the Graduate School hosted the second annual convocation for newly admitted graduate students. The Convocation was held in the Rackham Lecture Hall, and drew over 1,000 new students who were greeted by Dean D'Arms, University President James J. Duderstadt, Vice President for Research Linda S. Wilson, Rackham Associate Dean James Jackson, and Kenneth C. Fischer, Director of the University Musical Society. (who described cultural life in Ann Arbor). Graduate student Jane Fountain served as Mistress of Ceremonies.

Once again, the Convocation was followed by an informal reception in the lobby of the Rackham Building, with Dixieland music supplied by the "Olivia Street Stompers," featuring Dean D'Arms as pianist.

SOCIETY OF FELLOWS

The Michigan Society of Fellows was established at The University of Michigan in 1970 with grants from the Ford Foundation and Horace H. and Mary Rackham funds. The grant resources were intended to recognize and reward academic and creative excellence; the program was seen as a means to encourage the best achievements in higher education. The idea was to establish a community of diverse young scholars who would share their creativity and support one another in developing their skills and research interests.

The fellowship grants enable the Society to support a small number of talented young scholars who spend two or three years at the University expanding their training and research or creative interests. The fellowships are awarded each year to three or four postdoctoral fellows — persons at the beginning of their careers who have completed their academic training within the previous three years. The Ph.D., or a comparable professional degree, is a prerequisite for appointment. Each fellow has a host department which contributes one-third support and arranges one-third time for teaching or departmental research. The balance of a fellow's tenure is devoted to individual research, publication or creative interests.

Senior Fellows of the Society are distinguished members of the University faculty. They are the Society administrators and make final selections of the new fellows each year. Seven senior fellows are selected biennially by the President of the University and appointed to four-year terms. Dean John H. D'Arms of the Graduate School is the director of the Society and selects a chair from among the senior fellows to serve for two years. In addition, there are several *ex-officio* and honorary members, including the University president, the vice president for academic affairs and provost, and the former chairs of the Society.

The achievements of fellows during their fellowship years add to the scholarship and artistic productivity of The University of Michigan, and fellows contribute to the departments to which they are affiliated by their teaching and their associations with others in similar fields of interest. The Society makes a unique contribution to the quality of scholarly life at the University. Despite its small budget, the Society brings to Michigan a large amount of extraordinary talent and high quality research.

Brief profiles are provided below of the four new fellows.

Fernando Coronil
Anthropology
(Ph.D., University of Chicago)

Dr. Coronil's specialization is in complex societies with an area focus in Latin America. He proposes an analysis of the construction and representation of the state in Venezuela and an examination of the interplay between the "cult of the President" and popular religious beliefs. Coronil was most recently a Visiting Faculty Fellow at the Helen Kellogg Institute, University of Notre Dame, and teaches the Social Science Common Core sequence at the University of Chicago. His appointment at The University of Michigan is in History and Anthropology.

Michael Fotiadis
Classical Archaeology
(Ph.D., Indiana University)

Dr. Fotiadis' most recent position was Visiting Assistant Professor in Archaeology at Boston University. The research he proposes concerns the role that language and the ideology encoded in language play in contemporary archaeology. His concern is that ideology is an essential dimension of our construction of the past, without which those constructions would lose their coherence and meaning.

Adelyn Peck Leverett
Historical Musicology
(Ph.D., Princeton University)

Dr. Leverett's dissertation is a paleographic and repertorial study of the Codex Trent 91. She plans four separate studies on sacred vocal music of the late fifteenth century as a Fellow in the Society and Assistant Professor in the School of Music. Her most recent appointment was as a Whiting Fellow in the Humanities at Princeton.

Paul W. Turke
Anthropology
(Ph.D., Northwestern University)

Dr. Turke has been appointed to the Evolution and Human Behavior Program and he will continue his research in evolutionary demography. The project he proposes is to evaluate the importance of extended kinship networks in determining levels of demand for children. Turke's most recent position was Instructor at the University of California, San Diego and Fellow in the Program in Evolution and Human Behavior at U-M.

PRESENT MEMBERSHIP OF THE MICHIGAN SOCIETY OF FELLOWS

DIRECTOR

John H. D'Arms
Classical Studies/History/
Dean of the Graduate School

CHAIR
James Boyd White
Law/English/Classics

SENIOR FELLOWS
Rolena Adorno
Romance Languages
Huda Akil
Psychiatry/Mental Health Research Institute
Richard D. Alexander
Evolutionary Biology/ Museum of Zoology
Daniel Burns
Mathematics
Lynn Ann Conway
Electrical Engineering & Computer Sciences/Associate Dean, Engineering College
Thomas E. Crow
History of Art
Kenneth DeWoskin
Asian Languages & Cultures
Patricia Y. Gurin
Psychology/ISR
David Hollinger
History/American Culture
Sarah Humphreys
History/Anthropology/ Classical Studies
William Miller
Law
Frederick Neidhardt
Microbiology
John Tropman
Social Work
Glenn Watkins
Music History
Richard Wrangham
Anthropology

FELLOWS
Ruth Behar
Anthropology
Fernando Coronil
History/Anthropology
Michael Fotiadis
Classical Archaeology
Adelyn Peck Leverett
Music History/Anthropology
Michael Lombardo
Biology/Museum of Zoology
Norman MacLeod
Geological Sciences/Museum of Paleontology
Patrick Maher
Philosophy
Nancy Micklewright
History of Art
Ric Northrup
Political Science
Antonius Robben
Anthropology
Paul Turke
Evolution & Human Behavior
John Watanabe
Anthropology

EX-OFFICIO
James J. Duderstadt
Nuclear Engineering/ President of the University
Charles M. Vest
Mechanical Engineering/ Provost and Vice President for Academic Affairs

HONORARY
W. Michael Blumenthal
The Unisys Corporation

Arthur Burks
Computer Science/
Philosophy, Emeritus
Elizabeth Douvan
Psychology/ISR/Residential
College
David Noel Freedman
Studies in Religion/NES
Otto Graf
German, Emeritus
Stephen H. Spurr
University of Texas, Austin
Alfred S. Sussman
Botany

STUDENT LAURELS

THE RESEARCH PARTNERSHIP PROGRAM

This program of support for faculty and graduate students was launched in January, 1987, by the Dean of the Graduate School and the Vice President for Research, with assistance from the Provost and Vice President for Academic Affairs.

This program has several goals, chief among which is to fund faculty members' research, scholarship and creative activity by providing them with graduate student research assistants, and to enhance the quality and character of the academic interaction between faculty and graduate students by emphasizing the mentoring relationship. Though patterns of faculty mentorship differ from field to field, the existence of this relationship is essential to success in graduate study.

The panels of faculty that evaluate the proposals look for evidence of the quality of the research or scholarship to be undertaken, the contribution the partnership can be expected to make to the faculty member's scholarship, the contribution the partnership can be expected to make to the graduate student's scholarship and professional growth, and the prospects for the formation of a productive mentoring relationship between the faculty member and the graduate student.

Subjects as diverse as Soviet leader Mikhail Gorbachev's educational reforms and the behavioral and morphological diversity of a family of Central and South American birds are represented among the winning proposals to date. In several cases, a faculty member in one department will work with a graduate student in another on a joint project, often around an idea generated by the student.

In the third round (winter, 1988), 19 partnerships were funded out of 96 proposals submitted. These were:

Duane F. Alwin, Sociology/ Survey Research Center; Marlena Studer, Sociology

Kate Francesca Barald, Anatomy & Cell Biology; Charles A. Gardner, Development Biology

L. Ross Chambers, French/ Comparative Literature; Ali Behdad, Comparative Literature

John A. Faulkner, Physiology; Susan V. Brooks, Bioengineering

Anne R. Gere, English & Education; Laura J. Roop, English & Education

Ronald M. Gilgenbach, Nuclear Engineering; Jian-guang Wang, Nuclear Engineering

Alexander N. Halliday, Geological Sciences; Paul L. Koch, Vertebrate Paleontology

Don Herzog, Political Science; Pamela S. Ramseyer, Political Science

Samuel Krimm, Physics/Protein Structure & Design; William C. Reisdorf, Biophysics

John P. Langmore, Biological Sciences; Shawn P. Williams, Biological Sciences

Piotr Michalowski, Near Eastern Studies; Brian E. Keck, Near Eastern Studies

Robb J. Muirhead, Statistics; Zen-Yi Chen, Statistics

Roy Pierce, Political Science; James F. Adams, Political Science

Steven J. Rosenstone, Political Science; Cathy J. Cohen, Political Science

Gerald R. Smith, Biology/ Geology; Ralph F. Stearley, Geology/Paleontology

Louise K. Stein, Music History/ Musicology; David Martinez, Musicology

Thomas E. Toon, English Language & Literature and Linguistics; Linda Gioiosa, English Language & Literature

John Vandermeer, Biology; Kristen C. Nelson, Environmental Sociology

J. David Velleman, Philosophy; Connie Rosati, Philosophy

To date, we have only been able to fund 19% of the proposals submitted. The outpouring of faculty and graduate student interest in this program convinces us that more funds are needed at this crucial juncture in graduate students' careers: the time when they are beginning to do original work and when life-long relationships with faculty mentors are being established.

RACKHAM PRE-DOCTORAL FELLOWSHIP PROGRAM

The Rackham Pre-Doctoral Fellowship Program was established in December, 1934. The purpose of these awards is to provide a year of support for dissertation research and writing for the most promising students at U of M. The program provides a stipend of $750.00 per month for ten months and candidacy-level tuition.

This year the Graduate School experimented with a new approach to the Pre-Doctoral Fellowship awards by funding 72 rather than 60 Fellows and by continuing the efforts of the previous year to instill in the Fellows — who come from a broad range of disciplines — a sense of community with one another and with the intellectual life of the University. The Pre-Doctoral Fellows, or "pre-docs" as they are affectionately known, were again asked to participate in a series of intellectual and cultural events during the 10 months of their fellowship. These events, planned by a subset of the pre-docs and Associate Deans John Chamberlin, James Jackson, and Susan Lipschutz, began in July with a picnic on the Rackham Building Terraces. In September four pre-docs described their work-in-progress at a dinner in the West Conference Room. A similar dinner was held at the beginning of the winter term. In addition, the pre-docs attended lectures about, and a performance of, Shakespeare's "A Midsummer Night's Dream" presented by The University Players of the UM Department of Theatre and Drama in December, and the Dance Department's performance, "Viva Stravinsky," in February.

The series of events should help to make the Rackham Pre-Doctoral Fellows more lively members of the academic community once they have received their degrees. They have reacted very favorably to the experience, and we are planning to continue the program in the future.

A list follows of all students to whom Rackham Pre-doctoral fellowships were awarded in 1988-89:

DIVISION I

Mark Adams, Biological Chemistry
Susan Hoffman, Biology
Richard Kiesling, Biology
Johannes Klompen, Biology
John Olson, Biology
Lisa Vawter, Biology
Danyu Lin, Biostatistics
Dean Chang, Cellular & Molecular Biology
Jane Fountain, Human Genetics
Thomas Esch, Microbiology & Immunology
Philip Gage, Microbiology & Immunology
Susan Wilson-Gunn, Microbiology & Immunology
Carol Bourne, Natural Resources
Oswald Schmitz, Natural Resources

Carl Belczynski, Neurosciences
Jang-Ho John Cha, Neurosciences
Paresh Patel, Neurosciences
Mark Falanga, Urban, Technological, and Environmental Planning

DIVISION II
Taewoo Lee, Aerospace Engineering
Annette Olivarez, Atmospheric and Oceanic Sciences
Marisela Velez, Biophysics
Nitin Anturkar, Chemical Engineering
Sadettin Ozturk, Chemical Engineering
Adam Helman, Chemistry
Tarek Abdel-Rahman, Electrical Engineering & Computer Sciences
Feng-Der Albert Chin, Electrical Engineering & Computer Sciences
Usama Fayyad, Electrical Engineering & Computer Sciences
Parameswaran Ramanathan, Electrical Engineering & Computer Sciences
Christopher Young, Geological Sciences
Alexander Stanoyevitch, Mathematics
Saeed Barbat, Mechanical Engineering & Applied Mechanics
Jamie Ervin, Mechanical Engineering & Applied Mechanics
Jeedraha Jagannatha Rao, Mechanical Engineering & Applied Mechanics
Yuji Fujii, Nuclear Engineering
Joel Miller, Nuclear Engineering
David Grier, Physics
Edward Hellen, Physics

DIVISION III
Michelle Hegmon, Anthropology
Laura Junker, Anthropology
Debra Holt, Economics
Hsin Chang, Economics
Stephen Grossbart, History
Patricia McCune, History
Susan Thorne, History
Paul Gronke, Political Science
Patricia Overby, Political Science
Michele Wynn, Political Science
Richard Greene, Psychology
Kyunghee Koh, Psychology
Sheila Murphy, Psychology
Alan Reifman, Psychology
Kathryn Kozaitis, Social Work
Juan Diez-Medrano, Sociology
Emily Kane, Sociology

DIVISION IV
Neil Foley, American Culture
Brian Lloyd, American Culture

Margaret Morden, Classical Art & Archaeology
Catherine Connors, Classical Studies
Alexander Kurke, Classical Studies
Richard Badenhausen, English Language & Literature
Richard Hillyer, English Language & Literature
Heather B. Jordan, English Language & Literature
Jean Ann Dabb, History of Art
Carmen Lord, History of Art
S. Richard Rand, History of Art
Manique Gunesekara, Linguistics
Karen Ahlquist, Music
Kelly Burke, Music
Rene Lysloff, Music
Lynne Huffer, Romance Languages & Literatures
Lewis Seifert, Romance Languages & Literatures
Yvonne Howell, Slavic Languages & Literatures

MELLON FELLOWSHIPS IN THE HUMANITIES

The Mellon Fellowships in the Humanities, created by the Andrew W. Mellon Foundation, have two objectives: to attract exceptionally promising students into preparation for careers of humanistic teaching and scholarship by providing top-level, competitive, portable awards tenable for as many as three years; and to contribute thereby to the continuity of teaching and research of the highest order in America's colleges and universities. The stipend for Mellon Fellows entering graduate school in the fall of 1989 will be $11,000 plus payment of tuition and standard fees to their graduate schools.

Fields eligible are the traditional humanities disciplines, including history, American studies, other areas studies, and interdisciplinary programs if the emphasis in subject and method is substantially humanistic. Three Mellon Fellows from the 1988 competition selected The University of Michigan:

Deborah N. Cohn, a graduate of the University of California-Berkeley, began doctoral work in Romance Languages and Literatures.
Wendy J. Katz, a graduate of Occidental College, began doctoral work in the History of Art.
Andrew S. Levin, a graduate of Williams College, began doctoral work in Asian Languages and Culture.

NATIONAL SCIENCE FOUNDATION (NSF) GRADUATE FELLOWSHIP PROGRAM

This national competition, open to U.S. citizens to assist study or work leading to a graduate degree in the mathematical, physical, biological, engineering, and social sciences, and in the history and philosophy of science, is generally considered to be the most prestigious fellowship available in those fields. The awards are "portable," i.e., the student receives the award at whatever institution he or she chooses to attend, and competition for NSF fellows is keen.

The University of Michigan has consistently ranked among the top institutions in the country in attracting these students, enrolling 20 of the 1988-89 NSF Fellows.

Juan Arroyo, Microbiology
Deborah L. Billings, Sociology
Sandra Freedman Feldman, Electrical Engineering
William W. Fleeson, Psychology
Jennifer Marie Groh, Neurosciences
Jodie Lynn Hayob, Geology
Karla Sue Henthorne, Genetics
Scott Bradley Huffman, Computer Science
Shaun Kingsley Malarney, Anthropology
Daniel Norman McIntosh, Psychology
Shawn Anthony Meagher, Ecology
Tali Mendelberg, Political Science
Michael William Morris, Psychology
Janet Ann Newcity, Political Science
Michael Francis Palopoli, Ecology
April Joy Ping, Molecular Biology
Melanie Alicia Posey, Political Science
Steven J. Spencer, Psychology
Margaret Lynn Ward, Electrical Engineering
Peter Francis Wick, Pharmacology

JACOB K. JAVITS FELLOWS PROGRAM

The Jacob K. Javits Fellows Program, formerly the National Graduate Fellows Program, is designed to assist students of superior ability in the arts, humanities, and social sciences. These highly prestigious awards carry a $8,750 average

annual stipend. The University of Michigan attracted twelve of 209 fellows named nationally in the 1988-89 competition (in third place behind The University of Chicago and Harvard). Those students are:

Pedar W. Foss, Classical Art and Archaeology
Dorothy Hodgson, Anthropology
Catherine Keesling, Classical Art and Archaeology
Michael W. Kline, American Culture
Elaine M. Konopka, English Language and Literature
David P. Labrum, Art
Richard G. Lesure, Anthropology
Paul A. Pappas, Music Theory
Francois J. Poisson, Art
Elizabeth V. Rodini, History of Art
Rachel A. Smolker, Psychology
Sarah J. Wang, History of Art

TEACHING ASSISTANT HONORS

Ten graduate students representing a variety of fields received awards last April for their effectiveness and creativity as teachers. The annual Teaching Assistant Award ceremonies were hosted by then-Provost James J. Duderstadt and Graduate School Dean John H. D'Arms, who presented the awards and their $750 honoraria. Nominations are submitted by deans, directors, department heads, faculty and students. Winners are selected by Dean D'Arms and a Faculty Awards Committee, and represent a wide variety of fields. The following paragraphs introduce the 1988 recipients of the Teaching Assistant Awards.

Michael Adams
English

Michael Adams possesses enormous imagination and intelligence in his approach to the teaching of English. His students are required to think on increasingly complex levels, and, with texts such as Wittgenstein's *Philosophical Investigations* and Cantor's proof for trans-finite numbers, his assignments emphasize how different ways of thinking structure the world. These exercises lead students to anticipate their own biases and reveal how their ways of thinking might color their own experience. Through Gass' *On Being Blue,* Michael helps his students discover the point at which description ends and judgment

begins. Through Bronowski's *Origins of Knowledge and Imagination,* they write about technique and, simultaneously, learn to develop it.

Michael's students respond with enthusiasm, praising his ability to motivate them and make them intellectually more daring. They complain that his class is never long enough — an unusual compliment for the instructor of a required English Composition course.

David Auckly
Mathematics

David Auckly has derived two principles from his own experience that he tries to apply to his teaching of mathematics — first, that problems need to be tailored to individual students and, second, that students will better understand and remember those concepts which they figure out for themselves. In his Calculus classes, he gives students a vernacular sense of difficult mathematical concepts, using examples such as the famous "Drunk Test" to explain that a limit exists when both fingers touch the nose. David has spent 20 minutes guiding a student through a problem, asking questions until the student suddenly realizes its fundamental

Teaching Assistant Awards Ceremony, back row, left to right: Dean John H. D'Arms, Sarah Hooker, Michael Adams, Sally Silk, David Auckly, Cathy Fleischer, Brenda Gunderson, President James J. Duderstadt. Front row, left to right (seated): Alaistair (Iain) Johnston, Susan Staples, Fred Kellam, Ximena Zuniga.

root. His students acquire more than a sense of accomplishment in mathematics, they gain confidence in their own intellectual abilities as well. They report that, after David's mathematics class, they have a feeling of mastery instead of misery.

David's singularly original teaching style and his striking use of examples add to the students' sense of being active participants in the teaching process. He is a proponent of "Lobby Math," taking a blackboard into his dorm lobby or the MUG in the Union before finals, in order to teach in a "non-scary" setting.

Cathy Fleisher
English and Education

Cathy Fleischer approaches the teaching of English on the theoretical as well as the practical level. By starting with simple questions such as "What is reading?" she is able to lead a class through a sophisticated, active exploration of the nature of literacy. Cathy's teaching is distinguished by her unassertive, unobtrusive, and very effective control of the direction of the rich conversations in her classes. Entering Cathy's classroom, one might see groups of students busily talking and rearranging the furniture before reporting in very sophisticated language on the results of their research. All their activities are characterized by a sure sense of purpose, due in no small measure to the clarity of Cathy's guidance.

Cathy's own scholarship in the English and Education program has been exemplary. One faculty member in the department reports, for example, that she had known that education was an important theme in Wollstonecraft's *Vindication* but had not realized its importance in Virginia Woolf's *Three Guineas* until Cathy indicated it to her.

Brenda Gunderson
Statistics

As a woman in the mathematically oriented discipline of Statistics, Brenda Gunderson has had a special role to play. Her students report that she develops in them the ability to ask the crucial question which makes the difference between their success and failure. She is known for her clarity, and for the entertaining nature of her class presentations, qualities that are especially appreciated in what is, for many students, merely a required course. In order to show students why they need to know Statistics, she incorporates examples of real-life applications in fields as diverse

as manufacturing and medicine, social work and law. Her goal is to help them to interpret results and make intelligent decisions, in their academic work and beyond.

Brenda's own scholarly work in Statistics is universally praised by the faculty as being of exceptional quality, and they believe that she is on the threshold of an outstanding career.

Sarah Hooker
Economics

Sarah Hooker believes that her own experience as a student has helped her formulate guidelines for teaching Economics: not only to communicate an understanding of economic principles, but to involve her students in the subject material through examples drawn from daily experience, from current economic events, and from economic history. Her students credit her with an unusual ability to simplify complex ideas; she provides them with wonderfully-useful outlines for each lecture, so as to give structure to the mass of details that will confront them. Sarah uses creative analogies and comparisons to explain otherwise confusing economic concepts, as well as to challenge students' preconceived notions and assumptions. This skill of Sarah's was pointed out by a faculty member as "particularly important in Economics, a discipline in which different people, looking at the same evidence and using the same theories, can come to different conclusions."

Alastair (Iain) Johnston
Political Science

In the Political Science Department, Iain Johnston is recognized for his prodigious intellectual gifts as well as for his unusually successful teaching style. Original sources, such as newspaper accounts of the bombing of Pearl Harbor, help bring an immediacy to students' perceptions of politics. His innovative assignments are many: his students regularly apply theories learned in class to the creation of op-ed pieces for newspapers or policy recommendations to world leaders. This technique has been successful in involving students in debates in which they are themselves responsible for taking and defending positions.

As a graduate student, Iain Johnston's scholarship has already brought lustre to the program. Sufficiently fluent in Chinese to have served as a simultaneous translator, he has authored what his faculty mentors say is perhaps the single-

best current comprehensive analysis of China's evolving attitudes towards arms control. The chair of the Political Science Department, Jack Walker, says, "Iain is the type of student who comes along once in a decade, if you are lucky."

Fred Kellam
Psychology

Fred Kellam's great gift as a teaching assistant in Psychology is his resourcefulness in motivating students, in getting them to think. He views the role of a teacher as an interpreter, transforming facts into experiences that affect the individual student. He sees that students learning neuropsychology have an opportunity to poke a gloved finger into preserved gray matter, or to discuss disabilities with brain-damaged patients. Abstract concepts such as reinforcement are applied to everyday student behaviors, such as dating and post-examination lapses in studying. In recognition of Fred's considerable abilities, a faculty member in the department asked Fred to help him revise an introductory textbook in order to bring the material more vividly to life.

Fred has a sense for the ironic, anomalous or prototypical example that captures an abstract concept. His broad and authoritative knowledge of psychology, along with his seasoned clinical experience, make his teaching nothing short of brilliant. Despite Fred's friendly manner, which is guaranteed to put students at ease, he never loses sight of the important distinctions between student and teacher. This combination of interpersonal skill and intellectual rigor has distinguished Fred in teaching.

Sally Silk
Romance Languages and Literatures: French

Sally Silk is that rare Teaching Assistant who combines enthusiasm and charisma with the most demanding standards. Sally's faculty mentors count her as a tremendous asset to the quality of instruction in the elementary French program at the University. Her students respect and adore her; they describe her effervescent personality and natural style as "filling the classroom." Her sensitivity to students' difficulties and her creativity in helping even those students with weak language backgrounds, have been exemplary. She has succeeded in creating a non-judgmental atmosphere that allows her students to feel at ease in speaking French, and to view the lan-

guage not only as a communication tool they can gain satisfaction from mastering, but also as a window into cultural differences. Her students testify that taking one of her classes often becomes the high point of their undergraduate careers, a most unusual compliment for a language teacher.

Susan Staples
Mathematics

Susan Staples has excelled in her own academic work in Mathematics and is already showing promise of a distinguished career as a research mathematician and scholar. Whether talking of Riemann's mapping theorem or elliptic functions, she is known for the clarity and organization of her presentations. The accolades she has received for teaching indicate that she is unusually effective in motivating the students in her mathematics classes. Her explanations are thorough and easy to follow, beautifully complementing professorial lectures. While any Teaching Assistant can be assumed to know the material, Sue is able to make a difficult and rigorous subject pleasurable for her students. The fact that she has made such a success of teaching in a field in which women are underrepresented speaks further to her intellect and her character.

In addition to the time spent in the mathematics classroom, Susan Staples has showed unusual generosity of spirit by working, on a volunteer basis, to teach English to foreign graduate students in her department, so as to help them with their own teaching.

Ximena Zuniga
Education

Ximena Zuniga has already taught in units ranging from Women's Studies to Romance Languages to Sociology, demonstrating the amazingly wide range of skills and competencies that she has as an instructor. One of her major strengths as a teacher is her ability to design activities such as role-playing situations to confront racial or sexual stereotypes, in order to integrate students' personal and field experience with their scholarly work. She is able to clear a coherent path in the midst of these politically and intellectually complex issues and has shown great skill in helping students untangle issues of research methodology, epistemology, and social role. Her impressive knowledge of many bodies of theory, from group dynamics to Third World development, is combined with

remarkable versatility in approaching the material. The broad interdisciplinary perspective that she possesses is rare in a Teaching Assistant.

As a mature woman, she has served as a role model for all students, but especially for her women students. In addition, her work as an LS&A academic counselor has helped to shape the lives of many individuals.

BARBOUR SCHOLARS

The Barbour Scholarship is a unique program at The University of Michigan to train young Oriental women in modern science, medicine, mathematics and other specialties critical to the development of their native lands. It was established in 1914 by Levi Lewis Barbour (UM Class of 1863, UM Law Class of 1865, and University Regent from 1892 to 1898).

The Barbour Scholars for 1988-89 are:

Bai, Pei-Fan Jane, Taiwan, Pharmacy
Boonlualohr, Pantuda, Thailand, Architecture
Covavisaruch, Sirijutar, Thailand, Materials Science and Engineering
Hasegawa, Reiko, Japan, Linguistics
Li, Wing Suet, Hong Kong, Mathematics
Park, Eun-Wha, Korea, History of Art
Pathak, Anjali, India, History
Unlu, Hulya, Turkey, Germanic Languages and Literatures
Zhang, Qing-yu, China, Biological Chemistry

THE SUMMER RESEARCH OPPORTUNITY PROGRAM (SROP)

In the summer of 1986, the Rackham School of Graduate Studies, in cooperation with the Committee on Institutional Cooperation (CIC), began the Summer Research Opportunity Program (SROP) with 18 student participants. Assisted by funding from the Offices of the Vice President for Research and the Vice Provost for Minority Affairs and the Lilly, Mellon, and Kellogg Foundations, the Graduate School expanded the program to 39 participants in 1987, 55 in 1988, and will support at least 75 students in 1989.

SROP offers minority sophomore and junior students an opportunity to develop and explore, in collaboration with a faculty mentor, a research area related to their interests. The key to the program is the hands-on experience students receive while working side-by-side with faculty mentors. Stu-

SROP participants, back row, left to right: Kenneth Wang, Lawrence Chang, John Kashangaki, Annette Waters, Aaron Evans, Glenn Cotton, Roger Best, Gerald Cleaver, Rollie Hudson, Victoria Baecher, Scottlin Rucker, Antoinette Hall, Richard Boone, Kevin Ramon, Monica Warden, Moises Pulido, Jr., Rubina Yeh. Middle row, left to right: Patrick Ting, Roy Zajac, Emilio Fuentes, Daxaben Patel, Paul Ting, Cheryl Porter, Valerie Ely, Nancy Gray, Yuca Hung, Amelia Valdez, Karla Davis, Nancy Chen. Front row, left to right: Mary Lou Abrigo, Vickie Beene, Jacquelyn Sydnor, Jorge Jimenez, Margrette Taylor, Angela Jones, Pedra Chaffers, Susan Vela, Elsa Barboza, Michele Thomas, Lianna Wong, Andrea Clark, Wendy Horng. Absent from photo, UM Students: Ovell Barbee, Jose Oxholm, Aaron Park, Lisa Parker, William Patmon III, Tracie Veal, Michelle White, Leonard Woolridge, Allen Wu; Visiting participants (from Lincoln University, Lincoln, PA): Ruth Baker, Robin Jones, Karen Kinnard; (from Prairie View A&M University, Prairie View, Texas): Garvin Chambers.

dents learn the methods and merits of research, as well as the rewards of graduate study and academic careers. Preliminary follow-up studies show that nearly all the participants enroll in prestigious graduate or professional schools or obtain positions as researchers after completing their bachelors' degrees. Several have won major national fellowships as well..

The majority of participants are Michigan undergraduates, with a small number of minority students from other colleges included in 1988. SROP participants may become involved in a faculty member's ongoing research or develop with a mentor an independent research project. Project work is full-time, spanning two months, generally July and August. At summer's end, the students prepare a report and an exhibit which are presented in the concluding symposium.

SROP programs exist on all the CIC campuses, with Michigan's being one of the largest. The weekend conference in July, at which over 350 minority undergraduate SROP researchers from the CIC schools meet and share their work, is a highlight of the SROP summer. Students often continue to work with their mentors long after the program's official close, sometimes co-authoring papers or presenting research results at professional conferences.

DISTINGUISHED DISSERTATIONS

The Horace H. Rackham Distinguished Dissertation Awards recognize the authors of doctoral dissertations that are outstanding both for the high quality of the scholarship and for the significance — and interest — of their findings. This year the awards were sponsored jointly by the Graduate School and University Microfilms International (UMI). As University Microfilms publishes 35,000 dissertations annually, including more than 600 by University of Michigan authors, we are delighted that UMI has joined us in recognizing the intellectual achievements of these outstanding young scholars.

Dissertations nominated for the award by University Faculty and Rackham Deans are evaluated by members of the Michigan Society of Fellows, and the award is conferred by the Dean of the Graduate School. The authors are honored at a spring symposium in Rackham.

The following pages present the 1988 recipients of the Distinguished Dissertation Awards.

S-SYSTEM ANALYSIS OF ORGANIZATIONALLY COMPLEX SYSTEMS: NETWORK REGULATION OF THE IMMUNE SYSTEM

Douglas Harvey Irvine
B.S., The University of Michigan, 1980
Ph.D., Microbiology and Immunology, 1988

Both the natural and artificial worlds abound with organizationally complex systems. Analyzing these complex systems, whether they be the immune system or an electronic communication network, is a difficult task. In this dissertation, Douglas Irvine has made two significant accomplishments. First, he developed an algorithm for the analysis of organizationally complex systems and then applied this method to analyzing network regulation of the immune system.

While making extensive quantitative comparisons of the

different models of immune networks, Dr. Irvine discovered that the algorithms commonly used to solve the requisite differential equations were very inefficient. Dr. Irvine decided to try to improve the efficiency of these packaged programs. These computer subroutines are common but advances in their efficiency occur slowly and are usually only marginal. As a result of his effort, he developed the Evaluation and Simulation of Synergistic Systems (ESSYNS) algorithm that is one or two orders of magnitude faster than the conventional algorithms. The ESSYNS algorithm permitted Dr. Irvine to execute the large number of calculations that were required to answer questions about the network regulation of the immune response that were his primary interest. Using the ESSYNS, Dr. Irvine was able to elucidate the role of suppressor lymphocytes (lymphocytes that reduce or limit the responses of other

Distinguished Dissertation Awards, back row, left to right: Dean John H. D'Arms, Pedro H. Hernández-Tejeda, Tessie Pei-Yuan Liu, Mary Corbin Sies, Douglas Harvey Irvine. Front row, left to right (seated): John Riedel (University Microfilms International), John Watanabe (Michigan Society of Fellows).

lymphocytes) in the normal immune response. He found that by using his algorithm he could make comparisons between model immune networks exhibiting alternative forms of cell-cell interactions. He demonstrated that certain interactions are superior to their alternatives and thus would be favored by natural selection. Current data on the interactions between components of the immune system support his predictions.

One characteristic of a distinguished dissertation is that it has implications outside of its field. Dr. Irvine's work exemplifies this ideal. The advances in the analysis of complex systems developed in this dissertation make this methodology available to anyone with access to a personal computer. These systematic mathematical methods are essential for understanding the behavior of organizational complex systems and are sure to be influential outside the field of cellular immunology.

Comments by Michael P. Lombardo for the Society of Fellows

Dissertation Committee: Michael Savageau (Chairman), J. Latham Claflin, John Jacquez, David Thomas, Eberhard Voit

X-RAY SYNCHROTRON STUDIES OF KINETICS OF DOMAIN GROWTH

Pedro H. Hernández Tejeda
Licenciado, Universidad Autónoma de Puebla, Mexico
Maestría en Física, Universidad Autónoma de Puebla, Mexico
M.S., The University of Michigan, 1983
Ph.D., Physics, 1987

The process of growth, be it the ordered beauty of crystal formation or the subtle labyrinth of organismal development, has fascinated the human mind for millenia. And, as is often the case, human fascination in this area has been accompanied by a deep and abiding desire to achieve some understanding of these phenomena that nature brings forth with such seemingly effortless regularity. As our knowledge of these processes has grown we have acquired the ability to turn this hard-won information to practical ends that have directly influenced the day-to-day lives of us all. But the piecing together of one scientific puzzle inevitably brings with it the realization that additional puzzles are to be found within the sought-for solution. Perhaps our greatest achievement lies in a renewed appreciation for how

truly complex natural processes are.

For his dissertation topic, Pedro H. Hernández Tejeda chose to investigate how two structurally 'simple' inorganic crystalline compounds come into being. Though it might seem strange to those who have come to associate research physics with the study of quarks and quasars, this general topic, and especially Dr. Hernández Tejeda's approach to its study, lies on the very frontier of this field. Dr. Hernández Tejeda's results and observations have fundamental implications that will inform the broad span of scientific inquiry. And, as always, his answers have already led to the asking of new questions that I'm sure will provide him and his colleagues with a variety of interesting puzzles for some time to come.

The key to a contented and productive life in science is to have a seemingly insoluble problem and keep working on it. If prior accomplishments are any indication, I foresee a very bright and rewarding future for Dr. Hernández Tejeda. For his important and original contributions to his chosen field of experimental physics, and to the intellectual tradition of this great University, we rightly honor Dr. Hernández Tejeda this afternoon.

Comments by Norman MacLeod for the Society of Fellows

Dissertation Committee: Roy Clarke (Chairman), Anthony Francis, Roberto Merlin, Robert Savit, David Williams

FROM PROTOINDUSTRY TO SWEATED WORK: HOUSEHOLD PRODUCERS, SMALL SCALE MANUFACTURING, AND RURAL DEVELOPMENT IN SOUTHERN ANJOU 1780 TO 1914

Tessie Pei-Yuan Liu
A.B., Barnard College, 1977
Ph.D., History, 1987

Tessie Pei-Yuan Liu's dissertation is a study of rural industrialization in the Cholet region of Western France between 1780 and 1914. The focus of Liu's study is the role of hand labor and household production in the industrialization process. In the 1780s, the Choletais was a prosperous hand-looming region where skilled artisans weaved linen cloths that were exported by local merchants to international markets. Merchants attempted to use the increased prominence of cotton fabrics to centralize cloth pro-

duction in factory complexes after 1800, but eventually had to close their factories when they proved politically incapable of imposing the extremely low wages needed to compete with English manufacturers. After 1850, industrialization developed on the basis of the handlooming system as the subsistence of increasingly impoverished weaving families came to depend on the employment of women and the wages they received for making shoes and household linens. Ironically, the ability of male craftsmen to resist industrialization depended on the industrialization of female labor.

Where most studies of industrialization focus on single factors like technological imperatives or the growth of markets, Liu's analysis focuses on the complex set of conditions created by the interrelations between production strategies and markets, merchants and artisans, and artisans and their wives. Her work reinserts the abstraction of supply, demand, wages, and modes of production into the real human context of social relations and lived experience. It not only makes a fundamental contribution to our knowledge of rural industrialization, but provides a model for analyzing the political and social conditions of factory industrialization as well.

Comments by Ric Northrup for the Society of Fellows

Dissertation Committee: Geoff Eley (Co-Chairman), Louise Tilly (Co-Chairman), Susan Harding, William Sewell, Charles Tilly

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Every effort has been made to ensure the accuracy of this list and we sincerely regret any errors or omissions which may have occurred. We have endeavored to reflect actual gifts received in the period extending from January 1, 1988 to January 1, 1989, and all gifts to the Rackham Renaissance Fund since its inception. Contributions received after January 1, 1989, will be acknowledged in the next edition of *Rackham Reports*.

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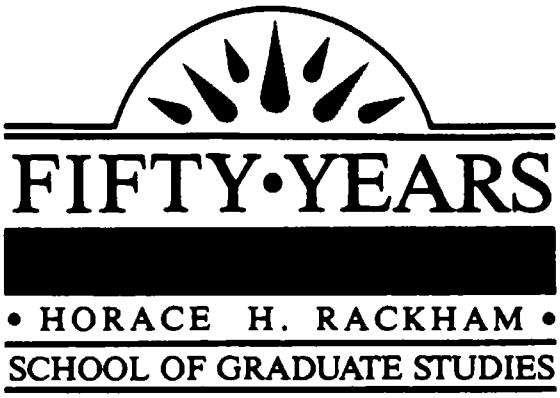

ON THE 50TH BIRTHDAY OF THE RACKHAM BUILDING
A Letter from the Dean

Why celebrate the birthday of a building? It depends, of course, on which building it is. When monuments of such intellectual importance and architectural interest as the Rackham Building have major birthdays, we have just cause for celebration. We are also looking forward to the future challenges in graduate education.

In recognition of the pressing need to undertake the renovation and refurbishing necessary to restore Rackham to a condition worthy of its incomparable architecture and ornament, a special endowment fund has been established. In addition to the building itself, the Renaissance Fund will also be used to increase support for graduate students, and for their interaction with faculty here in this building.

As I reported last year, our objective had been to secure $500,000 by June, 1989; as of February nearly $425,000 has been contributed. The names of the Friends of Rackham, who have generously helped us with this effort, are listed in the Honor Roll elsewhere in this issue. We are delighted to announce that, with these funds, we have already been able to open the study halls to graduate students on Sundays, and we are about to open a Graduate Student Lounge, in which students from disciplines across the university can meet to discuss their work with one another informally. We would like to equip our splendid terraces with furniture, so as to permit their use during study breaks in fine weather. Moreover, the entire building remains in need of attention, to return it to the prime condition which befits its architecture, interior ornament, and furnishings; and to prepare it for the new directions which will be part of our future.

A 50th Birthday is a special occasion, and presents us with a special opportunity to secure the many benefits of the experience of the Rackham Building for future members of the University community. Since we are so clearly within sight of our goal, and since the end of the year is approaching, I am writing in the hope that you will wish to help to see us over the top. Would you be willing to consider a contribution or a pledge to the Rackham Renaissance Fund for this purpose? Generations of graduate students and faculty stand to benefit from your generosity; they and we shall be most grateful for your support.

The Rackham Renaissance Fund commands our special attention this year, but there are also other opportunities; there follows a list of Gift Funds, and ways in which you can make your gift.

GIFT FUNDS

THE RACKHAM RENAISSANCE FUND

The Rackham Building has been celebrating its 50th birthday in 1988-89. The Renaissance Fund, established in conjunction with this event, enables the Graduate School to enhance intellectual exchange among graduate students and between graduate students and faculty, to preserve the Rackham building as a cultural center for the University and the broader community, and to prepare ourselves for some of the new challenges in graduate education as we move towards the 21st century.

THE RACKHAM FELLOWSHIP FUND

Fellowship support is one of the most critical needs of the Graduate School. It is important that outstanding students not be denied an opportunity to complete graduate degrees for lack of money. If you received support from Rackham during your graduate work, you may wish to help today's students by contributing to this fund.

THE DEAN'S DISCRETIONARY FUND

This fund enables the Dean to initiate new projects and to support work and activities of the faculty and graduate students for which other sources of support are very limited. The purposes for which it has been used include student and faculty publications, travel to present papers at meetings of professional organizations, and similar academic endeavors.

MATCHING FUND FOR THE HEWLETT FOUNDATION GRANT FOR INTERNATIONAL ACTIVITIES

The William and Flora Hewlett Foundation awarded the Graduate School $300,000 for an endowment for international activities, on condition that private donors match the gift 3:1. This gift provides the Graduate School with a unique opportunity to support graduate students and faculty whose scholarly activities require study abroad.

BARBOUR SCHOLARSHIP FUND

Originally endowed in 1917, the Barbour Program offers scholarship support to Oriental women graduate students. The strong record of achievement by Barbour Scholars has made this one of the most successful of the UM's international programs.

MEMORIAL GIFTS

Memorial gifts to the Graduate School are made by those who wish to honor and express appreciation on the death of one of their former professors or a fellow alumnus or alumna who loved the University. These gifts can be designated for the department or program with which the honoree was affiliated. We are pleased to send letters of acknowledgment to their families with the name of the donor noted.

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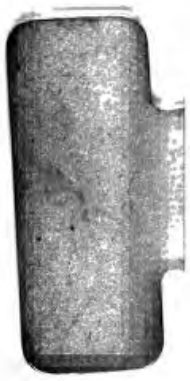

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The University of Michigan
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