One of the most celebrated terms in Thomas S. Kuhn's *The Structure of Scientific Revolutions* is "paradigm," which embodies his notion of the sense in which activities are defined and controlled by tradition. An operative tradition is one that has proven its ability to order the experiences of a given social constituency; Kuhn was especially concerned about research traditions that provide the scientific community with criteria to distinguish one activity from another, set priorities on those activities, and enable the community to perform whatever common activities make it a community at all.

A university in the classic sense is a community. Although the passion of the human race for institutionalizing its activities has not spared the university, the survival of the idea of community has been basic in the history of the university, and as a community it has had just such a concept of tradition as Kuhn described. Kuhn's problem was the transition from one tradition to another, specifically in scientific communities, which he considered enjoyed a relative insulation from contingent social conditions external to the traditions of the community. Kuhn used concrete examples to illustrate the sense of development in science; theorists of social change now treat Kuhn as a significant and original contributor to that field, once his ideas on development and revolution are defined generically.

The university as a community also has a relative insulation from contingent social conditions external to the traditions of the community. The insulation works both ways; no one connected with the university in this country since the end of the second world war should be unaware of the way social conditions have generated forces that jumped the insulation barrier. The California oath controversy marked outside society's breach of the barrier when it attempted to control what the university community studied even if it was pertinent to the university's purpose as a repository of knowledge. The student and faculty activism of the sixties over the Vietnam war issue marked the university society's breach of the barrier in the other direction. But these episodes are significant because they are exactly that—episodes, and extraordinary ones. They reflect a problem that has always characterized the relations between the larger society and any limited community within it—i.e., how much autonomy the limited community shall have.

If you are thinking the bow is bent, make with the shaft, we have now come to it. The breach of the university's insulation now threatened is more insidious because it is one which would substitute an alien for an indigenous tradition. What most characterizes the industrialized society in which we, and increasingly the rest of the world, live is the concept of interchangeability of parts and mass production. In fact, we
have made great progress in developing techniques for monitoring these characteristics in what is vulgarly called computer technology. It is not irrelevant to point out that the computer was an industrial development; taken over by the university its study becomes either a training school unit function or it is transformed into a "thinking machine," the study of which is a legitimate university function. Either way, the result is the same: the unit in any set of units which can be submitted to computer processing is interchangeable—any unit is treated exactly like any other unit.

I hope I need not elaborate on the relation of this characteristic to the much discussed sense of alienation, either in society at large or in the university in particular. One of the features of the student movement of the early sixties was certainly the feeling (right or wrong) that the individual student was unnoticed or ignored by those in the university who should have been concerned with students. This idea was circulated outside the university and applied to universities in general, both those where there was a basis of truth for the feeling, and those where there was not. But the more the administration of universities adopts the concepts of the industrial tradition in society, the more it attempts to substitute cost benefit analysis for providing opportunities to individuals to realize their capacities for education, the more it introduces inventory control for new product development, and assembly line restraints in place of the autonomy to perform the common activities that make the community a community at all, the more it fosters the environment in which alienation festers.

One might assume, of course, that a particular public university, i.e., one which is supported at the state's expense, might legitimately deviate from the tradition (in Kuhn's sense of the pattern characterizing a particular community) of universities. For example, the governing body of the institution, and the administrators designated by it, might set up an institution whose primary purpose is to provide the vocational training, at various levels of sophistication, for the operational personnel in an interchangeable-parts-mass-production industrial society. The conceptions behind such an enterprise clearly reflect that society's concept that since no unit is different from any other all sets of units may be treated alike. No unit is indispensable; another identical unit can replace it at any time. The administration of such an institution could logically be ordered along industrial production management lines and monitored by computer technology. I would call it a trade school rather than a university, but that is beside the point.

The point is that trade schools have a paradigm of their own. The classical guild pattern, which is as old as that of the university, is that the masters control the acceptance of apprentices, the licensing of journeymen, and the quality of the product. The administration of any institution is properly limited to facilitating its functions. The function of a university, or the function of a trade school, is not the same as the function of, say, the IBM Corporation or the United States Marine Corps, both estimable communities in their own right with their own traditions. To make the administration of these several institutions interchangeable is to introduce grave risks and potential harm to their functioning under their accepted tradition. Out of the profound objectivity of a historian, observing IBM and the Marine Corps from the
outside, I am inclined on the basis of their superb records to favor letting IBM construct computers and the Marine Corps train marines rather than vice versa—if the traditional thinking machine and combat machine is wanted.

Yet in this age of specialization, interchangeability of parts, and mass production, I think the quality of the trade school and the university are endangered by the administrator or the members of governing boards who act as though these institutions can be operated by transferring the superficialities of industrial management (monitoring techniques) to them. The manipulators of these techniques ask the wrong questions, in the wrong order. A simple illustration: a trade school to train wheelwrights offers two principal forms of instruction: (1) making rims, (2) making spokes. The new director, a cost accountant formerly with the Patagonia Egg Merchants' Association, after studying the curriculum discovers that the rim-making course costs $2.49 per student credit hour, and that the spoke-making course costs $7.99 per student credit hour. By abolishing the latter and converting to the former he expands the school's capacity to train wheelwrights 300 percent at no increase in cost. Of course the wheelwrights trained there cannot make wheels, and nobody will hire them, but by that time the director, on the strength of his cost-cutting ability and unsentimental independence of tradition, has been appointed by the Board of Higher Education as Dean of the College of Arts and Sciences at the state university.

Paradigms, as traditions in Kuhn's sense, have reasons for existence. The university tradition has expanded and adapted over a long period and has retained its constituency under heavy pressure at times. Change is perfectly possible within the terms of an operative tradition if its elements are able to deal with new experiences while not losing their identity. The university is confronted by a new tradition that has established itself in industrial society, with conditions radically different from those in effect when the university tradition was institutionalized. Practitioners of the new tradition sometimes infiltrate, sometimes are imposed, on the university community. The more this happens the more the dichotomy between "administration" and university "community" grows.

The university tradition does not properly maintain the indispensability of any given element, idea, or individual, but rather the uniqueness of the individual, idea, or element. An administrator who acts as though a university were an industrial enterprise for the production of inanimate articles or abstractions confuses the community and destroys its capacity to function as such. In the last analysis those competent to judge the work of apprentices in the community, charged with certifying programs in learning its tradition (and in the case of the universities in Oregon legally so charged), and qualified to determine the standards of performance for the masters of the tradition are the members of the community itself. An administrator who arbitrarily overrules the considered judgment of the faculty on what constitutes satisfactory academic performance or professional standard, or imposes a practice violating the clearly expressed interests of the community does not facilitate its functioning.
However tenacious a tradition, its constituency may sometime find itself surrounded with problems that defy solution. I think such a crisis may occur when "administration" and "community" find themselves attempting to follow different traditions. In Kuhn's analysis, a community thus disorganized must come up with a way to put things in order; attempts to refurbish old tradition, conscious search for new or more functional organizational devices, singleness of purpose versus intentional proliferation of alternatives--a community's cultural resources may be tested before a new consensus is clear. The more complete the consensus the greater will be the stability of the community. Without the unanimity necessary to support a new sense of community, the traditions may be less secure, and a "revolution" result merely in confusion and permanent conflict. A community, as Kuhn uses the term for his study of scientific revolution, whether college, trade school, or land grant university, is entitled to administrators that reflect its particular traditions.

Admittedly problems have occurred as higher education in the United States shifted from elite to mass education. The community of higher education changes when as many as 15 percent instead of 5 percent of the secondary-school-completion age group go on to higher education, as is happening in many modern countries. The change is accentuated when, as in the United States, as many as 50 percent of the age group enter higher education. Education shifts to the transmission of skills for specific technical elite roles. Interest groups and party programs subject higher education policies to increasing pressure; the university ceases to govern itself and often falls into the control of those under the spell of managerial techniques. Will it be possible in such circumstances to preserve and defend the best of the values for which quality education has stood?

"As do other institutions," wrote President Edward H. Levi of the University of Chicago, "a university asks much from the society. It does seek to justify as being important to mankind what might otherwise be regarded as an unproductive way of life. 'I do believe in intellectual excellence,' Lord Snow recently said to an apparently startled interviewer. 'I think' Lord Snow continued, 'a society pays a very high price if it stops thinking that intellectual excellence is a good thing.'"

Society starts paying that price when it seeks to impose the standards peculiar to other communities on the community that is a university. The problem of the relationship between society, or the state, and the university is not a problem that faculty flow model staffing plans or trade union collective bargaining, or any other technique will solve ipso facto. It is a problem we will have always with us, whose solutions vary in time and place but whose method of solution depends on governing boards who recognize and administrators who admit that the pursuit of knowledge and the transmission of the results for the benefit of society and its members, young and old, must be delegated to the pursuers. What is, and what is not, an adequate contribution to the extension, the mastery, or the transmission of knowledge by the 15,000-odd members of a university community whose studies range through dozens of more or less esoteric subjects from accounting to zoology is not within the capacity
of nine individuals, lay or otherwise, to determine, let alone one individual.

Men and women of good will may indeed differ about the best means of achieving the same goals. But a board which selects administrative officers to clamp down on the faculty, and then tolerates the persistent expression, in word and deed, of contempt for academic faculties by such administrative officers, cannot be described as men and women of good will. For evil to prevail, as Jefferson pointed out, it is only necessary for good men to be silent. One scarcely knows whether admiration or pity is the more apt sentiment when contemplating the efforts of a faculty which tries, against all odds, to preserve students from being cheated of the experiences due them in an institution ostensibly operated for their higher education: the opportunity for academic stimulation, for achieving technical proficiency, for intellectual contemplation of the world and its many aspects from the vantage point apart that a university provides. There will, of course, always be some who attempt to avoid the opportunities, administrators who connive at the evasion, and compliant faculties which do not care.

I, for one, care.

George Barr Carson Jr.
Professor of History

September 30, 1974
Retirement Fund Investments

The September 1974 issue of "Universitas" of the University Professors for Academic Order (UPAO) includes an article which provides the following tabulation comparing the performances of various kinds of investment funds for retirement, such as Oregon’s PERS. Colleagues interested in this subject will find the article by Max Shapiro in the June issue of Dun’s Review (OSU Library) also rather a revealing commentary on the various retirement and pension fund investments.

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NOTES: * Overall 1970-73, inclusive, gain comes from assuming a single initial sum with only the annual percentage gains and losses accumulated in the fund. First line thus gives 1.0747 x 1.0947 x 1.1387 x 0.8361 = 1.1200, i.e., 12% gain.

Δ A "rolling T-Bill" account: this simply means an initial sum for the purchase of T-Bills, immediately reinvested in T-Bills every 13 or 26 weeks, as indicated, from earliest 1970 through the end of 1973.

# The Dow Jones Industrial Average "fund" would consist of an even spread of the 30 "blue chips" as they make up the "Dow", a feasible purchase for Oregon PERS (a two-thirds billion-dollar fund) and for other such large funds.

# "Fixed" includes up to 35% common stocks commingled with those of the Oregon PERS "Variable" fund in the "Oregon Growth Fund" portfolio of common stocks.

+ Exclusive of stocks in fixed fund.

30 September 1974

Fred W. Decker
Atmospheric Sciences