Our Emerging Educational Establishment

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These volumes, **Challenge and Change in American Education** and **Education and Public Policy** (McCutchan, Berkeley, Calif., 1965. $12.50 each), the second and third of a triple-decker prepared by Seymour E. Harris and his associates, are reconstructions of a seminar series supported by the Ford Foundation. The first volume, *Higher Education Resources and Finance* (1962), was published by Harvard University Press. All three volumes emerged from an extraordinarily ambitious seminar that elicited more than 60 papers from leading educators. The scope of the seminar, and of these volumes, was broad, the topics relevant and timely, and the effort at comprehensive coverage heroic. The heavy emphasis on the "economics" of the "knowledge industry" is useful—up to a point. But somehow the volumes disappoint. True, there are chunks of gold scattered in the gravel. Some of the papers are very good—clean, incisive, sparkling (notably Phillip Coombs's analysis of planning); others are models of clotted jargon. But the reconstruction of a seminar, however good, is not intrinsically exciting. Presentations made in 1961, 1962, and 1963 seem cold and stale, like the *Congressional Record* of yesteryear. (A *real* book ought to be the distilled passion and prejudice, concern and conviction of a man's mind.)

Nevertheless there is much good stuff in these volumes. For the most part, the problems and issues are familiar—the molasses-like quality of the state school systems, the weakness (through splintering) of the education lobbies, the complaints about the exalting of the research scholar and the downgrading of the teacher, the high stakes of grantmanship (who gets what), the plight of the superior student, the tantalizing (to economists only) matter of education's contribution to national income and economic growth, the now perennial teacher shortage, the care and intellectual feeding of unprecedented numbers of students enrolled in "education beyond the high school," and the difficulty in eliciting maximum productivity at minimum cost from communities of scholars.

On some issues we are presented with the conventional wisdom and the conventional exhortation. Thus, we are reminded that the superior student requires superior instruction, or at least special treatment. Education is challenged to speak with a louder and a clearer voice in the halls of Congress and in the state legislatures. We are told of the virtues of general aid to education in preference to aid by categories. Accreditation, on balance, is declared a good thing, as is academic tenure. The teacher shortage is a bad thing. Womanpower is—what else—a neglected resource.

We need, or so we are told, more research on educational issues, more planning by colleges and universities, more master planning by states, and better resource allocation at the national level. Schools should be run more economically and universities should be more productive. The developing societies are also lectured; the governments in the world's poverty belt are to increase their national incomes *before* they can afford to invest substantially in education. Nothing much is wrong with graduate education, which needs only "some marginal remodeling."

"Some marginal remodeling" is a revealing phrase. It exaggerates little to say that this is the dominant theme threading through most of the papers. The implication is that the educational system of the United States, in its grand architecture and working mechanics, is largely completed. We may fret, if we wish, about the decline of the liberal arts college and the financial plight of the weak private schools; bemoan the tendency of Congress to opt for special purpose programs; regret that much of the federal research support underwrites a massive research and development program dedicated largely to the military and the space agency; and decry the shortchanging of basic research and the neglect of the social sciences and the humanities. But all to little advantage. A bit of remodeling, cleaner structure, better planning, more innovation—and education in the United States will be in good shape to accommodate the massive enrollments of the 1970's.

Although the portrait of tomorrow's education is never drawn explicitly, its outlines begin to emerge. It is a pleasing sort of prospect—at least for those with a highly developed taste for order, economy, and rational structure. The scholar, guild card in pocket, is to enjoy academic and other freedoms; the administration is to have better tools of management; the institution is to have life-giving autonomy; and comprehensive state-wide planning is to assure prudent and wise use of scarce teaching resources. At all levels, everywhere, there is to be innovation, frequently equated with programmed learning, televised instruction, more large classes, and fewer smaller classes.

Space utilization is to be "optimized." The knowledge industry is to be automated and computerized. The rational allocation of resources (that is, of dollars and professors) is the task of managers. [In the foreword, Harris asserts that the great inefficiencies of IHL (his shorthand for Institutions of Higher Learning) is that they are run by faculty.] The master-planned systems are to be skillfully diversified by type, level, and quality of program to accommodate the full range of student talent.

To some, such a vision of the future will be distasteful. For the systems that are designed to provide equity and economy may bring crippling rigidity and a pointless conformity. In a sense this kind of future is upon us now. We already see universities that are big, prosperous, orderly—and dangerously dull and stifling; state coordinating boards that straightjacket institutional aspirations; and budgetary formulas that govern everything from book budgets to psychiatrist-student ratios.

If you doubt it, look around you—at the civil service invasion of the campus, the statehouse policing of out-of-state travel for faculty, the standardization of faculty office space, the bland factory-like modularity of the new classrooms, and the addiction to arbitrary teacher-student ratios (the noose steadily tightens). Add your own examples; anyone can play the game.

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Not that all external controls are necessarily bad. It is willful romanticism to yearn for freedoms that no system of mass education can provide. The desire for self-sufficiency is a mirage—whether on the part of an individual school teacher or faculty member, the dean of a college, or the president of a university. We live and work in systems; and the logic of systems is that equity and economy must be given a high value. The physics department cannot have its branch library; the dean of a professional college cannot have more than his fair share of the budget; the university cannot offer whatever doctoral programs it chooses. We cannot insist on more than our share, unless others are to be denied their share. The issue of economy in education will not wash away simply because scholars feel that economy is a dirty word.

It will avail little to curse the new managers—the presidents with an eye to economy as well as quality education, the directors of state coordinating boards charged with equitable distribution of the state educational dollar, the master planners who serve as architects of whole new systems of education in the great cities. The knowledge industry cannot simply sprawl. Increasingly, education at all levels is a public enterprise, one that grows ever bigger, ever costlier. No legislature and no governor can tolerate *laissez-faire* competition and growth. The stakes are too high, in terms of the quality as well as the cost of education.

But are we really content with the Educational Establishment that is emerging? I hope not. For it is too tame, too "safe," too conventional, too orderly. Worse, it does not begin to meet the needs of the American people in this wildly chaotic, exuberantly creative age of mingled promise and threat. The agenda of American education is crowded with new problems and intensifying old problems. The challenge is not marginal remodeling but major renovation and self-renewal.

Four topics should be high on our agenda, for they are both important and easily obscured.

Perhaps we have become the prisoners of our own propaganda. It is easy to become mesmerized by Sunday-supplement versions of the "knowledge explosion." True, there is a vast expansion in the output of research. Vast quantities of new information and new knowledge are available. We know more than ever before about everything—lasers, plasma physics, kinship patterns of the Mexican family, reading handicaps of slum children, the movement of dollars in our economy, and the flow of waters underground. The new knowledge is both abundant and unavailable. It is "locked up" in the minds of specialists. (And it is locked up in libraries that no longer serve as adequate instruments for making knowledge freely available. The contemporary library is an anachronism; we are far short of a workable technology that will package and disseminate new knowledge cheaply and quickly.

It is curious that planners concerned with a more rational educational system should be indifferent to flaws that cut deep into the process by which new knowledge is developed and transmitted. Is knowledge truly unmanageable? Apparently many have concluded that it is. Look at the typical university catalog and the standard curricula. Economics and political science stand apart, as do business administration, public administration, and education administration. The examples can be repeated in almost every "field." The old categories seem to have hardened; the blockages in communication, if anything, have intensified. There is no want of exhortation about the virtues of "interdisciplinary" inquiry, but there is precious little substance with respect to interdisciplinary efforts. Not surprisingly players, who learned well the special language of their craft, have limited capacity to work with the new and strange vocabularies of their colleagues. And they "unlearn" the comforting categories of their craft very slowly.

This is not to minimize the achievements of the best minds and the best institutions. The emergence of new fields like biophysics, the skillful introduction of liberal arts into the engineering program at Massachusetts Institute of Technology, the breaking down of the ancient walls within engineering at Case Institute of Technology and elsewhere—these are samples of impressive achievements. But there are more than 2000 institutions of higher learning in the United States, and the process by which new practices are diffused into the system as a whole is painfully slow indeed.

On most campuses there is precious little concern with curricular reform. The flowering curricula rarely gets pruned. The academic guilds, as guilds everywhere, have become Guardians of the Faith, and Masters of the Small Details. Ours is a closed system; the finished product of graduate school is available to teach Physics I, or Political Science I, and his best students go on to graduate school as apprentices in the mysteries of the craft and emerge to confront a new crop of freshmen with ever more specialized knowledge. But where are the men and women whose generalist skills enable them to make the grand leap? Where do we prepare the leaders who dare to "make a mesh of things?" Where are the *teachers* who can make sense of the American city in terms that will excite the imagination of a freshman class? Who speaks for the general view? Categories that began as temporary conveniences have become absolutes.

Universities That Do Too Much, But Mostly Too Little

The modern university prides itself on its service to the community, the state, and the nation. Nothing is too trivial and nothing too demanding to escape the efforts of the enterprising university. The university that offers "jewelry-making" in its extension program may also contract with the foreign aid agency to redesign the tax structure of Brazil. Often our efforts lack discrimination. The university ought not to be a community service supermarket, anxious to ingratiate by "meeting community needs" of all kinds. Nor should it arrogate to itself major operating tasks, as for example, assigning a cadre of experts to develop a strategy for the master-planning of education in an underdeveloped country. Such tasks are best left to government and to consulting companies.

However, on balance, our universities do too little. The land-grant college movement was a magnificent achievement in bringing teaching and research into close touch with the problems of an agrarian society. But America is now an industrial, urban society, and the great new problems pressing in upon us are urban problems. As John Gardner has said:

> The strategic role played by the land-grant universities in developing American agriculture and the rural areas has no parallel in the cities.

The great forces for change come not from within the universities but from governments. New demands of all kinds—for research on water, air pollution, and urban renewal and for training programs ranging from mental retardation to library science—press

upon the universities; the federal government, until recently Patron of Science, emerges as the Patron of Problem-Solving. The Economic Opportunity Act, the State Technical Services Act of 1965, the Higher Education Act of 1965 (notably the Community Services provision of Title I)—these are invitations to major new responsibilities on the urban front. And they are the best of invitations for they welcome, indeed insist upon, local initiatives.

It is a major new dimension for the university. It is no small matter, for example, to enter the jungles of urban America in search of causes and cures for the cancers of racial hate. Not surprisingly, the university hesitates at the waters' edge. For we are being asked to tailor research to real problems and to carry the fruits of research through development stages to the point of service and action. But surely the anatomy of poverty and despair is as appropriate for scholarly inquiry as the anatomy of man or cow, even if poverty is controversial and biological processes are not.

The natural timidity of administrators might explain the reluctance of universities to face up to the massive new obligations of a sick urbanism. But the deeper explanation lies in the high value placed on research as a good in itself. And this brings us to the third agenda item.

Lack of a National Policy for Investment in Research

As with the "knowledge explosion," the image-makers have deluded us. The scientific community is victim of ancient human error; it is tempted to accept uncritically the pretensions of its finest orators. The image-makers would have it that free curiosity dictates scientific inquiry. Research, we are told, cannot be programmed. Moreover, no one can foretell when a tiny particle of new knowledge—on the firefly, for example—may have dramatic import in a seemingly unrelated field of knowledge. The tales of science heroes rival those of King Arthur's court. But the tales prove too much.

Research *is* programmed. Great chunks of the federal research and development budget are earmarked for areas deemed vital to the national interest—for medical research, space exploration, water resources research, and the like. And regiments and armies of university scholars commit their research energies to the task. For example, a decade of ever-increasing medical research and training budgets brought into being a substantial cadre of medical researchers, men and women whose research interest and talents would otherwise have grown along quite different lines.

The difficulty is not that the federally funded research effort is programmed, but that it is so poorly programmed. In some areas we underwrite "science" generally as if all scientific inquiry were of equal importance; elsewhere we go in wild pursuit of hobbies that catch the nation's fancy (the obsession with the moon shot). In some areas we are overzealous in prescribing narrow-band research, often for immediate ends; and in still other areas we have shrunk from defining research topics that obviously ought to be high on the research agenda. The foreign aid program, for example, is a vast and costly enterprise that proceeds largely on faith. Virtually no research of consequence undergirds the most complex effort the American people yet have undertaken.

More than "marginal remodeling" will be required to make sense of the federal research enterprise. The federal agency–university relationship badly needs rethinking; it will take more than larger overhead to make things right. As the Reuss committee insisted, there *are* substantial conflicts between the federal research programs and the nation's goals for higher education. On balance, the teaching function may be shortchanged as a result of our current heavy investment in research.

The geographic concentration of the federal research dollars is not in the interest of a fast-growing nation that requires new centers of excellence. Nor can we be content with a decision-making process in Washington that is meticulously fair in judging the scientific merit of an investigator's proposal but unequipped to make the large judgments as to the relative importance of fields of scientific inquiry. The result is a national effort frightfully out of balance; only a very rich nation with an unbounded faith in "science" could support a program so lacking in overall design.

Diminishing Pluralism and the Straightjacketing State Systems

Our much-vaunted "pluralism" in education is rapidly disappearing. The logic of the coordinating boards that are appearing at the state level tends to reflect the current dogma about the "one best way" to organize education beyond the high school. The new systems have the lovely symmetry of artificial flowers carefully arranged. A triple-decker system is the ideal: a tier of junior colleges and technical-vocational institutes, then an assortment of universities charged with "handling" the great masses of students, and as the capstone of the system the powerful and prestigious univeristies whose primary emphasis is graduate research. There is logic in systems, but there is also grave danger of crippling rigidity. Somehow there must be a higher degree of flexibility in the state systems. If control mechanisms are appropriate, so are incentives. If the colleges and universities are to innovate and invent, if self-renewal is to be more than a cliché, there must be incentives that reward good management, innovation, and efforts to provide better teaching. Surely the three-tier system does not exhaust the options; the abundant and wonderfully diverse talents of our students require a far greater degree of diversity than we have yet achieved. The distribution of the talent curve for a student population of, say, 10,000 to 12,000 dictates a range of offerings as wide as the talent spectrum. Otherwise we make a mockery of student choice and force our students into fields for which they have neither talent nor interest.

How do we encourage greater variety in teaching methods and technologies? No one really has the answer. The foundation dollar, like the federal dollar, has largely been dedicated to "marginal remodeling" within the existing structures. Experiments that span entire institutions are rare, and those that reach throughout entire state systems are virtually nonexistent. Master planning ought to be tried in the large cities as well as in the states, but only if innovations in interinstitutional cooperation are to be cultivated. Anonymity for professors as well as for students has its advantages, but only if there also are subunits that provide identity and a sense of community for professors as well as for students. In education, we deal with institutions, not organizations. Men work in organizations, but they commit their life energies to institutions. The development of an institutional personality is a value at least as high as that of efficiency.

In the last analysis much education is beyond the reach of efficiency measures.

We may count the cost of credit hours produced, juggle faculty-student ratios, and computerize our registration ceremonies. But the reality of the teaching-learning process defies analysis. It is quite possible—and not infrequent—for an institution to pass the efficiency tests with high marks and yet provide a poor environment for learning. We know little about how to construct what the British architects call "a continuous learning environment." Dormitories that are efficiency motels, student unions with the flavor of penny arcades, campus architecture that crowds and depresses the human spirit—are these not hostile to learning itself? No scoreboard tallies such gross and debilitating inefficiencies.

The challenges to education are as massive and staggering as those facing the American people. The "revolution of rising expectations"—for clean air and pure water, for job opportunity, for "people renewal" as well as urban renewal, for a decent social order—applies not only to the world's poverty belt but to our own developing society as well. Only a strong and vital educational system can give us handholds to a better future. This is the essence of the challenge to public policy. The challenge of change is too great for modest efforts, patchworks, and simplistic shortcuts to economy and efficiency. Our high-achieving society expects much more of American education.

Johns Hopkins Oceanographic Studies

The pages of the Johns Hopkins Oceanographic Studies continue to be devoted to Pacific investigations. However, since the phenomena studied and published in splendor are concerned with general processes in all oceans, exemplified on Pacific data, the trend can be considered an excellent one. We are also indebted to Johns Hopkins Press for making available the critical treatment of data collected over a long period of time, starting with the *Challenger* expedition and culminating in the large survey expeditions organized by Scripps Institution of Oceanography and the Institute of Oceanography in Moscow.

In the introduction to this volume, **Intermediate Waters of the Pacific Ocean** (Johns Hopkins Press, Baltimore, 1965. 85 pp., $8.50), the author, Joseph L. Reid, Jr., covers the history of the description of intermediate waters in the oceans and particularly in the Pacific Ocean. The literature survey, which is arranged according to processes that affect the distribution of water masses as characterized by their parameters (salinity, temperature, oxygen, and phosphate), indicates clearly the slow and cumbersome way toward comprehension of the acting processes on the basis of often doubtful data collected from different ships in different years and different seasons. The author has selected the best or the most consistent data and these are clearly indicated in the tables and the plates.

The data are analyzed by giving the distribution of properties on surfaces of constant potential specific volume, together with an investigation of the geostrophic flow in these surfaces. Two surfaces are chosen on the basis of the fact that they best coincide with the subsurface salinity minimum. They are characterized by an isosteric anomaly of 125 cl/ton and 80 cl/ton. Because none of these layers penetrates the surface in the North Pacific, it is concluded that the water masses of these layers assume their properties by vertical and lateral exchange processes. This conclusion is further substantiated by an intense study of the water masses in the subarctic gyro. The final chapter critically compares the studies in the Atlantic with the treatment of the Pacific data which the author had given in the previous chapter.

The monograph provides the best available bibliography of all original data. The pages that describe the vertical distribution of seawater properties are most instructive, and so are the pages that describe the horizontal distribution of parameters. It is difficult to avoid errors, but I noted only one—in Figure 4 an oxygen content of less than 0.5 ml/liter is not indicated with the correct shade of yellow. Otherwise, the printing and editorial work reflect the same excellent standards that we are accustomed to encountering in "The Johns Hopkins Oceanographic Studies."

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Cultural Anthropology

Ethel Nurge's **Life in a Leyte Village** (University of Washington Press, Seattle, 1965. 167 pp., $5) is a welcome addition to a recent series of monographs and books which furnish information on communities studies and provide, as well, guides to field techniques and the collection of data.

Miss Nurge's straightforward discussion of the circumstances involved in choosing the particular village she studied is refreshing: "The choice came about through one of those accidents that guide our choices more frequently than we recognize." She goes on to say that an American-Filipino student friend residing in a nearby village was the primary reason for the selection of "Guinhangdan." So often anthropologists fail to mention such ordinary or incidental reasons for choosing a research project or research area. Methodologically cogent reasons for selecting this Leyte village are also given, however. A village in Visayan Islands was chosen because no systematic anthropological investigation had been undertaken in this island group. Guinhangdan was small yet large enough for adequate quantitative analysis of the data. Homes were in close proximity to one another and thus gave access to detailed observation of daily life.

The amount of information packed into this small volume is remarkable. A short section on reasons for selecting the village studied precedes a short but penetrating history of the dim beginnings of the community through a vivid description of the Japanese occupation to the time of the study in 1956. Short sections then follow on the political organization and the types of housing and clothing. Subsequent sections on the socioeconomic structure, household composition, mother-child relationships, and dyadic relations in the family present the basic materials of the study. I found the sections on household composition and the patterns of kinship relationships especially significant. Anthropologists will want to examine closely Nurge's delineation of eight types of nuclear households. Meaningful classifications of household types long have been a nagging problem to ethnographers. Nurge examines the literature on this subject, reports that household composition is far more complicated than has been generally assumed, and offers her own classification as a suggested solution. Her purpose in