IMPROVING THE UNIVERSITY'S PERFORMANCE IN PUBLIC POLICY EDUCATION

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My purpose is to offer a strategy which would enable the university to serve more fully the need of citizens for knowledge for public decision making. Contemporary conditions and events have dramatically placed an obligation on the university to aid citizens in more quickly overcoming society's human welfare problems. The suggestion that follows is introduced to stimulate our thinking about developing the use of science to foster *social innovation* as a parallel to our well developed capacity to foster *technological innovation.* Putting new technology into the economic system without accompanying changes in the social system produces a certain degree of disorder.

INSTITUTIONAL SYSTEMS AND THE HUMAN CONDITION

What makes the most difference in the human condition? Modern man is socialized, protected, and directed by man-made institutional systems. These institutional systems provide the mechanism through which man makes choices relating to his human condition. The family, the school, the health care system, law, jurisprudence, public codes, taxation, roads, communication, self-government, waste disposal, research, national defense, natural resource conservation, religion, and tap water are just a few of the human institutional inventions that greatly affect the quality of living. It is clear that the functions of these institutions are vastly more than a prerequisite for survival and orderliness in the complex contemporary economy.

If we are to make any sense at all out of discussing issues relating to improvement of the human condition, we need to conceptualize the content of an ideal life of quality. At least I do, and thus I have made a rough outline to serve my purpose (see appendix, pp. 25-26).

Scientific Versus Folk Knowledge

Scientists have been quite shy about studying their institutional systems, which are human inventions responsive to human decision. But not so the "firm," which also is a human invention and subject to human decision. The firm gets much attention and therefore people know a whole lot about it. Some firms appear and disappear and some make transitions to fit contemporary demand. From this applied

scientific effort people have learned how to improve continuously the performance of the firm.

Why could not similar scientific attention be directed to the institutional system so that its performance can be regularly and continuously improved? Obsolescence within the firm is a cost and when discovered is no longer tolerated. Likewise obsolescence in the institutional system is a cost and is borne by someone or by groups of people. This cost may show up as a gross social welfare problem such as poverty, or pollution, or crime, or overpopulation. Yet people know so little about their institutional systems whose performance was intended to avoid these ills, that they search for hidden villains, blame their elders, or rebel against the system. There is no lack of reformers.

One distinction between improving the performance of the firm and that of the institutional system must be noted. Each is a human invention subject to human decision, and the wisdom of each such decision depends upon the supply and quality of relevant knowledge; in the firm's instance relatively few decision makers are needed—sometimes one, but in the institution's case a larger number of public decision makers are involved. This is where the ball game is when it comes to education for public decision making. Categorically there are three elements to that public: the professional establishment which operates the system, the users of the system, and the financial supporters of the system. These elements may be either one and the same or separate, as with the local school where decision elements are the faculty, the students, and the taxpayers, respectively.

The big problems of our time, that solved or unsolved will have the most impact on our lives in the balance of this century, are essentially political in nature. They are political in the sense that the people of the country must come to terms with problems that affect individuals but which individuals cannot control. Control can be gained only through the public decision-making process. People in society thus have to depend on some systematic means by which they can come to know the world, the developmental forces, and the questions on which consensus must be reached.

GETTING THERE FROM HERE

The university needs the ability to create the unique research enterprises and the educational delivery systems which enable our citizens to comprehend, manage, and rationalize contemporary society. We once thought that if the people were provided an adequate means to improve the economic performance of firms, the resulting increase in labor productivity and income would raise the level of liv-

ing and increase the well-being of all people. Our forebears proudly organized, with public support, "definite and distinct" extension educational enterprises, backed up by a specialized university research system, to improve the productivity of firms in agriculture. But changes in technology have social and economic consequences. We did not plan to have poverty, to pollute our environment, to depopulate rural areas, to crowd people into ghettos, to dislocate people from jobs, and to increase the per capita costs of operating rural institutions. These problems, like many others, are external consequences of successful transition in the production and marketing systems. A failure to make like transitions in the human institutional systems is the reason for these mountains of neglect.

The university can meet the challenge of supplying this knowledge if it transforms itself by applying lessons from its own heritage and by using particular contemporary business and research strategies.

Is a Different Strategy Needed?

One of the lessons is that for satisfactory progress to be made, a research base must be provided on a scale that matches the scale of the problems to be solved. The post World War II efforts of the Extension Service and the Agricultural Experiment Station to reorient programs toward more broadly based human welfare problems have been very sincere. They have been carefully developed, articulated, and legitimized through appropriate channels of the land-grant university system. Yet, despite these earnest efforts, the land-grant system's research and extension programs simply have not kept pace with the nation's growing human welfare problems.

It was not the same story as their record in providing technological innovations to improve the performance of agricultural firms. This latter enterprise and, in fact, the whole agricultural industry was converted from dependence on folk knowledge to scientific knowledge in less than fifty years. Producing new technology is still a very vital and needed function to foster progress and meet the needs of a growing population with rising expectations. The organization for improving agriculture was set up as a semi-autonomous system so that it could plan and develop from a conceptual horizon highly relevant to its function.

Thus, a second lesson is that a "definite and distinct" organization is needed if human resources for a new function are to perform their function successfully. Modern industrial systems have perfected this system of organization to a high degree. General Motors Corporation, for example, makes Chevrolets in a separate division from its locomo-

tive division. Donald Schon, in his book, *Technology and Change,* refers to this as "the strategy of diversification." It means that new capabilities can be competitively developed only to the extent that human professional resources are allowed to arrive, unencumbered by old responsibilities and norms, on a different conceptual horizon relevant to the success of the new capability desired. Rarely is a new capability achieved by retreading an old system.

Then how do we apply this strategy to the present situation in the land-grant university? We must recognize that a new function is being dealt with when citizens wish help to modify, innovate, transform, do away with traditional systems, or whatever it is that makes the most difference in improving the human condition. A new proposition can be advanced that the university should examine the function of social innovation and come to terms with the research and educational requirements that would enable the nation's people to improve the performance of institutional systems having major influence on human development, the quality of living, and human welfare. It would take a "definite and distinct" research and educational outreach organization within the university to appropriately and adequately deal with the problems of limiting obsolescence in these major institutional systems. This new research and educational function would be a coordinate function of the presently well organized technological innovation function of the Agricultural Experiment Station and the Extension Service.

Some tentative identification of institutional systems is necessary as a basis for discussion and future conceptualization. Without arguing the merits of the following selection, the specification of four such systems will get thinking started. (1) The *taxing system* is becoming increasingly incomprehensible to the American public. Yet people should know from the Congress to the local school district how taxation distributes the burden of support for public services and whether that burden is equitable; how the taxing system affects the quality and distribution of housing; how it affects the location of economic activity; and how it influences the quality of the environment. (2) None of the social systems have longer direct influence on human welfare than *education* from pre-kindergarten through adult education. Policy for a highly urbanized and technocratic society should aid development by increasing the supply and lowering the individual cost of education as a life-long necessity. (3) *Jurisprudence and public codes* are neglected by scientific study. Thus people are less and less aware how the legal system and public codes affect their welfare and individual freedom. (4) The greatest concern is the dwindling ability of the citizens to have an "enlightened discretion" and sense

of participation in *governing themselves.* The problem is becoming acute at both extremes—the major cities and the rural counties.

The university can overcome its organizational insensitivity to these matters. It can gradually enlarge the supply of knowledge to help people improve the performance of systems like those above. Below is outlined one strategy which is staged in this illustration over a ten-year planning horizon. This strategy recognizes that present resources cannot be shifted in significant measure from the technological function on the horizontal axis (Figure 1) to the social innovation function on the vertical axis, which is in a wholly new direction. With presently limited resources only small incremental shifts can be turned to the new function.

Stage 1. The deans, with the overall responsibility for research and extension administration, can with the president establish as a developmental objective the providing of scientific knowledge and public education on one important system affecting human welfare. They create the research base by making a modest but distinct research commitment. In Figure 1, the taxing system is the case to be illustrated. The initial research goal is represented as X_1 and contains the knowledge needs of state citizens confronted with making decisions on taxation.

Almost every university research and extension service has for brief periods organized special research task forces and extension efforts to respond to critical local problems. The particular model for the strategy illustrated in Stage 1 is Iowa's special operation, "Financ-

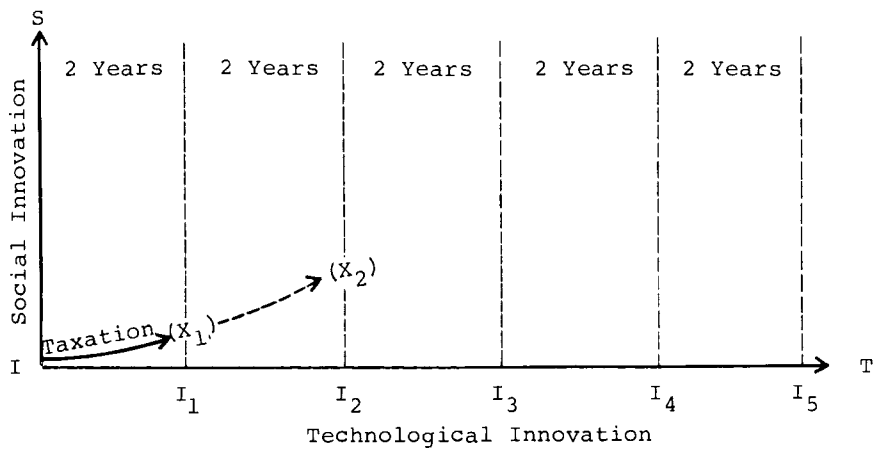

FIGURE 1. FLOW OF RESOURCES TO NEW RESEARCH AND EDUCATIONAL FUNCTIONS, STAGE 1

ing Our Public Services," with emphasis on the incidence of taxation and future educational costs. The research phase produced data on the incidence of Iowa taxes for twenty-one different occupational and income groupings, the use of tax dollars by categories of public services, and the future funding needs of these services given the goals and population changes in Iowa. It produced a predictive tax incidence model which could be used to determine the changes in incidence by substituting one tax instrument for another in raising funds for different revenue goals.

The operational and strategic significance of this effort was the setting of educational goals and the organization of special research teams and educational strategies, which were a departure from normative functions and organization, to meet those goals. The research team, consisting of nine scientists with six working for a year, produced the data. Extension operationalized a special educational delivery system to educate citizens and leaders on the content and meaning of the data. This demonstrated that modest resources can perform at goal X_1 which is on a developmental trend line tangential to the main line, or the technological innovation function.

It is important to know that if new research needs and educational missions are not established for meeting the succeeding goal X_2, the resource people fall back at B (Figure 2) to the main function of the organization, which they consider their "normative" function. This "fall back" is normal when new missions are not established to further the understanding of the taxing system. After the fall back

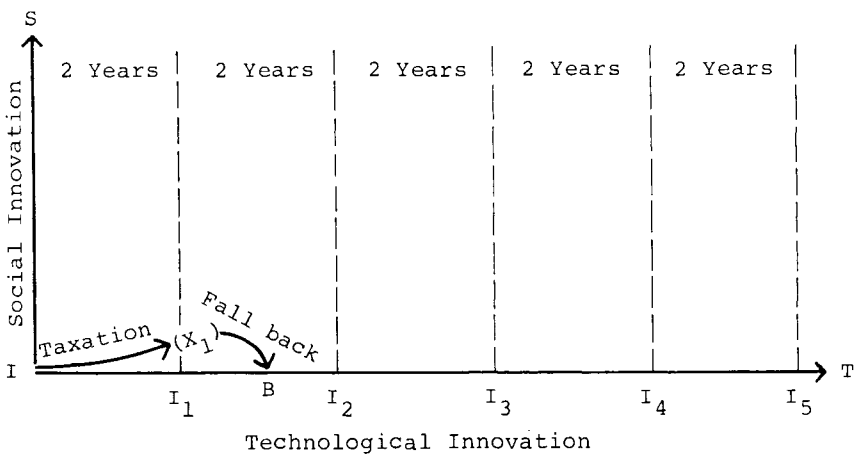

FIGURE 2. FLOW OF RESOURCES TO NEW RESEARCH AND EDUCATIONAL FUNCTIONS, FALL BACK SITUATION

the research establishment has lost the capacity to produce a continuous supply of more sophisticated knowledge, at least until it "starts over" in developing this capability. However, when the special forces are operating at X_1, they discover many new needs and demands for continued research and educational assistance for that problem set. Success in developing this future capability depends on the research director purposely organizing the research enterprise around the institutional system to be provided the scientifically acquired knowledge. When the scientist begins to relate to the needs of the institutional system he begins to produce knowledge which is highly specific to improving its performance.

Stage 2. At the second stage the administration can program assistance to a second institutional system. In Figure 3 this program is directed at producing the knowledge the public needs in order to understand and improve the local school system of the state, and the transitional needs this system confronts if it is to fit contemporary economic and population structures and new learning.

When these resources have researched the Y_1 goals, they will have discovered the local needs which can be articulated in the Y_2 goals. This is a simple growth line for any research effort which discovers, from each stage of knowledge development, relevant new and more complex questions to be answered.

Successive Stages. We can visualize a pattern of development which allows the resources newly directed toward helping institutional systems perform better, to move to successively more complex targets

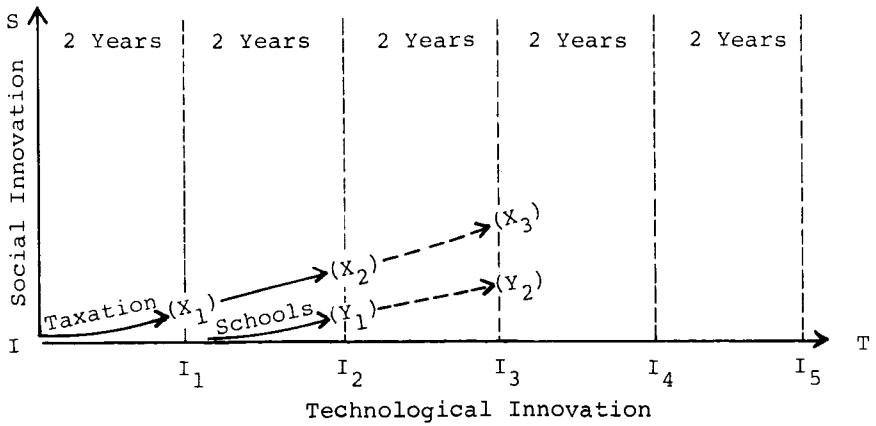

FIGURE 3. FLOW OF RESOURCES TO NEW RESEARCH AND EDUCATIONAL FUNCTIONS, STAGE 2

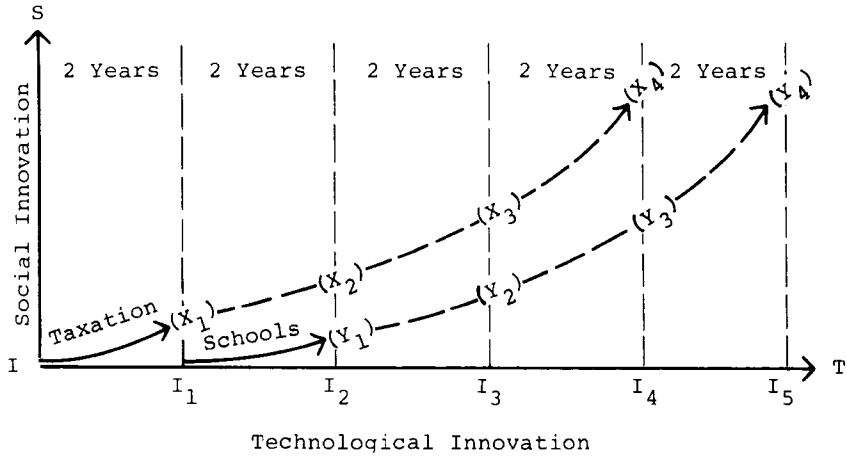

FIGURE 4. FLOW OF RESOURCES TO NEW RESEARCH AND EDUCATIONAL FUNCTIONS, SUCCESSIVE STAGES

pointing eventually to goals X_n and Y_n (Figure 4). These goals need to be conceptualized originally only as broad functions of research and education for institutional innovation to help direct resources toward that capacity. Later experience will allow these goals to be more specifically defined. Without that "capacity goal" of X_n and Y_n, the pull of the old technological function will reclaim resources in short order.

Reconceptualization

One lesson learned from history is that, at some stage of process and product development, men develop new concepts which apply to what they are attempting to do (that is, from man flying like bird to flying machine, from horseless carriage to automobile, from farmer institutes to extension service, etc.) This process of bending old ideas to new uses goes on constantly. Progress is slow at first and crude in retrospect. However, at the point of reconceptualization, progress accelerates rapidly.

Thus in Figure 5 in an indeterminate zone of time R, the university system will reconceptualize its (X_1 to X_n), (Y_1 to Y_n), and N^{th} (all other possible) functions, recasting and reorganizing itself to better perform the social innovation function. The N^{th} functions represent our other institutional systems whose improved performance is critical to man's welfare. At the time of reconceptualization, resources are then not further weaned from the old function but flow from outside sources to the new function. This becomes the time when "Hatch

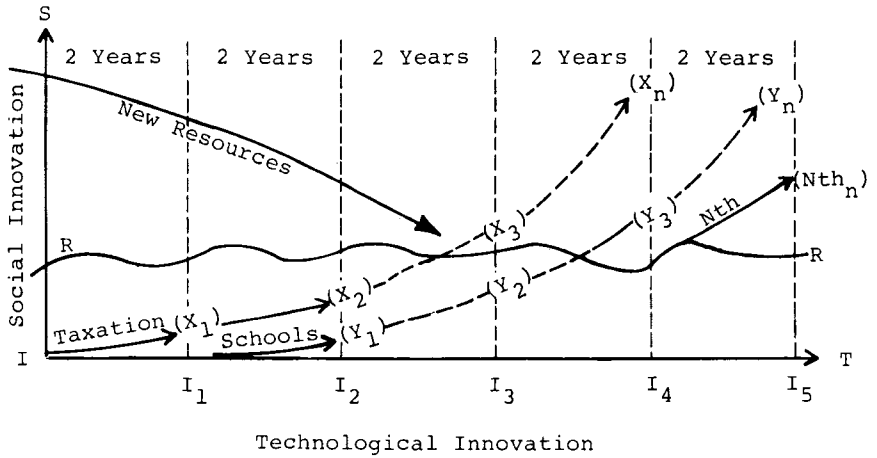

FIGURE 5. FLOW OF RESOURCES TO NEW RESEARCH AND EDUCATIONAL FUNCTIONS, RECONCEPTUALIZATION STAGE

Act II" (the social innovation research equivalent of the original Hatch Act) and "Smith-Lever Act II" can build a permanent fiscal base for these activities in the university as "definite and distinct" research and educational capabilities. The equivalent Hatch Act II and Smith-Lever Act II would tie in resources with federal agencies different from their present linkage solely to the Department of Agriculture.

If all of this has begun to have a familiar ring—it should. This whole strategy is copied from the process used by the resident faculty, near the turn of the century, to "move" the land-grant university from on-campus teaching to teaching people in the countryside, to give them knowledge for practical application. A "definite and distinct" research and extension capability became a reality, with funds flowing into the system from new state and federal legislative acts and grants-in-aid.

We need a major innovation within our system a la the historic period 1887-1914, which can happen when its time has arrived. We can profit from the lessons of our recent experience in the modest though transient success of prototype operations. The experience of our own illustrious past, and the record of present innovation-oriented firms can enable us to achieve a research and educational capacity which is in scale with the demands of people in our society. We can foster diversity in the style and performance of our university research and educational functions. To do so will require more than the marginal increments of faculty time. Some important faculty will need to devote their time temporarily to articulating and dramatizing the new

capability needed for social innovation. Many steps are needed but perhaps something along the following lines is required:

First, the Association of Land-Grant and State Universities needs to set up a developmentally oriented commission to improve the conceptualization of the function of using science for social innovation. Organizational questions are unanswered and the regional and national components need to be considered. The Association was very active with committees during the early development of the cooperative extension enterprise and counseled with congressional leaders of their time.

Second, there is a rising tide of public concern over institutional obsolescence. Many leaders are disenchanted with the "muddling through" process of institutional reform. Many areas of this public concern need to be made more visable and the people, including youth, helped to call on the university for research and educational support to meet their knowledge needs. The swine growers have done this with great success. The idea is to consciously enlarge the public support base for aiding research that is oriented to improve taxation, schooling, legal processes, waste disposal, etc.

Third, the Farm Foundation or some similarly interested support group needs, in the short run, to provide funds for enabling those universities which lead out to obtain counsel and to articulate for the benefit of others how they succeed, or not, in solving the many problems in their developmental task.

We can say for certain that if university leaders do not talk about how to achieve the capacity for social innovation and, if they do not try to conceptualize and organize to develop that capacity, then the capacity to use science in that way will not originate in the university.

APPENDIX

DETERMINANTS OF AN IMPROVING QUALITY OF LIFE IN CONTEMPORARY UNITED STATES SOCIETY

The quality of one's living is determined by a host of interrelated economic, social, cultural, political, psychological, and physical circumstances, any one of which can change in positive or negative direction. These circumstances which compose the quality of life might be subject to something akin to B. J. von Liebig's "law of the minimum." Applied in this case, the absence of any one circumstance considered indispensable to a quality life negates the influence of all others. Thus if one inhabited the most hospitable physical environment but lacked food, his life would be without quality. Another example is that of a man happily living in a satisfying neighborhood, who becomes discontented when a black family moves into the house next door. When this man's discontent becomes so great that he sacrifices his home and goes elsewhere, his life has lost quality. He loses his contentment because of his own hate, fear, and distrust and not because of any characteristic of the black family or of the physical environment.

It follows, then, that the above set of circumstances relating to the quality of life are socially dynamic; that is, they are moving, changing targets and they have a goal and value content linked to a resource content. This supposes then that an absolute quality of life would exist when the composite set of circumstances produced a life of complete satisfaction for everyone. This goal is unattainable but an acceptable degree of satisfaction can be maintained if persons feel that, on balance, progress is sustained toward the preferred or idealized circumstances. Catalogued below, but not necessarily in rank order, are some of these circumstances:

1. Growth in friendships and self esteem; reconciliation of hate, fear, and distrust. The constant enlargement of understanding and rationalization of self with the whole human kingdom.

2. Progressing individual productivity which supports desired growth in level of living (wealth). This level of living consists of a growing range and freedom of choice in the utilization of preferred amounts and quality of:
   a. Housing, food, clothing, etc.
   b. Communication, transportation, energy supply, etc.
   c. Avocation, recreation, etc.

3. Growth in the availability and quality, at acceptable per capita costs, of a range of public services, such as:
   a. Education for self renewal, creativity, and social enlightenment.
   b. Education for youth to develop human capital and culturalization.
   c. Governmental services for health, police, and fire protection.
   d. Public roads and transportation.
   e. Institutional systems for seeking, planning, and supporting desired ends in population growth, foreign policy, world peace, etc.
   f. A viable system of law, improved jurisprudence, and contemporary public codes.
   g. Etc.
4. A physical environment which is comfortable, beautiful, and variable and with control over hostile, unsafe, and disagreeable elements in the air, soil, water, sounds, and space.
5. An elected, representative, and responsive government which encourages new voices to be added to the decision-making process.
6. A growing individual and societal sense of hopefulness, individual freedom, satisfaction, and an anticipatory future of new experience. The conversion of uncertainty situations into risk situations.
7. Growth in the performance and quality of private services, such as:
   a. Institutional systems which foster greater incidence of human behavior which shows love, forgiveness, redemption, justice, and equity.
   b. Increasing choice and quality of consumer goods.
8. Other.