ORGANIZING AND STAFFING
COLLEGES OF AGRICULTURE

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My purpose in this paper is limited -- to identify and analyze four aspects of organization and administration that, in my judgment, will be critical in the future growth of the colleges of agriculture. These are planning, internal structure, college-university relations, and staffing. In none of these areas do I offer structural or procedural panaceas, principally because I doubt that any exist. The observations that follow are based mainly on some 350 interviews with agricultural administrators and faculty conducted as part of the Carnegie-sponsored study of American colleges of agriculture directed by Dr. Charles E. Kellogg. They do not necessarily coincide in all respects with the forthcoming report of that study.

Before turning to my main discussion I should like first to review with you those attributes that lend special organizational distinction to the American agricultural college. When taken together, these attributes constitute a conception of purpose and method that affects both positively and negatively the capacity of the agricultural faculties and administrators to adapt their organizations to the changing agricultural, social, scientific, and academic scene.

Organizational Attributes

American agricultural colleges have been guided throughout their growth and development by a belief that knowledge should serve people. In fact, among American academic organizations, agricultural colleges have been uniquely outward-looking or service-oriented. But not all have interpreted "service" in the same way. Some have assumed that the college serves society best when it gives forward-looking intellectual leadership to people. Others have interpreted service to mean responsiveness to what people themselves think they most need at any given moment. The two concepts, it should go without saying, are quite different.

Involvement with society has brought to the colleges a host of external relationships: some stemming from their role as instruments of cooperative federalism in agricultural research and education; some from their continuing service to a variety of special clientele groups. These group ties, both formal and informal, have had a powerful influence on organizational character. Bound into the fabric of the national agricultural establishment, college faculties have tended to draw their values more from other

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agriculturists than from the on-campus community of scholars. Outside loyalties and commitments have facilitated the colleges' capacity to act as agents of technological and social change, but they have also retarded at times their capacity to adapt as organizations to new situations.

Because they share teaching, research, and extension functions with many other private and public institutions, the role of the colleges within the agricultural establishment is subject to continuous change. What other institutions do or can be expected to do conditions the obligations that the colleges undertake. Their distinctive role would seem to be to act as pioneers, to experiment, to innovate. Work that the colleges initiate and prove feasible often is later taken over by business and government, with the result that college resources can be released for new endeavors in new fields. Often, perhaps too often, colleges have been slow to recognize that what was once innovation is now common practice, and thus, some have lagged behind in re-defining their role in the institution mix in modern agriculture. Perhaps this situation partly explains why business and industry have become such major innovating forces in agricultural technology today.

To a unique degree, the colleges of agriculture are tied together in an informal national academic system, a result principally of their status as grant-in-aid agencies for federal programs. In fact, agricultural college faculties and administrators talk to each other about mutual problems of education, research, and organization more than most academics. Although the consequences of inter-college ties are many, only two need be noted here. First, new programs and changes in old programs are readily communicated among college administrators and faculty. Thus, the time lag between innovations in programs in leading colleges and adoption by others is relatively small. In other words, for better or worse, conformity in program directions is strong among agricultural colleges. Second, college faculties have cooperated on a regional basis in research and to a lesser extent in other phases of their programs, but such regional cooperation has been less than one might expect. Although I do not discuss regional arrangements here, I believe that much more needs to be done and can be done to foster inter-institutional cooperation in the future.

In summary, at their best, the American agricultural colleges have been truly leaders and innovators. Their faculties have helped individuals, private groups, and public, agencies to anticipate and identify critical social and technological problems before they occur, and to design

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alternative solutions, ready for use when they arise. At their poorest, they have aided people, but by responding to needs already defined by clientele groups with knowledge already developed elsewhere.

Within their respective universities, the agricultural colleges are mainly centers of knowledge about the technology of renewable resource use and the sciences out of which technology grows. In this broad area, their faculties have concentrated on resource use for agriculture, broadly defined -- on knowledge about food and fiber, production distribution, and processing -- largely in the United States, but also lately, in emerging nations throughout the world. Increasingly, faculty specialists have departed from this traditional interpretation of purpose, seeking to advance and transmit knowledge about a wider range of problems: the effects of environmental change on plants, animals, and man; the viability of existing social institutions for improving rural human welfare.

I should note that many college faculties still interpret their mission as service to agriculture, defined mainly as improving the technology of commercial agriculture. It seems to me that the mission in rural areas must be much broader. The colleges themselves have helped to create, through education and research in technology, many of the social problems that Professor Ottoson has described. That the college has an obligation to help solve such problems seems both logical and inescapable.

In the decades ahead, we can expect the colleges to expand even more their range of interests, largely because, with structural changes in commercial agriculture, states will differ greatly in renewable resource patterns. Both the groups looking to the colleges for leadership, and the kinds of problems that will require their assistance, will become more diverse. With change, the fundamental challenge before the colleges is to preserve the best in their traditional organizational character, yet at the same time meet these many new demands and pressures. In other words, in the face of continuing change, the colleges will need to decide how they can best serve society by putting new and old kinds of knowledge to work in new and different ways for new and old clienteles. All colleges cannot and should not seek to meet the challenge in identical ways; for, with the agricultural revolution and urbanization of the nation, the role of the college as a knowledge center, devoted to service in the state, must perforce be different in different states.

Most colleges, in my opinion, have many faculty members who are cognizant of the implications of changing agriculture and society for their programs. Yet many seem baffled by how their colleges, as organizations, can adjust to the present, let alone 1980. The reason lies, I believe, in the basic fact that, despite its service outlook, the college of agriculture
is still and academic organization, suffering from all of its deficiencies as an adaptable form of organization. For a number of reasons, universities are not well adapted to rapid change and team action. Academicians, it has long been noted, may be radical in their ideas about how others should behave, but remain extremely conservative about modifying their own behavior patterns.

What follows is addressed to the problem of organizational adaptation to change. My comments are not in themselves radical, being more a suggestion of tinkering with present forms than general overhaul, a projection of future organization in terms of the possible rather than ideal.

Planning and Administrative Leadership

Confronted by urgent but often routine and repetitive operating decisions and pressed by external commitments, agricultural college administrators seem to find little time for long-range planning. Programs have been put together by deans mainly by a process of negotiation and compromise among departments. As long as agricultural faculties were knit together by common understandings of purpose and method, this short-range approach to planning and decision-making was probably feasible. 3

In a period of almost explosive change, however, such as the colleges have recently experienced and may expect to experience well into the future, neglect of long-range planning can leave the college without clearly conceived operational goals. With many competing, conflicting, and shifting professional, clientele, and institutional demands and pressures upon them, college faculties are being pulled in many directions. As a result, the short-run, the immediate, the power-backed, the prestigious, and the urgent propositions often tend to take priority over the significant in education, research, service, and the leadership to the community. Hence, without planning of operational goals and clear decisions on priorities among fields, functions, and levels of quality, the colleges are in danger of losing unity of purpose, of becoming followers rather than leaders.

Faculty self-studies such as those that have been common in recent years can help to chart future directions. But such efforts are essentially planning in spurts, leading to change by revolution. Planning in the colleges of agriculture needs to be regarded, in my view, as a continuing process.

As such, it encompasses **first**, a continuing survey of current knowledge and the prediction of future trends, accompanied by a review of existing programs; **second**, the design, as necessary, of new goals to meet future needs; and **third**, decision, the selection of appropriate means to attain goals.

College-wide planning is a joint responsibility of administrators and faculty, but, by necessity, the initiative, leadership, and especially the decision must rest with administrators.

Some have suggested that a special planning staff is needed in the office of the dean to collect information about trends, to design operational goals, and to help administrators evaluate the consequences of decisions allocating resources among various programs. Personally, I doubt that such a staff is either necessary or desirable. With a dean and two or three associates, almost all colleges are well-staffed administratively for planning. What is most needed is a perspective on administration that gives planning as high a priority as other activities. Moreover, I doubt that deans should interpose a special staff between them and their faculties, because to do so would easily increase a psychological and physical distance that is already too great.

The college faculty is the administrator's best staff for planning. Faculty members have or should have knowledge and insight on resource use and development trends. Through their work with agricultural and other group leaders, they are knowledgeable about informed judgments on how the college can best serve the public. And, if the faculty is alert to the latest advances in scientific knowledge, its members can be an invaluable source of ideas and speculation about future directions.

For effective planning, these faculty resources need to be marshalled, synthesized, and used systematically. Deans and their associates need to work and talk with their faculties about trends, not only in the various fields that lie within the college but also in those that lie outside yet impinge upon college functions. Substance, in other words, deserves relatively more attention than administrative procedures in dean-faculty relationships. At the same time, if administrators are to interpret knowledge about trends and translate such knowledge into effective operational goals, they must be sufficiently free from routine paperwork that they can set aside time to think, read, and contemplate about intellectual matters. As Lawrence Chamberlain, vice president of Columbia University, recently suggested, the academic administrator must fight to find time to preserve the intellectual acuity necessary to his job.

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Colleges of agriculture do not stand alone in the need to recognize planning as an integral part of academic administration. But because they are complex organizations, dedicated to the service of people, planning has special urgency for them. In summary, as the colleges need priorities of time and attention to plan effective academic programs.

**Internal Structure**

With their interdisciplinary approach to problem-focused research and extension, colleges of agriculture fit the definition of purposive organization better than most academic units. They are, in essence, organizations that bring together the knowledge and skills of specialists to accomplish well-defined objectives. Yet the internal structure of the colleges seems ill-adapted in certain respects to their basic character.

Like other schools, agricultural colleges have come to resemble confederations of autonomous departments, each of which has the power, because of academic budgeting and tenure procedures, to proceed along a relatively independent course. If college goals were constant and derived solely by adding up the professional objectives and clientele interests of the individual departments, then the freezing of money and manpower resources along departmental lines would be of little concern. But, as I have suggested, with the almost revolutionary state of change that now characterizes the colleges' working environment, operational goals and balance among programs and functions are always altering. Thus, it would seem logical that the organizational structure should be flexible enough to accommodate changing goals and objectives, as they are indentified through on-going planning.

In the past, colleges have coped with new problems and new developments in knowledge mainly by creating new departments. Subfields have been broken off from parent disciplines, and specialists with narrow commodity interests have been separated from more general departments. By breaking off departmental segments, the colleges have sought to innovate and escape from traditional patterns of thought about teaching, research, and extension functions. While many of these efforts have been successful, they have resulted in a departmental prolifeation that has simply aggravated the problem of frozen resources. Departmental funds and manpower have been tied to always narrower objectives. In the event of crisis, many administrators have been left with but one recourse -- to search out new funds for new manpower and new equipment to serve new purposes.

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Reorganization and consolidation are not simple cures for rigidity in administration. But they can be helpful if preceded by careful analyses of how work and knowledge need to be organized in academic units that combine teaching with research and extension. The fundamental need, it seems to me, is to get away from the idea that the departmental form of organization should be the basic, all-purpose administrative sub-unit of the college.

The department within the college of agriculture is probably best thought of as a pool of manpower with specialized knowledge in a broadly conceived discipline. As a social scientist, I do not pretend to have the competence to define the bounds of these disciplines. I am not dismayed by my incompetence, however, because I find that natural scientists themselves are now having difficulty in re-defining professional fields, in both agriculture and biology generally. The departmental faculty can offer instruction in basic principles and carry on individual and team research designed to advance fundamental scientific knowledge in a field. A disciplinary department can also serve as a professional base of operations for extension specialists.

The department, from this view, is an association of peers, with common subject matter interests and loyalty to a distinct professional field. But it is not an administrative unit for interdisciplinary, problem-solving research or extension. For this purpose, the time-tested device of the special institute, center, or interdisciplinary committee is a more suitable organizational form.

A "paper organization" with no faculty of its own, except a director responsible for planning and coordinating work and external relations, the institute or center may engage in graduate teaching as well as research and extension. It draws upon the staff of disciplinary departments for technical skills and knowledge, but it is not identified with any single department, remaining directly under the supervision and control of the college administrator. If the institute or center has objectives that are clearly long-range, many departmental members may be assigned to it on a continuing and almost full-time basis. Yet, because it remains without tenured faculty in its own right, the institute, center, or committee can be dissolved with relative (and I stress "relative") ease, and its members shifted to other purposes whenever this is deemed necessary.

This approach to internal structure that employs two separate, but equal, organizational forms does not automatically guarantee flexibility and adaptability in administration. New organizational emphasis need to be accompanied by administrative leadership in budgeting and staffing that

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10 Millett, op. cit., p. 84.
facilitates change. Specifically, to make a dual internal structure effective, deans need to take a more active role and department heads a less autonomous role in deciding how staff time should be allocated. In other words, the dean must work directly with both institute or center directors and department heads in deciding where existing talent can be best used. In addition, college administrators probably need discretionary funds to a greater degree than most academic administrators, mainly because the need for new programs in agriculture does not necessarily coincide with budgetary cycles.

**College-University Relations**

Earlier I stated that colleges of agriculture have looked outward to the agricultural community more than inward to the community of scholars. Gradually, this perspective has been changing, so that agriculture is no longer the autonomous part of the land-grant college or university that it once was. In teaching, the agricultural faculties depend upon knowledge centered in other colleges for as much as 60 percent of the education of undergraduates; moreover, as the experiment stations are faced by problems not easily solved by empirical techniques, college research faculties have become more dependent upon the basic natural and social sciences and mathematics. Yet barriers to effective working relations between the agricultural college and the rest of the university remain; some are barriers of the mind, some barriers of organization. I am concerned here with one aspect of the latter.

For many years, the agricultural college was the only component of the land-grant university organized and staffed for research and extension services, just as it stood alone in its involvement with public and private groups. Hence, departments outside the college were poorly equipped to help solve the many social and technological problems that perplexed rural people. For these and other reasons, the colleges sought only occasionally to draw upon the knowledge and skills of other departments, and then, often with only indifferent success.

Now organizational barriers are disappearing. Land-grant universities are beginning to organize, staff, and finance themselves so that they can serve society as a whole just as colleges of agriculture long served one segment of society.\(^{11}\) Non-agricultural departments are being staffed with extension specialists. Hopefully, as this occurs these departments will adopt and make use of the problem-solving approach to knowledge that has led to agricultural college success. Field organizations and extension centers are being established to move knowledge outward to the community. Urban and suburban groups, long untouched by the land-grant university, are looking

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\(^{11}\text{Clark Kerr, *The Uses of the University* Harvard University Press, Cambridge, Mass., 1965.}\)
to it for leadership and technical assistance. While the college of agriculture is thus losing its uniqueness, it now has new opportunities to integrate its activities with those of the parent institution.

Decisions on organizational relationships with university-wide extension programs now confront college administrators and faculty in three general areas:

First, if, as I anticipate, land-grant universities continue to decentralize with regional campuses and extension centers, agricultural colleges need to decide which, if any, of their main campus instructional programs can be decentralized; how much extension education at the county level can be centralized to regional centers; which and how many extension specialists can be located at regional sites; and how much "adaptability research" can be transferred from the main campus to extension centers or branch campuses.

Second, they need to decide whether and how they can organize problem-solving research and extension services for urban and suburban groups, and whether traditional methods and organization are adapted to these different clientele.

Third, colleges need to explore and determine the feasibility of new patterns of contractual and cooperative relationships with non-agricultural departments, for both organized research and extension services to rural clientele. Most especially, they need to decide how and in what ways the social sciences, law, and humanities relate to the needs and problems of rural people. In this respect, it might be worth noting that, in the future, colleges of agriculture may well need to allocate more of their funds for coordinating research and extension efforts outside the college proper, and less for their own operations.

As these questions are resolved, we can expect organizational patterns for off-campus services to differ greatly from state to state. What California or Missouri or Wisconsin does will not necessarily be the model for all. But it is difficult to believe that any college of agriculture for more than a decade can escape making decisions on how to relate extension services, backed up by research, to the broadening activities of the university as a whole. In the process, the college will understandably and necessarily guard against any inroads on the combination of teaching, research, and extension in the disciplines that lie within it. But this does not mean that the college need refrain from making its knowledge widely available to new groups or from searching for new ways to better serve old groups.
Staffing the College

Because colleges of agriculture differ in the scope and mix of functions that they perform, the faculty size, composition, and distribution among fields must also vary. However, we can state several propositions that apply equally to most colleges of agriculture.

First, the faculty of the college will probably remain a corps of specialists with training in the natural sciences and the economics of agriculture and renewable resource use. As I have implied earlier, the colleges need not and should not build a faculty that encompasses all fields of knowledge or set up special agriculturally-oriented departments or sections of established disciplines. When knowledge outside the usual areas is needed, the college can and should augment its own resources by contractual or cooperative arrangements for the services of specialists from other colleges.

Second, while most colleges give lip service to equality among their teaching, research, and extension obligations, many tend to hire faculty mainly for their research potential. If the colleges are to have continued strength as teaching and service institutions, procedures need to be developed that weight all functions equally in hiring, budgeting, and promoting faculty. These will be especially important for those colleges that wish to stress quality in under-graduate education as the key to strength and vitality in all of American agriculture.

Third, it is perhaps axiomatic that a college's capacity to adapt to change, like the quality of its programs, is governed by the quality of its faculty. Thus, while referring to the agricultural faculty as specialists, I assume that they should also be men and women with broad training and intellectual interests. Perhaps the faculty qualities required are self-evident; but, even if they are, they deserve repetition in some detail.

The agricultural specialist, as much as any other scholar, needs depth of knowledge, intellectual discipline, and breadth of view. Because progress in agricultural technology no longer comes from purely empirical investigations, he must be well educated in the basic sciences and mathematics, capable of adapting the exponential growth of knowledge in these fields to his own. Like specialists in other fields, the agriculturist must understand the scientific method, be able to identify and design research projects around critical questions, and interpret results. The intellectual discipline that gives rise to such understanding and capacity is essential, one might note, in teaching and extension as well as in research. (In fact, I see few if any necessary distinctions in the backgrounds of teaching, research, and extension faculties in the future.) Perhaps even more than most, the specialist in agriculture needs to be outward-looking beyond his own field, able to perceive the effect of a wide variety of forces and events -- scientific, technological, and cultural -- on his own specialty.
The faculty in the college of agriculture must also be knowledgeable about conditions within the state and responsive to the needs of its citizens. Some colleges in the past in hiring faculty for teaching, research and extension, have tended to emphasize familiarity with local environment and capacity to work with local people. While these qualities are important, it seems likely that a faculty serves people most effectively when it gives them intellectual leadership. Quite probably, the more cosmopolitan the college faculty is in geographic and intellectual experience, the more sensitive it will be to its leadership role, anticipating potential problems in advance and having solutions available when crises occur.12

To reiterate, now and in the future the agricultural college requires teaching, research, and extension faculties who are truly professionals and subject-matter specialists; capable, by reason of training and native ability, of growing intellectually and professionally throughout a lifetime, of shifting intellectual gears when the times demand; unwilling to rest on past laurels or the tenure plateau when change in college programs seems necessary. The need, in other words, is for scholarship and intellectual vigor as high in quality as any in American higher education.

Colleges of agriculture, unlike many other academic institutions, have the power to determine far in advance the basic quality of their faculties. Most of the men and women who staff teaching, research, and extension programs are educated in land-grant colleges. By offering undergraduate students an education that is broad, grounded on basic principles of science, and conducive to intellectual self-discipline, the colleges can do more not only to attract young people of quality to their doors, but also, simultaneously lay the foundation for teaching, research, and extension faculties that are creative, service-oriented, and adaptable to change.

Remembrance of Things Past

The colleges of agriculture have had a great and, one might say, glorious past. As much as any other social institution, they have helped to make the United States a nation with abundant, low-cost, high-quality food produced by an ever-diminishing labor force. More than most colleges, they have worked directly with laymen to transfer knowledge into material well-being. As a result, they have enjoyed power, prestige, and status in their universities, states, and the nation.

Remembrance of these past glories is perhaps the greatest deterrent to adjustment to the future. Faculties and administrators, like other members of the agricultural establishment, have difficulty understanding why their service to the nation now seems to count for less than it once did.

The public, they say, simply does not understand or appreciate modern agriculture and its importance to the nation. In part they are right. Yet, if the colleges seem to receive less credit and acclaim, it is also because our urban, industrial, internationally-involved nation now has more worries and more varied worries than it did in the simpler days of yesteryear.

Past power and glories may be gone, but new power and new glory lie ahead -- yet only if the men and women who are the college of agriculture possess confidence in themselves and demonstrate their own capacity to innovate and lead. College faculties and administrators need to explain modern agriculture, and their own role in it, to the public. Yet they cannot permit the search for understanding and appreciation to over-ride an even greater need to reduce time-lags in redefining their leadership role in American agriculture and American society. In this process, no change in organization or procedures can be an effective substitute for the will to decide, to make choices, and to depart from tradition, once all the facts and opinions about the substance and direction of change are in.