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ABSTRACT

This paper aims to identify major problems in professional education which appear common to all professions. The 4 categories of problems considered are: establishment of an identity and purpose, organization of instruction, relations with other units within the institution, and relations with external agencies. It then discusses, through an analysis of interviews and documents, how these issues apply to the practice of professional education at The Pennsylvania State University. The final section translates the concepts of the literature and the analysis into implications for the larger society. (JS)

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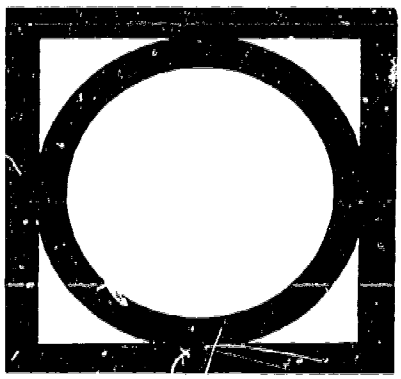
Professional Education: Some Perspectives, 1971

Larry L. Leslie Kenneth P. Mortimer G. Lester Anderson



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Introduction

The education of society's professionals* has been a principal function of the American university since its inception. Although it is difficult to assess accurately the exact scope of professional education in institutions of higher education, one can safely estimate that as many as half of all baccalaureate degrees awarded are in professional areas, while almost all graduate programs prepare students for entry into a profession.

The state of present knowledge concerning professional education is impressive on one dimension and sporadic on another. There is abundant published material and substantial research on various aspects of specific occupations. In fact, there is scarcely a single occupational group that has not been commented upon and investigated. The favorite topic concerns means of identifying potentially competent

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*There is little consensus as to the precise meanings of the terms, profession, semiprofession, and professionalization in the literature. Vollmer and Mills, (1966) for example, define a profession as "an 'ideal type' of occupational organization which does not exist in reality." Howard Becker (1962) refers to professions as "those occupations which are fortunate enough to have obtained and maintained the title." Since our objective is to examine the occupational preparation that is carried on in institutions of higher education we will limit our definition to those occupations so concerned. However, because many such occupations are not popularly considered to be professions, we will also use the term paraprofession to refer to technical and supporting occupations. Our definitions then are merely functional and are not necessarily intended to define precisely the true nature of a profession.

students, at which few studies have been particularly successful. Frequently, the individual professional associations have commissioned their own task forces to investigate "the status of the profession," while most professions have been further examined by individual scholars who are usually members of the profession undergoing investigation. Although there may be a few professions that have not received full coverage, even a cursory review of the professional journals reveals an abundant supply of relevant commentaries. (For example, Beggs on the education of teachers, 1965; Blood on veterinary medicine, 1955; Boehm on social work, 1959; Association of American Law Schools, 1961; the Association of Collegiate Schools of Arts and Architecture, 1954).

There is, however, no such abundance of materials contrasting occupational groups or seeking to generalize across professions. There have been a few studies (National Advisory Commission on Health Manpower, 1967; Walther, et al., 1968; Blauch, 1955; Cartter, 1966; Wilensky, 1964) that have contrasted a small number of professions (usually three or four); but most of these studies have considered a single or only a few variables. Only the works of McGlothlin (1960 and 1964), who contrasted the educational programs of ten professions on several major components of professional education, are broadly comparative in nature. The National Society for the Study of Education Yearbook (1962) presents case studies

of education for four professions in a single context and also treats the graduate school as a professional school.

Probably the most accurate generalization about the nature of research in professional education is that it has too often been lacking in rigor, lacking in quantity, and narrowly confined to a single profession and/or to extremely limited dependent variables. Up to date research that would yield knowledge of broad inferential value for the several professions, is conspicuously lacking.

This paper attempts to identify the major problems in professional education which appear common to all professions. It then discusses, through an analysis of interviews and documents, these problems as they apply to the practices of professional education at The Pennsylvania State University. The final section translates the concepts of the literature and the analysis into implications for the larger society.

Problem Areas in Professional Education

One of Anderson's (1962) strongest contentions was that, although members of the individual professions usually believe their problems to be unique, their major difficulties are usually shared by other professions. His fifteen general problems, which most professions and systems of education of professionals share, are condensed into four categories in the following discussion. The four categories

are: establishing identity and purpose, the organization of instruction, relations with other units within the institution, and relations with external agencies.

Establishing Identity and Purpose in Changing Times

Professions, whether recognized or emerging, all have problems of establishing and maintaining objectives and identity in order to gain a degree of prestige for their efforts (Anderson, 1962, pp. 14-15). For an older profession, such as medicine or law, the problem is one of maintaining and improving standards of professional practice and responding to changing societal needs. For a newer profession, such as one in the health services, the problem is to develop standards and to gain public recognition of the profession's unique functions.

For example, in order to establish a separate identity, schools and institutes of public affairs have sought separation from business schools and departments of political science. Public affairs schools and institutes train practitioners for public service and conduct research on questions of public policy. Questions of identity involve: How do these schools differentiate the management of public bureaus from that of business corporations? Why is it necessary to separate trainees for the management of public service agencies from trainees for business?

Another aspect of this identity problem is reflected in the

term, legal or medical "profession." The former includes attorneys, of course, but is or should it be limited to identifying only those who practice law in the courts? Should the legal profession also include systems which administer the law, such as the courts and the prisons, as well as the occupations which enforce the law? Similarly, the term medical "profession" may refer, in some cases, only to doctors and in other cases to the entire process of diagnosing and curing illnesses, thus including doctors, nurses, radiologists, x-ray technicians, etc. It may also include professional personnel who practice preventative medicine in public health.

The identity and purposes of some professions are being rapidly altered by changing societal needs. Advances in agricultural technology have relegated the small farmer to near oblivion and have increased emphasis on large agricultural production agencies. This has helped to cause shifts in many schools of agricultural from production oriented technology -- how to grow fatter hogs -- to process orientation, which focuses on how to maximize profit, how to optimize the delivery of products to the markets, and how to enhance the marketing of these products. Some schools of agriculture have responded to this shift in the orientation of practitioners by offering more courses and majors in such areas as economics, marketing, and the pure sciences.

Shifts in the nature of a profession and the educational programs which support it often take generations to be communicated to potential students and the public. The dean of the College of Agricultural Sciences at a large public university in the West explained in an interview, that his college had dropped much of the practicum portion of agricultural education in favor of a stronger emphasis on core areas in the basic biological (e.g., genetics, entymology, and parisitology) and social sciences, (e.g., economics and sociology) The dean claimed that his college could suitably educate a large portion of undergraduate students now enrolled in traditional liberal arts colleges. The basis problem as articulated by some agriculture school leaders, is how to communicate this change in the educational mission of colleges of agriculture to potential students.

A profession, in addition to keeping its image current, has problems with the type of student it recruits and admits to its programs. Paul Heist's research on students entering medicine, engineering, law, and dentistry showed that the backgrounds of students in these four professions were about as diverse within the groups as between them. That is, there was as great a variation in the backgrounds of entering medical students as there was among dental, engineering, and law students. He also showed that there were varying ability levels within each of these professions and

that no one group consistently drew intellectually superior students. All the ability scores in these four professional areas were however, somewhat lower that those of graduate students in the physical sciences. There were some differences among these professional groups when personality orientations were considered. The engineers and dentists were most alike in that they tended to be more conservative and authoritarian than doctors and lawyers (Heist, 1962).

In other research Heist (1960) compared medical students with dental students and found that they had similar personality profiles, although medical students tended to be somewhat more theoretical, less economically oriented, less religious, and less pragmatic than dentists. Dental students tended to have a higher concern for order, organization, and general persistence and endurance. He concluded from these and other data, that dental students are not oriented to becoming research scholars. He argued that the research emphasis so badly needed in dental medicine will require different student selection or recruiting practices. This will require recruitment outside normal channels or more attention to the personality characteristics of potential students. This point is supported by McGlothlin (1964, p. 102) who states that a basic problem of professional education is how to get theoreticians to advance research in pragmatic areas. This is a fundamental problem of identity and purpose in the profession. Pragmatic or technically-oriented

professions are not likely to attract people with "theoretical" interests whose major concern is research and advancing knowledge. This research function is not generally thought of as essential to the basic nature and identity of a profession.

The Organization and Substance of the Curriculum

Historically, education for the professions has experienced a fundamental dilemma about the extent to which instruction should blend theory and practice. Brubacher and Rudy (1968, pp. 202-223) state that "preparation for one of the traditional, learned professions--law, theology, or medicine--has always had the two dimensions of theory and practice." Under the historic apprenticeship system the chief accent fell on practice:

> "...important as was the mastery of the details of professional practice, theoretical considerations were not omitted. Theory, the apprentice mastered out of books. But here he did not so much pursue a systematic course of readings as he read widely and deeply from whatever library his practitioner happened to possess." (pp. 202 and 203).

The theory and practice question takes many forms in professional education. In contemporary times there is a fundamental dilemma about the relationships between the pure sciences and the practice of scientifically oriented professions, such as medicine and dentistry. What should be the basic core of pure science courses offered to pre-medical students or pre-dental students?

In other professional areas, such as social work, the dilemma poses questions as to what comprises the necessary field work component of the social work degree, especially at the master's level (McConnell, 1968). In business schools and programs there is often a concern about the balance between class work and administrative theory and practical training for entry level jobs in business and public service. Some business educators argue for a stronger practical or job entry level preparation and tend to be critical of a heavy theoretical orientation, especially at the undergraduate level.

A particularly relevant aspect of this problem is reflected in determining what kinds of institutions should train professionals. There seems to be an increasing emphasis towards developing the practicum aspects of professional education in community junior colleges or two-year technical institutes. Universities are increasingly placing the emphasis on theory, and faculties tend to relegate "how to do it" courses to lower status. According to Anderson, (1970) Harcleroad et al., (1969) and Dunham, (1970) the state colleges and regional universities are particularly well adapted to many of the traditional programs for educating professionals. Teacher education is a predominant function of state colleges, as is business education. Perhaps, a greater differentiation of function among the various components of higher education--i.e., community colleges, state colleges, universities,-- would

result in a clarification of roles for professional education among these three types of institutions.

Part of another aspect of the problem of organizing curricula for professional education is reflected in the following question: To what degree and at what point in his formal educational experience should a student specialize (McGlothlin, 1964, pp. 38-46)? McGlothlin has shown that professions vary a great deal in the proportion of their curriculum devoted to arts and sciences, to the professional studies, and to the application of professional skills. Dentistry tends to devote 50 percent of its curriculum to the traditional arts and sciences, 25 percent to professional studies and 25 percent to application, whereas veterinary medicine devotes approximately one third of its instruction to each area (McGlothlin, 1964, p. 38).* Law entails 50 percent arts and sciences and 50 percent professional studies, with practically no time devoted to application. The profession of architecture devotes only 12 percent of its curriculum to the arts and sciences and 88 percent to what are termed professional studies, whereas social work devotes two-thirds of its time to arts and sciences and only 16.7 percent each to the professional studies and application. Engineering devotes 82 percent

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*These and subsequent percentages pertain to the total post-secondary education; for example for medicine, dentistry, law, and social work a baccalaureate degree largely devoted to the arts and sciences is presumed as well as the two, three, or four years of post-baccalaureate education.

to professional sciences and is the next highest in this category. It is not difficult to see that some of the professions devote a significant amount of their instructional effort to "the professional studies" and that the range is wide.

Many professions are involved in a debate as to the extent of formal education needed to achieve competence. There are nominally four degree levels in professional education: the two-year degree or certificate, the four-year baccalaureate degree, the master's degree and the doctoral degree.* At the one extreme dentistry, medicine, and law are almost entirely graduate studies (McGlothlin, 1964, p. 46). Next in order is social work in which the master's degree is considered to be a necessity. Some professions exhibit ambivalence as to whether graduate or undergraduate education should be the mode. Many universities have five-year master of business administration and master of arts in teaching programs, but also offer baccalaureate options. The master's degree in many special areas of psychology is based on an undergraduate psychology major. Other professions, such as agriculture, engineering, and nursing, tend to concentrate on training their students in the undergraduate years.

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*Only recently has there been a trend to award other than a baccalaureate degree to the graduate of a law school.

Professional schools have a special need to remain current with societal developments in their field. No professional school can long afford to lag behind practice. At the same time the practicing professional needs to know how his field is developing. This puts an increasing and more than ordinary emphasis on the function of continuing education for the professions. Is knowledge in the professional areas expanding so rapidly that annual or biannual refresher courses are needed for practitioners? Should licensing procedures on the state level require that professionals take refresher courses periodically before a license is renewed? If so, who should provide such refresher courses -- the profession, the professional society, or the university? The function of community service and continuing education is often regarded as one of the particularly important missions of community junior colleges. Are these post-secondary two-year institutions staffed to provide continuing services for such advanced professions as medicine, law and dentistry, or should their continuing education programs be limited to providing training for paraprofessionals?

Professional School Relations within Institutions of Higher Education

With few exceptions all professional schools are established as part of a university structure. The exceptions come mostly in areas of the older professions such as law, medicine, theology, and pharmacy, their

being several independent colleges, unaffiliated with universities, for each profession. Within institutions, all professions except clinical psychology seem to have at least departmental status. There are serious questions as to the extent of autonomy such professional schools and/or departments should be granted within university structures.

Some medical schools have argued for a separate status for their organization with an administrative dean reporting directly to the president of the institution (McGlothlin, 1960, p. 172). The Law School at the University of California at Berkeley has, until recently, been a separate entity independent of many normal university controls. Only in the recent past, has the Law School at the University of California, Berkeley, had to submit its faculty to the normal evaluation review procedures followed by the other schools on the campus. The medical school complex of the University of California at San Francisco is physically separate from other campuses of the university and reports directly to the president.

More typically, however, professional schools are located within the traditional decision-making structure of the university. Some professional areas are organized as separate colleges and report directly to the central administration while other professional areas are organized as departments within existing core colleges.

University structures are replete with schools of social work, public health, engineering, education, agriculture, and physical education. Other professional areas, such as journalism, may be organized with departmental status within existing colleges of liberal arts or communications.

What review should the university exercise over the activities and development of professional schools? At the graduate level professional schools typically have the autonomy to select their own graduate students. At the undergraduate level, should the professional school admit its own students or should it rely on the general admissions policy of the university? It has already been pointed out that the selection and recruitment of potential students is a fundamental area of concern for professional schools. Obviously a central university admissions policy makes it difficult for a professional school to control its own undergraduate enrollments.

The recruitment, selection, promotion, and retention of faculty members is often an area of conflict between professional schools and the university. Those universities which tend to be dominated by a research ethic are often not overly sympathetic to the special concerns of professional areas. For example, the schools of law at the University of California at Berkeley and the University of Minnesota seldom hire faculty members below the associate professor

level. Among other reasons that imply custom, this practice is due to the assumption that salaries for practicing attorneys are such that no law school can recruit good faculty members willing to come to the university at a salary level of an assistant professor. In institutions where salary levels are fixed, law schools may attempt to get special salaries for their faculty members in order to respond to the salary differentials between the university and the marketplace.

Another problem for professional schools is how to secure appropriate consideration for non-research activities that are an essential part of the professional faculty member's duties but not so for faculty interdisciplines. Special salaries and a heavier consulting load for the professional faculty member often results in conflict with traditional research-oriented disciplines. A profession, by its very nature, often requires more of a practicum or practice-oriented component in the qualifications of its faculty members. Should the university tend to evaluate research strongly in its promotion considerations, professional schools may find this unacceptable. The dean of the School of Business Administration at the University of California at Berkeley stated in an interview, that he found it necessary to appear before the central campus review agency to argue for a special consideration in the promotion of faculty members in his school. He argued that the

School of Business wanted to have its faculty evaluated in areas of professional service as well as teaching and research because such service is of greater importance in qualifying some of these faculty members.

Another governance problem resulting from the location of professional schools within university structures is that of the relations between these schools and the traditional liberal arts. Many of the arts and sciences components of professional education are offered by colleges of liberal arts, science, and other core areas within the university. Professional schools often complain that these courses are not sufficiently tailored to the special requirements of their students. For example, courses in statistics offered by the statistics department are often critized as too theoretical for students in education and social work. These schools often prefer to offer applied statistics courses or other research courses relevant to the profession. Similar problems occur in science courses enrolling both professional students and science majors. In some cases these concerns result in a professional school's desire to take over instruction in these basic areas for its own students.

The relations between professional schools and the liberal arts are often tense over the general education or liberal arts component of professional education. Universities typically have

a general education requirement for all undergraduates, and this is a source of concern to some professional schools. The conflict is illustrated by engineering colleges which have been critized because of their relatively rigid requirements for undergraduate majors. But engineering schools are being pushed into even less flexibility by the urging for increased social and humanistic coursework. Meanwhile, engineering educators tend to be most concerned with preparing their students for entry level jobs and with providing the skills necessary for adequate performance in those jobs.

External Relations

An essential part of the mission of a profession is service to society conducted within explicit boundaries set by the profession. As a result professional schools are intimately involved in relations with agencies external to the university. Most professional schools are accredited by professional agencies which are national in scope. Teacher education programs are accredited by the National Council for Accreditation of Teacher Education, chemistry curriculums are accredited by the American Chemical Society and other professional schools, such as engineering, nursing, dentistry, and law have to comply with standards set up by their national accrediting agencies. The regulations of these bodies significantly restrict the university's autonomy to develop or

change programs (Capen, 1953, pp. 232-271).

Some of the newer and rapidly changing health sciences professions are particularly concerned with solving some of society's pressing problems. For example, there is increasing sentiment for reorganization in order to develop a greater emphasis on preventive medicine. It is generally acknowledged that the medical profession has concentrated its efforts on curing diseases rather than preventing them. The evolution of new professions in the health sciences will require a dialogue between the university, which trains these professionals, and the social agencies that are responsible for the delivery of health care. How can social workers physicians, nurses, and therapists work together to create a comprehensive program for the delivery of such badly needed health services?

Professions are engaged in a continuing dialogue over what their responsibilities are for developing answers to the pressing social problems of our time (Rosenstein, 1968). Do engineers have a responsibility to develop an alternative to the internal combustion engine and thereby lessen the problem of air pollution in our country? Do highway engineers have a responsibility to preserve our natural resources and wildlife areas? Do these same highway engineers have a responsibility to maintain the aesthetic quality of the areas surrounding the roads they build? The

increasing societal concern with ecological problems has placed a great deal of importance on answers to such questions as these.

Thus the problem areas in professional education are shared by most professional fields. Newly emerging professions need to establish objectives and identity, while recognized professions are confronted with the need to improve standards and respond to changing societal needs. Objectives and identity are influenced by several factors involving physical location, nominal identity, and alteration due to a changing society, and the type of student applicants.

Second, the organization and substance of curricula directs discussion as to the blend of theory and practice, the kinds of institutions that render professional education, the point at which to specialize, and the extent of formal education needed to achieve competence.

Third, professional schools within institutions of higher education experience a particular set of problems revolving around autonomy and governance, including faculty review, student admissions, and curriculum and course work composition.

Fourth, most professional schools are closely associated with society through the medium of their respective professional agencies, from which they gain valuable feedback and view social reaction. This relationship allows access to dialogue concerning things as

standards, interprofessional programs, and responsibility to society.

Professional Education at The Pennsylvania State University

In a preliminary effort to judge the nature and intensity of problems related to the four general areas, the authors of this paper conducted interviews with each college dean at Penn State during fall 1970 and winter 1971 terms, and relevant documents were analyzed. The interviews were exploratory in that they encouraged free and open responses to the general areas discussed in the preceeding section of this paper, and they lasted approximately one hour. The principle documents relevant to this analysis were The Penn State Source Book, and the program plans for each college for 1970-71 to 1974-75. The Source Book contains factual information about the University and the plans provide an overview of the program emphases of each college. The results of these interviews and documentary analyses provide a dean's perspective of professional education at Penn State.

The data indicates that there is no crisis in professional education at Penn State, though the deans are concerned about such typical problems as the lack of adequate funds and other resources. In general and rather cautious terms the deans were most concerned with how to expand their graduate programs and enrollments and

least concerned about their relations with external agencies. They tended to be less concerned about alleged oversupplies of professionals as reported in the media, the quality of their undergraduate students, and their relations with other colleges within the university.

Identity and Purpose

In a speech to future home economists, Anderson (1967) described several occupational types, one of which was the group of "striving" occupations. These are the professions which do not enjoy the high prestige of the older, more established professions. They are the occupations that strive toward full professional status though their public image reflects that they have not yet "arrived."

Especially in striving professional schools, deans expressed a clear frustration, though perhaps resignation, to their public image. Inaccurate though it may be, athletes often project a non-scholarly image, as do teachers and librarians. The study of agriculture is often thought to be only for farmers, and engineering has the image of being extremely pragmatic and nonhumanistic. The problem is perhaps less serious than it might be because members of these professions realize that such public views are largely stereotypic; but the ability of these professions to recruit a sufficient supply of able students with orientations that run counter to the stereotypes is sometimes impaired.

In only one case, however, did a dean complain that the quality of students in his college suffered as a result of the profession's image, although the interview process may not have been suited to eliciting reliable information about the ability levels of students. It is clear that the opinions of deans varied in regard to desirable quality levels, with one dean favoring essentially open admissions to his college while others desired more selectivity.

The typical comment about the student supply was simply that not enough persons could be recruited to meet the demands of prospective employers. This is a curious reaction in light of the highly publicized reductions in the number of personnel recruiters visiting American campuses. With but very minor exceptions, the affected deans either charged or implied inaccuracies in the press; they insisted that there is very little oversupply of graduates in such areas as business, engineering, human services, mining, and certain teaching areas. In explanation they said that oversupplies exist only in very specific occupational areas, that current oversupplies do not reflect the needs of four or five years hence, and that often the press is grossly misinformed.

Perhaps the student-related matter of greatest concern to these deans was the ratio of undergraduate to graduate students. Although there were a few exceptions, the deans thought that the proportion of graduate students was too small. The College of

Business Administration, for example, would like to concentrate its instructional effort at University Park in upper division and graduate work. The Colleges of Business Administration, Human Development, Engineering, Health, Physical Education, and Recreation, and Liberal Arts, and the Capitol Campus all had plans to expand their graduate enrollments. (The Behrend and King of Prussia Graduate Centers also offer graduate instruction.) The expansion of graduate education at Penn State appears to be a pressing problem, and it is unlikely that the situation will improve without a substantial increase in financial resources for the support of graduate students. Located in a rural area, the University Park campus offers limited opportunity for employed professionals to study part-time. Commuting distances are too great.

Curricular Issues

Institutional problems related to the curriculum include the quality of teaching, the balance of theory and practice, the issue of specialization within professions, educating paraprofessionals, and continuing education. Again several patterns emerged.

The deans pointed out that there is a natural advantage to teaching courses in which students are interested and which are obviously relevant to student needs. When the applicability of knowledge is evident, motivation is likely to rise.

The attitude sensed at professional schools was that teaching was taking care of itself, with the result that there was very little innovation in teaching. The typical comment in this regard was that "our teaching is probably a little better than that in other colleges." In only one college was a specific effort made to improve the quality of teaching.

Nor was there widespread concern with the balance between theory and practice. While literature indicates that college and university faculty generally desire more theory and less practice, and practitioners and students demand more practice and less theory, the deans did not perceive this balance to be a serious problem. Rather they observed that their college's program balance was "about right." A single dean experienced alarm that the professional schools were moving away from interships and apprenticeships and toward much more basic research.

Several deans complained that too often students are prepared only for entry level jobs, implying that preparation was not theoretical enough. Two deans articulated in some detail the problem of specificity in preparing professionals for entry level jobs, as opposed to broader and/or more general training. One dean pointed out that the skills learned in his college prepare students for entry level positions, but he noted that ultimate success as a practicing professional may depend more on being able

to mobilize community elements to get a bond issue accepted or being able to make managerial decisions. Yet these prospective professionals get no management courses during their formal education.

In another case a dean complained that practices in human services and health care delivery systems are changing so rapidly that his college is faced with the prospect of training students for jobs which may not exist in five years and not training students for the new positions which will exist. If training is too specific students may be incapable of shifting their skills and interests into the newer professions; if training is too general students may finish their formal education but still be unemployable.

In general, however, there was little expressed opinion that overspecialization was a serious matter; in fact, there were as many deans voicing concern over underspecialization. One dean suggested that graduates of specialities within his college are largely transferable, although business and industry do not seem to appreciate this fact. One college has recently revised its curriculum to produce graduates who are more generalists than formerly. In another college, however, the dean favors preparation of graduates who would deal only with a segment of their present clients. In yet another college the dean commented that there are now six specialities in an area where only a few years ago there were none. In his view, "Such specialization is nonsense."

There was one area, however, that could not be characterized as an area of calm and stability. The magnitude of programs to prepare paraprofessionals is of startlingly large dimensions within certain colleges at Penn State. Deans seem to be uniformly convinced that the education of the paraprofessional is a positive development or that it is at least inevitable. They see paraprofessionals assuming tasks that do not require the skills of full professionals, a trend that they believe will rectify shortages in certain fields. There is a general concern, however, about the coordination and supervision of these programs because most of these students are enrolled at locations other than University Park.* This concern did not seem to be a matter of the deans questioning the competencies of persons on other campuses, but was rather a sensing that they have responsibility for programs over which they have very little control. Similar concerns about

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*As of July, 1970, the University had authorized 18 Associate Degrees in approximately 25 program areas (Source Book, p. III B-16). In the Fall, 1969, 3623 full and part-time students were enrolled in associate degree programs, or approximately 8 percent of total enrollments. All but 97 of these were enrolled at the Commonwealth campuses. Sixty-five percent (2314) of these 3,623 students were enrolled in engineering programs, such as: Drafting and Design Technology (1138), Electrical and Electronics Technology (951), and Surveying Technology (128). Another 18 percent (637) were enrolled in the Business Administration program. Other associate degree programs include Liberal Arts (225), Forest Technology (138), Retailing (77), and Hotel and Food Services (71).

coordination and control were expressed in regard to continuing education programs which are also of enormous size although they are diminishing slightly in some colleges.

Intrainstitutional Relations

The fact that the deans articulated excellent relations with other colleges and with the central administration emerged as a striking general pattern in the area of intrainstitutional relations. There were very few of the anticipated reports of squabbling among colleges, and little concern was expressed about relations with the central administration. Deans did not volunteer complaints about insufficient budgets, nor did they perceive any problem in promoting faculty members except in a few cases where full status to the graduate faculty was sought. The lack of difficulties in promoting faculty members is somewhat surprising since professional faculty are often recruited for their professional expertness -- a strength that supposedly counts for very little in academic promotion within universities. Though a few concerns in this area were expressed, the intensity of these problems was generally minimized by the deans.

A synthesis and weighing of the interview data, however, suggest that these problems may in fact be of considerable importance. Perhaps the biases of our sample are most apparent in the

area of intrainstitutional relations. By choosing to interview only deans we have probably secured a view not representative of, for example, faculty members' opinions. In illustration, one dean was asked if he experienced any conflict in his relations with other schools. His answer was "no," that these relations were "normal." Subsequent questioning, however, revealed many problems which others might classify as "touchy;" but this dean regarded them as normal administrative problems.

Perhaps the most serious issue, in terms of its potential effect upon the operation of the University, concerns the difficulty in coordinating interdepartmental efforts. It was clear that the dean felt that the departmental structure inhibits the development of new programs and the reform of old ones. As faculty members within the University turn their attention to the solution of the social problems of today, they immediately sense the need for collaborative efforts with members of other departments. Poverty, pollution, urbanism, racism, war, and peace are not problems which are the province of a single department. But the priorities held by most faculty members are such that they are reluctant to stray from the familiar surroundings of their own departments. Personal goal structures are tied to obtaining eminence within one's own field.

A related issue concerns the relationship of core colleges,

like science and liberal arts, to the professional schools. Though at first glance, the deans described their relations with the liberal arts as excellent, often they later expressed frustration regarding the relating of course content of core colleges to the professions. Their concern seemed to be that the traditional departments insist upon teaching their courses as separate, discrete disciplines and that, as a result, students do not perceive the relevance of those courses to professional practice. Occasionally the professional colleges assume responsibility for offering "liberal arts" courses and teach them in an applied fashion.* In other cases the professional schools attempt to monitor the offerings of an academic department in order to assess and enhance its relevance to their students' professional needs.

Another frequently expressed difficulty relates to university admissions policies. Several deans complained that their colleges were unable to respond to changing supply and demand conditions and requests for higher quality because they have no voice in the admission of freshmen students to their colleges. Once students are admitted to the university, they can be admitted to any college

*There is no adequate terminology for such courses. They maybe "regular" arts and sciences courses, survey courses, problem oriented courses, general culture courses, and so on.

and department they choose. Hence, potential professional students may enter programs for which there is no professional demand, and colleges seem unable to screen or counsel undergraduate applicants where an excess number of students occurs.

Perhaps the area of the greatest strain in intrainstitutional relations exists between the University Park campus and the Commonwealth Campuses. Several informal conversations with administrators and faculty members of the Commonwealth Campuses clearly revealed that these individuals perceive themselves as "poor relations." They sense that University Park makes the important decisions, has the major share of the budget, and holds the Commonwealth Campuses in modest esteem. Interviews with the deans suggested that these perceptions may indeed be justifiably held with some appropriateness by Commonwealth Campus staffs, but that such feelings are more imagined than real. The deans felt that control by University Park is truly a myth, and that the Commonwealth Campuses have significant autonomy in their affairs. Perhaps the pressing concern should be with the alleviation of strained relations where they exist. Ascertaining the "true facts" of the matter is not the critical issue when perceptions of strain exist.

A final problem within this area concerns only a few colleges within the University. Teacher education students may choose to major in education or in the particular departments which houses their academic major. This leads to considerable confusion in certain matters

regarding authority over student programs. Relations among the colleges involved are cordial but this condition is a source of some annoyance.

External Relations

Professional schools have close contacts with and are responsive to their professional communities. They obtain more direct feedback about the quality of their graduates and the appropriateness of professional training than do the liberal arts. Businessmen provide input on the kinds of employees they are seeking; the engineering community communicates with engineering educators regarding the capabilities of graduating engineers; school administrators respond to the quality of teacher graduates. This is a typical pattern within professional communities, and since professional educators are sensitive to input from practitioners, they often respond accordingly.

Two colleges, Education and Health, Physical Education, and Recreation, expressed a concern about their relations with other institutions in Pennsylvania. Programs of teacher education are well developed at Penn State and at most, if not all, of the 13 state colleges in Pennsylvania. In its five year plan, the College of Education expressed some concern about the fact that these state colleges can pay the cooperating practicum teacher $75 per student teacher whereas Penn State can pay only $25. In its plans the College of Health, Physical Education, and Recreation expressed a desire to limit its undergraduate enrollment in all

but its recreation and parks program because of the existence of 11 baccalaureate and six graduate programs in health and physical education at other institutions in the state where they feel the job is being adequately done. If Pennsylvania moves to a more comprehensive plan for higher education, external considerations of this type may become more important.

There are also accrediting bodies and licensing agencies which constrain the professional schools in some measure, and the deans exhibited some concern about them. Although this concern was not limited to continuing education programs there was special mention made in this regard. In some colleges, continuing education programs are directed toward providing training for practitioners who have to comply with certification and licensing requirements.

Finally, the interviewers were interested in the deans' perceptions of their success in "reorienting students to human values." Almost every profession is either directly or indirectly instrumental in the solution of many of our major domestic problems. With one exception the deans projected the impression that these matters for the most part were taking care of themselves. Clearly, this is not an area of high priority within the colleges; perhaps the deans felt that the colleges were doing all that is possible. In any case there was a consensus among the professional school deans that socially concerned professionals would not be the product

of courses offered in the liberal arts--an assumption commonly held. The successes that have occurred, in the opinion of the deans, have been achieved in courses within the professional schools themselves.

The Future of Professional Education at The Pennsylvania State University

Each of the deans was asked what he thought the future held for professional education in his college. There appeared to be a remarkable degree of consensus that there will be an increased number of programs for paraprofessionals in health related fields, in human service occupations, and in technological fields. The education of paraprofessionals will probably take place through associate degree programs at the Commonwealth Campuses and through further development of continuing education. The education of paraprofessionals will involve more than one college. As mentioned earlier, the College of Engineering already has a substantial number of students enrolled in associate degree programs at the Commonwealth Campuses. More people are expected to be trained to achieve a degree of technological skill in mining and materials science. There are plans for new associate degree programs in such diverse areas as landscape architecture, planning, recreation and parks, and computer science. The national importance of such programs may increase, because, according to one dean, the military may not

continue its large training activities in some technological areas and because many of these occupations do not require more advanced degrees. This may also put more emphasis on training teachers competent in the instruction of technological skills rather than in the teaching of theoretical sciences, and it would seem to require some modifications in the preparation of other teachers who would teach the skills.

It was unclear from the interviews exactly how education in health related fields would be approached. The Colleges of Science, Human Development, Health, Physical Education, and Recreation, and Engineering and the Hershey Medical Center are all likely to be involved in the resolution of this problem. Whether these future programs will be centralized within one unit or whether cooperative interdisciplinary programs will prevail is yet to be determined. More interdisciplinary programs were also forecast, especially in those areas related to ecology, while less specialization in some areas and more in others was predicted.

The preparation of human service workers, including social service majors, such as consumer studies, family studies, home economics, and law enforcement, will become an important function at the University. One dean foresaw the creation of new professions in these areas and a growing need for programs of this type in the University at all degree levels. He had proposed that one

Commonwealth Campus be designated as a human development campus and that it concentrate its efforts in this important area.

Many of the deans expressed a desire to bridge the gaps created by the increased specialization of knowledge within University departments. They predicted more interdepartmental efforts in the future, especially in new areas, such as ecology, health services, animal sciences, and medical engineering. However, most deans expected that the national trend toward increased specialization would continue.

The interviews and other data on the status of professional education at The Pennsylvania State University revealed some generalizations. First, the deans perceived no crisis in professional education at the University, but they were concerned that there were not enough students to meet employer demands and that there were not enough graduate students in residence. Second, there was no widespread concern about the balance between theory and practice in the curriculum. There was as much concern about underspecialization as there was about overspecialization. Third, the deans were uniformly convinced that programs to prepare paraprofessionals were a positive or at least inevitable development in professional education at Penn State. Fourth, the deans articulated excellent relationships with other colleges within the university and with the central administration. There was some concern about

the difficulties in coordinating interdepartmental and college affairs, university admissions policies, and the development of relations with the Commonwealth Campuses. Fifth, there was a high degree of consensus among the deans that socially concerned professionals would not be the product of courses offered by the liberal arts but must be produced within the professional schools themselves.

Sixth, the deans reported that the future of professional education at Penn State would see more opportunities for training paraprofessionals in health related fields, in human service occupations, and in some technological fields. Seventh, many deans expressed a desire to bridge the gaps created by University departments and the increased specialization of knowledge within these units.

Implications for Society

The final portion of this paper involves translating the concepts of the literature and the deans' messages into implications for the larger society. As society increases in complexity, occupational structures and individual occupations likewise change. One dramatic shift is the redistribution of workers among the unskilled, skilled, and professional segments of the labor force. How will this redistribution affect the availability of professionals and

the quality of professional service? What adjustments will be made by higher education, which has responsibility for most professional education, in response to the demand for greater numbers? What will be the safeguards for quality? Do the professions hold some key to the unresolved problems of the changing society? If so, how is the process of professional education related to changing social and occupational studies? Each of these points and questions is elaborated upon in the following pages, with indications for some possible answers.

There can be little doubt that society is indeed growing more complex. Social scientists speak of primary, secondary, and tertiary societies according to stages of industrial development. American society, which is witnessing the rapid expansion of its service industries, is obviously becoming more tertiary in nature. In recent years a new and more highly developed set of industries has evolved that even reaches beyond the tertiary stage. These industries, staffed by professionals, scientists, and consultants function to innovate, advise, and produce ideas. The expansion of their ranks epitomizes the growing complexity of the society.

More workers are becoming "middlemen," with the number of white collar service workers (salesmen, clerks, and managers) rivaling and perhaps even surpassing the number of blue collar workers of the primary and secondary industries (U. S. Department of Labor, 1968-1969, p. 15). Alterations in the structure of the labor

force as readily apparent from an examination of census figures showing the percentage of workers in each occupational classification. In 1959, the Bureau of Labor Statistics, which groups professional, technical, and kindred workers together, classified 8.9 percent of the experienced civilian labor force into the professional-technical category. In 1968, the most recent year for which statistics were available, this portion of the work force had increased to 13.3 percent. By 1975, it will have risen to 19.4 percent. Thus, from 1959, when there were 6.1 million workers in professionally related occupations, to 1975, the number will have more than doubled to 13 million (U. S. Department of Labor, 1969, p. 33; U.S. Department of Labor, 1968-69, p. 29). The Department of Labor predicts that, "Employment in professional related occupations will show the fastest growth in the next ten years -- twice as fast as overall employment (U.S. Department of Labor, 1968-69, p. 17).

Professional Quality and Quantity

The need for more professionals and related workers raises questions, not only of numbers, but of quality as well. Will it be possible to recruit student applicants to professional programs in numbers sufficient to meet societal demands? And, this being granted, will professional schcol faculties and professional associations cooperate by admitting the expanded numbers to their professional ranks? Will the quality of professional services be

reduced by the apparent need to liberalize admissions and licensing standards? How will the public respond if either condition is not satisfied?

Anderson and Ertell (1967, pp. 249-251) have noted that the public may intervene in the affairs of professionals if there is an insufficient supply of practitioners or poor quality of professional service. If there are too few doctors, teachers -- or for that matter, auto mechanics -- the public may demand remedial action. If quality suffers, consumer groups will form, individuals and the media will voice their concerns, and legislators will respond to the immediate politics.

We have noted reactions by medical educators to public and governmental outcry over shortages of doctors, especially in rural areas. One of the responses by the medical profession has been to investigate ways of reducing the minimum preparation period for doctors. But the impact of a shortened training period upon the quality of service provided is not known. If the preparation period is to be shortened, what training experiences will be deleted, and how will this change affect the quality of medical service rendered? Does a decrease in quality necessarily follow an increase in quantity? In the field of education, supply and demand have long been considered the major determinants of teacher quality (Kinney, 1964, p. 25). As shortages develop, licensing standards are correspondingly lowered. The positive relationship between

teacher preparation and student learning has been established (Coleman, 1966). Possibly the same case may be made wherever shortages exist.

It must not be assumed, of course, that overall shortages necessarily mean shortages within individual professions. Complicating the general state of affairs is the oversupply of professionals in certain fields. For example, the contracting defense and space industry has resorted to not employing and underemploying certain scientists and engineers, professionals who were in short supply only a few years ago. The "brain drain" has now been reversed, with Europe receiving rather than loosing trained professionals. Now perhaps it is America's turn to pay the costs of professional education and Europe's turn to reap the gains. The degree to which these oversupplies are direct products of the recent business recession is unclear; however, changing national priorities suggest other than a temporary condition.

In another area of oversupply--teaching--present census figures clearly indicate a sharp reduction in the number of elementary school children. The diminishing number of students is just beginning to be felt at the secondary level and, within the decade, will be noted in colleges and universities, where there is already an oversupply of Ph.D.'s in some areas.

Responses to these conditions, by institutions that prepare

professionals, have been slow. There can be no question, however, that stresses upon the tax dollar will soon force new constraints upon professional programs. The public, through their elected officials, have already pressed for greater efficiencies in higher education. Further consolidation and reduction of duplication are inevitable.

Effects Upon Higher Education

There can be little doubt that these occupational changes are occurring but what are their implications for institutions of higher education? Some of the general effects are quite clear. To quote the Department of Labor: "In general, employment growth will be fastest among those occupations requiring the most education and training to enter" (U.S. Department of Labor, 1968-69, p. 17). The reference to higher education is clearly drawn. Professional education has been housed in colleges and universities for generations; vocational and technical education are expanding rapidly in all institutions of higher learning, but particularly in the growing community college segment.

Increasingly, institutions of higher education are taking on the characteristics of institutions of occupational education. Almost ten years ago, it was estimated that at least 50 percent of all college enrollments were students with plans for professional employment and that over 60 percent of all degrees eventually granted

were in the professional fields (Anderson, 1962, p. 11). The sheer magnitude of the expanding task of occupational education suggests serious implications for colleges and universities.

Like the professions themselves, institutions will be faced with the accompanying concern of quality. That there are effects of rapid program expansion upon the quality of faculty recruited, for example, appears certain. A program in need of several professional educators annually, may find it difficult to give detailed attention to each applicant's qualifications. It may also be found that the supply of qualified candidates is less than the demand, resulting in the hiring of those who are available. One can only speculate as to the ultimate relationship of this condition to the capabilities and attitudes of program graduates.

Similarly, unless new pools of fully qualified student applicants can be tapped, increased quantity must ultimately force either a lessening of program standards or more student failures. If society will not tolerate insufficient numbers of professionals, a lowering of standards would appear to be the only choice. The specific impact of these circumstances upon a given profession will, of course, vary with the power of the separate professions to compete for students. The most seriously affected occupations would be those having the least powers of attraction, although it is unlikely that even the most attractive would go unscathed. The

increasing democratization of higher education offers hope for the maintenance of student quality as able youth from the lower socio-economic classes aspire to enter college in expanding numbers. Even this almost completely untapped source has limits. The uncertainty of the variables involved--sources, needs, and competition for students--renders uncertain the prediction of answers to this problem. Statements about the supply of students for individual professions are even more hazardous.

Professions and Changing Societal Expectations

The conditions of the professions and the changing activities of professionals appear to be related to the major problems of an increasingly complex society. The values professionals hold, the ways in which they assign their priorities, and their interactions with the larger society, take on greater significance as their services become more vital.

Several examples of changing societal demands can be given for each profession. In law there has developed the need to greatly expand legal services to the poor, to reassess the attorney's role in civil suits resulting from automobile accidents and to examine means of streamlining the court system. In social welfare the issues concern ways in which to decrease recipient dependence and to control the enormous increases that are occurring in welfare

costs. In education perhaps the most crucial need that has emerged is the provision of adequate schooling for the disadvantaged. The demands upon medicine are for greater numbers of doctors, especially general practitioners, and for greater extended community and preventive medicine programs. In engineering, business, and architecture increasing concerns center on all forms of pollution--visual, auditory, air, water, and land.

Public Reaction

The public is demanding remedial action. Popular images of the professions are beginning to suffer. Scientists, businessmen, doctors, and lawyers are being viewed by many as socially insensitive. Scientists and engineers are charged by some with having no social conscience, with prostituting their talents to the production of machines of war and with developing products that will drastically alter the proper balance of nature. Businessmen are accused in the popular press of choosing to pollute the air, water, and land for the sake of profit. Doctors are alleged to be unscrupulously raising their fees, growing wealthy through public medical programs for the aged, and almost totally refusing to serve the poor, who are most in need of their services. Similarly, judges are often viewed (by the man-on-the-street) as being unconcerned with the welfare of the law-abiding public, and preoccupied with protecting criminals. To the public, the adversary system has become a game.

"Win the case - regardless of the guilt of the client," is the public image of the lawyer.

How can the public, the consumer of professional services, remedy their grievances? Where will the focal points be? Up to this time, actions have been in the form of government intervention through new legislation, through more vigorous enforcement of existing statutes, through various monetary enticements, and to some extent through manpower planning. Activity will increase in these areas as public indignation grows, and in a limited way these means will have an impact. There will be other public pressures in the form of threats and intimidation against business and industry, against the public schools, against the health services, and against certain quarters of the legal system. Pressures of these sorts will largely fail, however, because they threaten symptoms rather than causes. They seek to alter established procedures without attacking the roots of the problem.

Ultimately, the American people will turn to education for the solution to these problems, much as has always been our way in meeting national crises. Just as in our nation's early days when education was petitioned to produce an informed electorate, to "democratize" our society through such vehicles as free public education and the Morrill Act, and more recently to counter the "communist menace" through high school courses in American government

and civics, to "catch-up with the Russians" in the post-Sputnik era through emphasis upon science and mathematics, and most recently to cope with a rising drug crisis through various educational means, the public will once again challenge education.

This challenge will develop gradually. Although informed persons have already begun to scrutinize the professions, public action will be slow to confront groups which historically have been granted public sanctions. They will hesitate to withdraw those sanctions that have resulted in an "expert society." They will be reluctant to tread in the esoteric domain of the professional experts because they lack their special knowledge. With the possible exception of some of the less technical professional occupations, such as teaching and social work, the public will look first to socially concerned professionals for the "disciplining" of the professional ranks. Professionals, however, appear to be confused as to their proper courses of action.

Causes and Solutions

Many of the root causes and thus the solutions to the great domestic social issues of the day appear to lie in the nature of the training and especially in the values and perspectives, induced through professional and paraprofessional education. Social viability and the significance of professions are articulated in

the nonempirical but expert testimony of Algo Henderson (1968, p. 26):

> It is the men and women that are educated for the professions who, more than any other factors, help to make a society viable. It is they who solve the problems and controversies, who design the patterns for action. The more complex the society becomes, the more the professional men need to define their professional ethics and resolve to fulfill the code.

It has been said that socialization* is the main business of the professional school, that the purpose of professional education is, more than any other, to socialize the student, to infuse the values of the profession. It is argued that professional school faculty lead in the continual codification and improvement of standards and ethics for the practitioners. Professional school faculty members serve their students as ethical models, a role which does not cease with graduation. Hence, a graduate of a professional school is to behave in a certain manner in his relations with the public and with his professional peers and paraprofessional assistants. "The professional schools are the leading, though not the sole, innovators and systematizers of ideas for their professions" (Barber, 1963).

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*Socialization in professional education is the process of "molding" the student to a professional role--"to think, for example, like a lawyer." It is the process of altering values, attitudes, and behaviors so that the student will assume a professional identity and respond to his total environment as would an established member of the profession.

The bulk of the empirical evidence available concerns the potency of higher education, in general, to alter behavior. Simmel (1965, p. 1) raises this issue:

> Are new values and norms learned and internalized in professional schools or are only skills developed or situations created in which pre-existing and generally shared values and norms are given an opportunity to be expressed?

Simmel poses this question by citing Jacob (1967) who is extraordinarily pessimistic with regard to the ability of colleges to change values "at least for most students at most institutions" (Jacobs, p. 50). Jacob argues that colleges' liberalizing effects are probably more superficial than fundamental in the changes they bring about. Yet, Jacob reinforces the socialization theory by stating that college socializes rather than liberates; "it strengthens respect for the prevailing social order" (Jacob, p. 53).

The conclusions of Jacob are not universally accepted. A subsequent critique by Barton (1959) challenges the pessimism of Jacob's report by arguing that Jacob's conclusions are not based on fact. At the opposite end of the spectrum from Jacob, are the findings of Freedman (1965) who seems to have shown that sizeable attitude changes result after only two years of college. In weighing the evidence from each of these reports, Trent (1966) concludes that the real impact probably lies somewhere in the middle, that the extensive changes noted by Freedman are probably

"true only for those already disposed to change and that college is more a facilitating rather than causal agency for this change."

It would be noted, however, that none of these investigations studied professional schools, where socialization would seem to be operating at a maximum. Important, directly related research by Walther (1968), shows that the professional school does have an impact but also that the predisposition of students has an important place in shaping the attitudes and behavior of graduates. In Walther's words, "the individual both selects and is selected; molds and is molded."

> These mechanisms of attractions, formal and informal selection, promotion, and reinforcement of desired characteristics serve to shape the personality which characterizes the members of a profession and can be expected to result in a common set of values, attitudes, and skills. This process is often referred to as "socialization" of the professional and is based upon the shared assumption within the profession regarding the ideal philosophy, the ideal set of behavior, and the ideal person for the profession (p. 1).

A synthesis of these and other investigations may be accurately summarized as follows: First, we have social problems in this country that fall within the working realms of certain professions. Second, there are behavior and value typologies, within each of the professions although there is considerable heterogeneity within professions. Third, students come to select and be selected by professions having an image consistent with the self-image of applicants.

And fourth, professional education, largely through the process of socialization, does much to mold the professional personality although value changes are more difficult to bring about.* Finally, it may be assumed that the process of professional education lends itself to, or at least provides opportunity for, modification of the values and behaviors of future professionals.

Thus the changing complexion of society indicates necessary alterations in the education of professionals who serve it. An abundance of professionals in some areas and a lack in others will have to be met by a redirecting of prospective student talents in overloaded fields and a supplementing of professionals by growing paraprofessional education and the increased democratization of higher education.

Though many of the root causes and thus the solutions to the great domestic social issues of the day appear to lie in the nature of the training and especially in the values and perspectives induced through professional and paraprofessional education, the process of professional socialization is only partially capable of producing real change.

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*Howard Becker, Boys in White points out the medical education probably changes few values that are defined as generalized and abstract constructs applicable to many circumstances. Becker does show, however, that situational outlooks or perspectives are altered by professional education.

The further democratization of higher education may be expected to help alleviate the increased need for potential, but at the same time might be hindered by the unique process of professional socialization. The fact that professions both select and are selected may inhibit students from low socio-economic backgrounds from entering the professions most lacking in personnel. And yet this condition may be both the nemesis of and the solution to reorganization of professional socialization. Since several areas of highest professional priority stem from ghetto environs -- necessary "store front" legal counseling, necessary preventative mental and physical medicine, and necessary education of disadvantaged -- the professionals perhaps best equipped to serve in these areas are its own sons and daughters. Perhaps since professional socialization both influences and is influenced by its students, the increasing admission of students from these areas will have a circular effect on the socialization process itself.

Hopefully higher education can meet the demands of educating and preparing professionals without compromising its standards, and will produce competent personnel.

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