Diseases of the Curriculum

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Abstract—During the past 20 years the author has visited almost half of all the American medical schools, usually as a consultant in matters of curriculum and instruction. Certain recurring curriculum problems have emerged and have been described as "diseases of the curriculum." To be exact, this article includes nine such entities. In addition to the naming of these nine curriculum conditions, there is ample illustrative material to ensure that each curriculum disease is fully explained—although the basic sciences supporting the study of education as a discipline are not advanced enough to allow fuller understanding of the disease processes. There is speculation, however, that even being able to name and describe these disturbances of normal curriculum development might be of help in solving some of our more serious curriculum problems.

At one time or another, particularly since the end of World War II, most medical schools have shown concern about "problems" in their educational programs. Whenever this concern has been voiced, the term "curriculum" has been employed—in reference, of course, to the formal, scheduled activities organized into titled "courses" or "clerkships." And the problems are almost always those of "something not quite right" with the curriculum. Even if things are "not really that bad," dissatisfactions of students and/or faculty have led the responsible agents to begin to explore the curriculum in an effort to "find a 'better' way."

No matter what the source of the definition and no matter what the nonsignificant language differences, curriculum is defined by the experts in such terms as "activities provided for the students by the school." This kind of definition suggests a rather static collection of learning experiences, listed or otherwise described by the institution. But in reality curriculum is much more: it is dynamic, not static. It is the product of planning and execution; it varies with its participants, both teachers and learners; it changes in subtle ways even when it is apparently unchanging; in short, it has an existence which goes beyond the concept of a static listing or description of its formal components. Indeed, participants in a curriculum—teachers and learners—tend to endow their curriculum with a "life" of its own when they refer to it or to its components. "What's the curriculum like at your school?" "Our curriculum's all right except for some bad spots in the second year." "Once you get by that first semester in the second year, our curriculum is pretty good." "The clerkships in our curriculum are just terrible." Have you heard these expressions?

If one accepts the allegorical assump-

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tion that curriculum is "alive," then one can consider deviations from normal to be "diseases." It would not be surprising, therefore, to see someday, somewhere, a compendium of the pathology of curriculum. The author, in his travels throughout the world of medical education, has already been able to identify nine curriculum diseases. Unfortunately, the basic sciences of medical education are not advanced enough to permit a detailed elaboration of pathogenesis, but at least we are beginning to conceptualize the taxonomy of curriculum disease.

Curriculosclerosis

By far the most crippling disease, and tragically also one of the most prevalent, is "curriculosclerosis." Robert S. Harnack, professor of education, State University of New York at Buffalo, is credited with first referring to this disease. He named it in lay terms, perhaps better describing it: "hardening of the categories." Indeed, curriculosclerosis is an extreme form of departmentalization. Every medical school, as we all know so well, uses some form of departmental structure as part of its administration. And, as is usually the case in bureauracy of any kind, such a departmental structure tends to superimpose itself on all phases of operation of the school. Therefore, in its disease state, the departmentalization becomes a stifling, inhibiting influence on normal development and function of the curriculum.

In its most extreme disease state, this departmentalization manifests itself in a kind of social territoriality. Moreover, in the area of curriculum development, it seems to reflect a vested interest in which the number of hours allocated for teaching by a given department is seen as a prize or, at least, a measure of the importance of the department. Design of the curriculum then can seem to be more a power struggle than an educational-planning venture. Many readers can probably recall curriculum committee meetings where allocation of time in the curriculum (that's the students' time we're talking about, by the way) has been the result of "bargaining" or "trade-offs" between or among departmental powers.

There is a final – and sad – note to this discussion of curriculosclerosis. Not only do we have the tragedy of impeded growth through this hardening of the categories, but also we have sometimes the condition first described by Dr. Peter V. Lee, professor of medicine at the University of Southern California School of Medicine, as "the Edsel phenomenon." Succinctly enough, this phenomenon in Dr. Lee's words is: "If the Edsel Division of the Ford Motor Company had been a department in a medical school, it would still be there!"

Carcinoma of the Curriculum

A second major disease entity is "carcinoma of the curriculum." This disease is characterized by seemingly uncontrollable growth of one segment or component of the curriculum. In its early stages it is almost undetectable. With the changes in medicine, the growth of knowledge in certain fields, the replacement of faculty, and the vagaries of outside funding, it is both natural and healthy to expect reflected changes in the curriculum. Thus, as a department grows in numbers or changes in direction or as a research program shifts in emphasis or swells in volume in response to a federal "mission," newer learning experiences (translation: more time) are added – usually at the expense of a department whose power and/or prestige is waning. A logical consequence of this "natural" dynamic process is minor adjustments to the curriculum – referred to by some as "fine tuning." But in many cases this

normal occurrence becomes exacerbated radically as the demand for faculty to "handle" the added content results in more faculty members and more grants and more money for that departmental effort—and those newly added experts quickly see the need for more and more and more. Then, with the increased power base, the growth becomes almost uncontrollable, with the result that the curriculum rapidly becomes unbalanced.

As part of a study reported in 1962, Dr. George Miller (1) literally counted the number of hours allotted to different subjects in medical school curricula, at least as listed in their annual bulletins or catalogues. Variations in time given to individual subjects from school to school were of such magnitude that Dr. Miller realized that if a curriculum included the minimum number of hours for each subject, a student would complete his medical education in little more than one year; and if the maximum were included, it would take a student almost five years. His major point was important: the number of hours assigned to different subjects is not the correct variable to consider in curriculum planning. But a perhaps equally important point was not pursued: Why did those differences even exist? Was this a manifestation of carcinoma of the curriculum?

Curriculoarthritis

Another crippling disease is curriculoarthritis, a condition affecting the articulations between adjacent or related segments of the curriculum. Interestingly enough, this disease may affect horizontal or vertical articulations; that is, one can find this disease affecting the relationship between one subject taught in the first year and another in the second. Or one can find evidence of this disease in the relationship between two subjects taught simultaneously.

Basically, curriculoarthritis is a disease affecting communication patterns. In some schools the disease is mild and those responsible for one segment of the curriculum just may not know enough about what those in another are doing. It is almost as if there is a reluctance to "intrude" by asking. In more extreme forms this disease is characterized by almost outright hostility which totally blocks communication and virtually precludes or prevents honest efforts at improvement of communication. When teachers of a given subject state that it is nobody else's business what they are teaching, curriculoarthritis is at one of its most virulent stages. Just as potent a manifestation of the disease may exist when this more virulent stage is masked by the ostensibly mollifying statement, "Well, we'd be glad to tell you what we're teaching—but you just wouldn't understand."

Curriculoarthritis may be characterized by simple inability to communicate rather than an unwillingness to do so. In some situations time for faculty to meet and interact is truly not available. This situation must not be confused, however, with that in which some teachers claim that they do not have the time when in fact they do. Furthermore, one must be aware that the quality of those interaction sessions varies and a low quality of interaction can lead to discomfort and dissatisfaction and subsequent resistance to continue the effort at communication. These are powerful contributors to the advancement of the disease.

Occasionally, attempts at alleviation of at least the symptoms of this disease meet with lack of success that then contributes to the further development of the disease. For example, there was a school in the process of complete curriculum review and modification. At one point in their deliberations, curriculum commit-

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tee members were attempting to state in some detail the competency and knowledge levels at the end of each year in the curriculum. The second-year planning group indicated a need for knowing the expected achievement level at the end of the first year. The first-year group, however, said it could not prepare such a statement without knowing what the second-year group expected of students entering the second year! As if that were not enough, a similar impasse occurred at each chronologic juncture in the curriculum. Finally, as the disease progressed, the spurious logic involved by the increasingly frustrated participants caused a total collapse of all efforts at defining these performance checkpoints while everybody awaited the comprehensive description of the competencies demanded of a practitioner of medicine – since that was necessary before one could produce a similar document for the graduate medical education setting and that was necessary before there could be a document describing competencies necessary for the internship level and so on and on.

For the living curriculum to flourish, there must be good quality communication between and among its contributing segments. As those communication networks are disturbed, as curriculoarthritis sets in, the curriculum becomes diseased.

Curriculum Disesthesia

At some schools the curriculum appears to be in good health and yet a feeling that something is not quite right persists. This condition is referred to as "curriculum disesthesia" or "curriculum malaise." Early detection is possible through statements of faculty or students. "There's something wrong with our curriculum." "I don't know what bothers me about it, but our curriculum just doesn't seem right to me." "Why do all our second-year students seem to get so depressed and so tired; it must be the curriculum." One must exercise some caution, however, since even the healthiest of curricula may be subject to the expressions of dissatisfaction on the part of a few (or many) students and/or faculty members.

One form of this curriculum disease is related to another phenomenon. In our culture there are some who are never "satisfied": there is always something wrong; things are never good enough. Curriculum disesthesia is more than that; it is the active state of discomfort, the wide-spread conviction that something is amiss, and even the evidence that things are not working well.

But implied in the term "malaise" is the concept of overall discomfort or unease. In this disease state one cannot pinpoint just what is wrong; chances are that another – more specific – curriculum disease could be identified if the troubles could be better defined. Here the key is the extent of the feeling of discomfort.

Iatrogenic Curriculitis

In some institutions the curriculum is subject to too much tampering or meddling, bringing on a condition known as "iatrogenic curriculitis" (or "iatrogenic curriculosis"). As Pogo says, "We have found the enemy and he is us." In its most severe form this disease totally defeats attempts to evaluate curriculum or even to understand what segments of the curriculum achieve. The constant shifting, changing, modifying, and adjusting allow no opportunity for thoughtful review, let alone evaluative research. It is almost as though the faculty is unable to make a diagnosis as to what is "wrong" with the curriculum and then responds to that inability with multiple interventions in much the same "shotgun" manner attributed to some physicians who tend to prescribe more – and want to intervene more – when they are unsure of the diagnosis.

There is a fine line of difference here,

to be sure. On the one hand, the curriculum is a dynamic entity and as such should be expected to be changing in response to such forces as student needs, faculty concerns, and societal demands. On the other hand, such adjustments, made thoughtfully and preferably on the basis of data, can hardly be thought of as "tampering" or "meddling," the two conditions which characterize curriculum disesthesia. On the one hand, we should remember the sage words of Professor Harnack: "A curriculum that does not change, a curriculum that is unchanging in response to developing needs, is a curriculum in trouble." On the other hand, one must also consider the words of Dr. W. Loren Williams, Jr., director of educational planning and development, Medical College of Virginia: "If it ain't broke, don't fix it!" The fine line is there; careful study may help us see the difference in condition.

Curriculum Hypertrophy

With the dramatic growth in the knowledge bases required for the practice of medicine (sometimes referred to as the "explosion of knowledge"), it should come as no surprise to discover a disease known as "curriculum hypertrophy" or "curriculomegaly." As each frontier of knowledge is pushed back, each discipline tends to want to include the new discoveries in the curriculum—but not at the "expense" of what that discipline already includes, that is, new knowledge deserves to be recognized and included, but what we have always done cannot be tampered with. Obviously, such thinking must lead to a curriculum increasingly crowded as more and more content gets crammed into limited time spaces. This is the condition of curriculomegaly or curriculum hypertrophy.

Early signs of this disease include an increase in the number of hours devoted to lectures and other forms of transmission of information. There may be an accompanying decrease in the number of hours set aside for laboratory sessions.

One more educational phenomenon that seems to accompany this disease or be part of it is "the ground-covering complex." The expression, "We have to cover that ground," is used by members of only two professions—teaching and farming. Student comments on medical school programs often reflect their own awareness of the ground-covering complex. Witness this gem from students at an eastern medical school, "We have the best anatomy course in the country; what they don't cover in the lecture or the lab, they cover in the final exam."

While there is a militant reluctance on the part of a discipline to drop some of its own (perhaps outdated) content in order to accommodate its own newer areas of knowledge, there is no such reluctance to consider dropping some of the content of other disciplines! In one school the author visited, there was a course which served as the perennial target. Whenever a discipline required more "time," this course was singled out as "probably having too much time, anyway." (Interestingly enough, it was the only course in the curriculum which had a detailed listing and description of learning objectives and evaluation procedures sufficient to justify its own—unmanipulated—existence. All too sadly, it was also the curriculum contribution of a discipline with little power, and the erosion of its "time" was tragic.)

Idiopathic Curriculitis

Somewhat similar to curriculum disesthesia is the condition of "idiopathic curriculitis." They are related to each other in that neither one appears to have specificity; that is, something is not quite right. The big difference is that idiopathic curriculitis serves as a mask for pedagogic insufficiency. Here the discomfort, the

malaise, the dissatisfaction are openly expressed and the curriculum appears to be the focus. But closer examination reveals that it's the teaching that is bad, not the curriculum.

This disease was most graphically demonstrated to the author during a one-day evaluation of a curriculum change at a time when the "new" curriculum was only six to seven months old. Both the "old" curriculum and the new one had defenders and critics. Faculty members presented reviews from their respective points of view—according to discipline, year, and the like. Students also were invited to comment. The critics were particularly vociferous, though small in number, often sounding as if they wanted to sabotage (or as if they already had sabotaged) the new curriculum. One student's comment was incisive. He said, "You know, what we students are talking about, what we students are concerned about, is the difference between good teaching and bad teaching—not the old curriculum and the new curriculum." That single comment could have served to help the faculty realize that idiopathic curriculitis was in its early stage. Unfortunately, feelings among faculty as to the value of the new curriculum blocked more intelligent review of the problem, and in that school today, six years later, the same condition prevails and has been greatly aggravated by the passage of time.

Intercurrent Curriculitis

Still one more disease worthy of mention is "intercurrent curriculitis." This is a disease of the curriculum occurring simultaneously with any of those mentioned above but not related to it in any way. Rather, it appears to be a reflection of the incompatibility or unresponsiveness of the curriculum to concurrent societal problems. An historical note might be of some help in this discussion. Perhaps the first incident of intercurrent curriculitis is reported by J. Abner Pediwell in his stirring history of education in paleolithic times in *The Saber-Tooth Curriculum* (2). Professor Pediwell describes the emergence of a curriculum in those prehistoric times, a curriculum which included teaching children how to frighten away the saber-tooth tiger with the use of fire. He then goes on to tell of how the impending new ice age caused the disappearance of the saber-tooth tiger and adds the horrific footnote that the faculty did not drop "tiger-scaring" from the curriculum.

In our time, intercurrent curriculitis can be found in schools of medicine which insist that their true mission must be the preparation of scientists, scholars, and investigators—not physicians—despite the acknowledged and accepted function of medical schools: preparation of students for the practice of medicine. Intercurrent curriculitis can be found also in schools in which the curriculum maintains a heavy emphasis of preparation of students for practice of highly specialized segments of medicine despite an ever increasing societal need and demand for more physicians to practice in general areas. This is not to say that the disease is pandemic; it may or not appear, according to other influences at the time and in a given situation.

The course of this disease is not clear. All that can be observed so far is a kind of restiveness on the part of students in direct proportion to the extent of the "separation" of school from society and to the degree of "activism" and/or social consciousness among the students. What makes this a particularly interesting disease is its concurrent existence with one of the others, a coexistence that tenders it virtually undetectable and, therefore, untreatable.

Curriculum Ossification

Finally, there is a disease which resembles the first and seems, therefore, a fitting way to close: ossification of the curriculum. When this disease is evidenced, the curriculum appears as if "cast in concrete." This is the disease which has had the highest incidence for decades. It is epidemic, affecting all medical schools to a considerable extent. Virtually from the time of the implementation of the Flexner report (3) to the World-War-II-inspired accelerated programs, if not all the way to the dramatic curriculum change at Case Western Reserve University School of Medicine in the 1950s (4), medical education's curriculum was unaltered in any important way.

Ossification of the curriculum is a plausible explanation when one hears the following kinds of expressions: "What do you want to change anything for?" "Well, we've always done it this way." "But we've never done it that way." "We graduated from this program and we turned out all right, didn't we?" "Now wait; you don't want to throw out the baby with the bath water, do you?" Of all those, the last is the most subtle; it implies that we are certainly willing to "throw out the bath water" but that we should exercise a little caution with regard to "the baby." In fact, however, most schools heeding that caution end up keeping "the bath water" as well as "the baby"!

Conclusion

This is the beginning list of diseases of the curriculum, running the gamut from too much meddling to total neglect and ultimate concretizing. Perhaps we can learn to detect early signs of these curriculum diseases; perhaps we can study each and develop its etiology. Just as man lived through diseases without knowing them or their etiology in earlier days, we not only have lived through curriculum diseases and survived them but also, in some cases, have treated them correctly, albeit by accident or at best by intuition. But if curriculum is conceptually living (at least, dynamic), those responsible for its administration have the obligation to provide intelligent, informed management best developed perhaps through understanding of the pathologic processes.

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