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The Practical: A Language for Curriculum I

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I SHALL HAVE THREE POINTS. THE FIRST IS THIS: that the field of curriculum is moribund, unable by its present methods and principles to continue its work and desperately in search of new and more effective principles and methods.

The second point: the curriculum field has reached this unhappy state by inveterate and unexamined reliance on theory in an area where theory is partly inappropriate in the first place and where the theories extant, even where appropriate, are inadequate to the tasks which the curriculum field sets them. There are honorable exceptions to this rule but too few (and too little honored) to alter the state of affairs.

The third point, which constitutes my thesis: there will be a renaissance of the field of curriculum, a renewed capacity to contribute to the quality of American education, only if the bulk of curriculum energies are diverted from the theoretic to the practical, to the quasi-practical and to the eclectic. By "eclectic" I mean the arts by which unsystematic, uneasy, but usable focus on a body of problems is effected among diverse theories, each relevant to the problems in a different way. By the "practical" I do not mean the curbstone practicality of the mediocre administrator and the man on the street, for whom the practical means the easily achieved, familiar goals which can be reached by familiar means. I refer, rather, to a complex discipline, relatively unfamiliar to the academic and differing radically from the disciplines of the theoretic. It is the discipline concerned with choice and action, in contrast with the theoretic, which is concerned with knowledge. Its methods lead to defensible decisions, where the methods of the theoretic lead to warranted conclusions, and differ radically from the methods and competences entailed in the theoretic. I shall sketch some of the defining aspects of practical discipline at the appropriate time.

A CRISIS OF PRINCIPLE

The frustrated state of the field of curriculum is not an idiopathology and not a condition which warrants guilt or shame on the part of its practitioners. All fields of systematic

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intellectual activity are liable to such crises. They are so because any intellectual discipline must begin its endeavors with untested principles. In its beginnings, its subject matter is relatively unknown, its problems unsolved, indeed unidentified. It does not know what questions to ask, what other knowledge to rest upon, what data to seek or what to make of them once they are elicited. It requires a preliminary and necessarily untested guide to its enquiries. It finds this guide by borrowing, by invention, or by analogy, in the shape of a hazardous commitment to the character of its problems or its subject matter and a commitment to untried canons of evidence and rules of enquiry. What follows these commitments is years of their application, pursuit of the mode of enquiry demanded by the principles to which the field has committed itself. To the majority of practitioners of any field, these years of enquiry appear only as pursuit of knowledge of its subject matter or solution of its problems. They take the guiding principles of the enquiry as givens. These years of enquiry, however, are something more than pursuit of knowledge or solution of problems. They are also tests, reflexive and pragmatic, of the principles which guide the enquiries. They determine whether, in fact, the data demanded by the principles can be elicited and whether, if elicited, they can be made to constitute knowledge adequate to the complexity of the subject matter, or solutions which, in fact, do solve the problems with which the enquiry began.

In the nature of the case, these reflexive tests of the principles of enquiry are, more often than not, partially or wholly negative, for, after all, the commitment to these principles was made before there was well-tested fruit of enquiry by which to guide the commitment. The inadequacies of principles begin to show, in the case of theoretical enquiries, by failures of the subject matter to respond to the questions put to it, by incoherencies and contradictions in data and in conclusions which cannot be resolved, or by clear disparities between the knowledge yielded by the enquiries and the behaviors of the subject matter which the knowledge purports to represent. In the case of practical enquiries, inadequacies begin to show by incapacity to arrive at solutions to the problems, by inability to realize the solutions proposed, by mutual frustrations and cancellings out as solutions are put into effect.

Although these exhaustions and failures of principles may go unnoted by practitioners in the field, at least at the conscious level, what may not be represented in consciousness is nevertheless evidenced by behavior and appears in the literature and the activities of the field as signs of the onset of a crisis of principle. These signs consist of a large increase in the frequency of published paper and colloquia marked by a flight from the subject of the field. *There are usually six signs of this flight or directions in which the flight occurs.*

SIGNS OF CRISIS

The first and most important, though often least conspicuous, sign is a flight of the field itself, a translocation of its problems and the solving of them from the nominal practitioners of the field to other men. Thus one crucial frustration of the science of genetics was resolved by a single contribution from an insurance actuary. The recent desuetude of academic physiology has been marked by a conspicuous increase in the frequency of published solutions to physiological problems by medical researchers. In similar fashion, the increasing depletion of psychoanalytic principles and methods in recent years was marked by the onset of contributions to its lore by internists, biochemists, and anthropologists.

A second flight is a flight upward, from discourse about the subject of the field to discourse about the discourse of the field, from use of principles and methods to talk about

them, from grounded conclusions to the construction of models, from theory to metatheory and from metatheory to metametatheory.

A third flight is downward, an attempt by practitioners to return to the subject matter in a state of innocence, shorn not only of current principles but of all principles, in an effort to take a new, a pristine and unmediated look at the subject matter. For example, one conspicuous reaction to the warfare of numerous inadequate principles in experimental psychology has been the resurgence of ethology, which begins as an attempt to return to a pure natural history of behavior, to intensive observation and recording of the behavior of animals undisturbed in their natural habitat, by observers, equally undisturbed by mediating conceptions, attempting to record anything and everything they see before them.

A fourth flight is to the sidelines, to the role of observer, commentator, historian, and critic of the contributions of others to the field.

A fifth sign consists of marked perseveration, a repetition of old and familiar knowledge in new languages which add little or nothing to the old meanings as embodied in the older and familiar language, or repetition of old and familiar formulations by way of criticisms or minor additions and modifications.

The sixth is a marked increase in eristic, contentious, and ad hominem debate.

I hasten to remark that these signs of crisis are not all or equally reprehensible. There is little excuse for the increase in contentiousness nor much value in the flight to the sidelines or in perseveration, but the others, in one way or another, can contribute to resolution of the crisis. The flight of the field itself is one of the more fruitful ways by which analogical principles are disclosed, modified, and adapted to the field in crisis. The flight upward, to models and metatheory, if done responsibly, which means with a steady eye on the actual problems and conditions of the field for which the models are ostensibly constructed, becomes, in fact, the proposal and test of possible new principles for the field. The flight backward, to a state of innocence, is at least an effort to break the grip of old habits of thought and thus leave space for needed new ones, though it is clear that in the matter of enquiry, as elsewhere, virginity, once lost, cannot be regained.

In the present context, however, the virtue or vice of these various flights is beside the point. We are concerned with them as signs of collapse of principles in a field, and it is my contention, based on a study not yet complete, that most of these signs may now be seen in the field of curriculum. I shall only suggest, not cite, my evidence.

THE CASE OF CURRICULUM

With respect to flight of the field itself, there can be little doubt. Of the five substantial high school science curricula, four of them—PSSC, BSCS, Chems and CBA—were instituted and managed by subject-matter specialists; the contribution of educators was small and that of curriculum specialists near vanishing point. Only Harvard Project Physics, at this writing not yet available, appears to be an exception. To one of two elementary science projects, a psychologist appears to have made a substantial contribution but curriculum specialists very little. The other—the Elementary Science Study—appears to have been substantially affected (to its advantage) by educators with one or both feet in curriculum. The efforts of the Commission of Undergraduate Education in the Biological Sciences have been carried on almost entirely by subject-matter specialists. The English Curriculum Study Centers appear to be in much the same state as the high school science curricula: overwhelmingly centered on subject specialists. Educators contribute expertise only in the

area of test construction and evaluation, with here and there a contribution by a psychologist. Educators, including curriculum specialists, were massively unprepared to cope with the problem of integrated education and only by little, and late, and by trial and error, put together the halting solutions currently known as Head Start. The problems posed by the current drives toward ethnicity in education find curriculum specialists even more massively oblivious and unprepared. And I so far find myself very much alone with respect to the curriculum problems immanent in the phenomena of student protest and student revolt. (Of the social studies curriculum efforts, I shall say nothing at this time.)

On the second flight—upward—I need hardly comment. The models, the metatheory, and the metametatheory are all over the place. Many of them, moreover, are irresponsible—concerned less with the barriers to continued productivity in the field of curriculum than with exploitation of the exotic and the fashionable among forms and models of theory and metatheory: systems theory, symbolic logic, language analysis. Many others, including responsible ones, are irreversible flights upward or sideways. That is, they are models or metatheories concerned not with the judgment, the reasoned construction, or reconstruction of curriculums but with other matters—for example, how curriculum changes occur or how changes can be managed.

The flight downward, the attempt at return to a pristine, unmediated look at the subject matter, is, for some reason, a missing symptom in the case of curriculum. There are returns—to the classroom, if not to other levels or aspects of curriculum—with a measure of effort to avoid preconceptions (e.g., Smith, Bellack, and studies of communication nets and lines), but the frequency of such studies has not markedly increased. The absence of this symptom may have significance. In general, however, it is characteristic of diseases that the whole syndrome does not appear in all cases. Hence, pending further study and thought, I do not count this negative instance as weakening the diagnosis of a crisis of principle.

The fourth flight—to the sidelines—is again a marked symptom of the field of curriculum. Histories, anthologies, commentaries, criticisms, and proposals of curriculums multiply.

Perseveration is also marked. I recoil from counting the persons and books whose lives are made possible by continuing restatement of the Tyler rationale, of the character and case for behavioral objectives, of the virtues and vices of John Dewey.

The rise in frequency and intensity of the eristic and ad hominem is also marked. Thus one author climaxes a series of petulances by the remark that what he takes to be his own forte “has always been rare—and shows up in proper perspective the happy breed of educational reformer who can concoct a brand new, rabble-rousing theory of educational reform while waiting for the water to fill the bathtub.”

There is little doubt, in short, that the field of curriculum is in a crisis of principle.

A crisis of principle arises, as I have suggested, when principles are exhausted—when the questions they permit have all been asked and answered—or when the efforts at enquiry instigated by the principles have at last exhibited their inadequacy to the subject matter and the problems which they were designed to attack. My second point is that the latter holds in the case of curriculum: the curriculum movement has been inveterately theoretic, and its theoretic bent has let it down. A brief conspectus of instances will suggest the extent of this theoretic bent and what is meant by “theoretic.”

CHARACTERISTICS OF THEORY

Consider first the early, allegedly Herbartian efforts (recently revived by Bruner). These efforts took the view that ideas were formed by children out of received notions and experiences of things, and that these ideas functioned thereafter as discriminators and organizers of what was later learned. Given this view, the aim of curriculum was to discriminate the right ideas (by way of analysis of extant bodies of knowledge), determine the order in which they could be learned by children as they developed, and thereafter present these ideas at the right times with clarity, associations, organization, and application. A theory of mind and knowledge thus solves by one mighty coup the problem of what to teach, when and how; and what is fatally theoretic here is not the presence of a theory of mind and a theory of knowledge, though their presence is part of the story, but the dispatch, the sweeping appearance of success, the vast simplicity which grounds this purported solution to the problem of curriculum. And lest we think that this faith in the possibility of successful neatness, dispatch, and sweeping generality is mark of the past, consider the concern of the National Science Teachers Association only four years ago “with identifying the broad principles that can apply to any and all curriculum development efforts in science,” a concern crystallized in just seven “conceptual schemes” held to underlie all science. With less ambitious sweepingness but with the same steadfast concern for a single factor—in this case, supposed fixed structure of knowledge—one finds similar efforts arising from the Association of College Teachers of Education, from historians, even from teachers of literature.

Consider, now, some of the numerous efforts to ground curriculum in derived objectives. One effort seeks the ground of its objectives in social need and finds its social needs in just those facts about its culture which are sought and found under the aegis of a single conception of culture. Another grounds its objectives in the social needs identified by a single theory of history and of political evolution.

A third group of searches for objectives are grounded in theories of personality. The persuasive coherence and plausibility of Freudianism persuaded its followers to aim to supply children with adequate channels of sublimation of surplus libido, appropriate objects and occasions for aggressions, a properly undemanding ego ideal, and an intelligent minimum of taboos. Interpersonal theories direct their adherents to aim for development of abilities to relate to peers, “infeers,” and “supeers,” in relations nurturant and receiving, adaptive, vying, approving and disapproving. Theories of actualization instruct their adherents to determine the salient potentialities of each child and to see individually to the development of each.

Still other searches for objectives seek their aims in the knowledge needed to “live in the modern world,” in the attitudes and habits which minimize dissonance with the prevailing mores of one’s community or social class, in the skills required for success in a trade or vocation, in the ability to participate effectively as member of a group. Still others are grounded in some quasi-ethics, some view of the array of goods which are good for man.

Three features of these typical efforts at curriculum making are significant here, each of which has its own lesson to teach us. First, each is grounded in a theory as such. We shall return to this point in a moment. Second, each is grounded in a theory from the social or behavioral sciences: psychology, psychiatry, politics, sociology, history. Even the ethical bases and theories of “mind” are behavioral. To this point, too, we shall return in a moment.

Third, they are theories concerning different subject matters. One curriculum effort is grounded in concern for the individual, another in concern for groups, others in concern for cultures, communities, societies, minds, or the extant bodies of knowledge.²

NEED FOR AN ECLECTIC

The significance of this third feature is patent to the point of embarrassment: no curriculum grounded in but one of these subjects can possibly be adequate, defensible. A curriculum based on theory about individual personality, which thrusts society, its demands and its structure, far into the background or ignores them entirely, can be nothing but incomplete and doctrinaire, for the individuals in question are in fact members of a society and must meet its demands to some minimum degree since their existence and prosperity as individuals depend on the functioning of their society. In the same way, a curriculum grounded only in a view of social need or social change must be equally doctrinaire and incomplete, for societies do not exist only for their own sakes but for the prosperity of their members as individuals as well. In the same way, learners are not only minds or knowers but bundles of affects, individuals, personalities, earners of livings. They are not only group interactors but possessors of private lives.

It is clear, I submit, that a defensible curriculum or plan of curriculum must be one which somehow takes account of all these subsubjects which pertain to man. It cannot take only one and ignore the others; it cannot even take account of many of them and ignore one. Not only is each of them a constituent and a condition for decent human existence but each interpenetrates the others. That is, the character of human personalities is a determiner of human society and the behavior of human groups. Conversely, the conditions of group behavior and the character of societies determine in some large part the personalities which their members develop, the way their minds work, and what they can learn and use by way of knowledge and competence. These various "things" (individuals, societies, cultures, patterns of enquiry, "structures" of knowledge or of enquiries, apperceptive masses, problem solving), though discriminable as separate subjects of differing modes of enquiry, are nevertheless parts or affectors of one another, or coactors. (Their very separation for purposes of enquiry is what marks the outcomes of such enquiries as "theoretic" and consequently incomplete.) In practice, they constitute one complex, organic agency. Hence, a focus on only one not only ignores the others but vitiates the quality and completeness with which the selected one is viewed.

It is equally clear, however, that there is not, and will not be in the foreseeable future, one theory of this complex whole which is other than a collection of unusable generalities. Nor is it true that the lack of a theory of the whole is due to the narrowness, stubbornness, or merely habitual specialism of social and behavioral scientists. Rather, their specialism and the restricted purview of their theories are functions of their subject, its enormous complexity, its vast capacity for difference and change. Man's competence at the construction of theoretical knowledge is so far most inadequate when applied to the subject of man. There have been efforts to conceive principles of enquiry which would encompass the whole variety and complexity of humanity, but they have fallen far short of adequacy to the subject matter or have demanded the acquisition of data and modes of interpretation of data beyond our capabilities. There are continuing efforts to find bridging terms which would relate the principles of enquiry of one subfield of the social sciences to another and thus begin to effect connections among our knowledges of each, but successful

bridges are so far few and narrow and permit but a trickle of connection. As far, then, as theoretical knowledge is concerned, we must wrestle as best we can with numerous, largely unconnected, separate theories of these many, artificially discriminated subsubjects of man.

I remarked in the beginning that renewal of the field of curriculum would require diversion of the bulk of its energies from theory to the practical, the quasi-practical, and the eclectic. The state of affairs just described, the existence and the necessarily continuing existence of separate theories of separate subsubjects distributed among the social sciences, constitutes the case for one of these modes, the necessity of an eclectic, of arts by which a usable focus on a common body of problems is effected among theories which lack theoretical connection. The argument can be simply summarized. A curriculum grounded in but one or a few subsubjects of the social sciences is indefensible; contributions from all are required. There is no foreseeable hope of a unified theory in the immediate or middle future, nor of a metatheory which will tell us how to put those subsubjects together or order them in a fixed hierarchy of importance to the problems of curriculum. What remains as a viable alternative is the unsystematic, uneasy, pragmatic, and uncertain unions and connections which can be effected in an eclectic. And I must add, anticipating our discussion of the practical, that changing connections and differing orderings at different times of these separate theories, will characterize a sound eclectic.

The character of eclectic arts and procedures must be left for discussion on another occasion. Let it suffice for the moment that witness of the high effectiveness of eclectic methods and of their accessibility is borne by at least one field familiar to us all—Western medicine. It has been enormously effective, and the growth of its competence dates from its disavowal of a single doctrine and its turn to eclecticism.

THE PLACE OF THE PRACTICAL

I turn now, from the fact that the theories which ground curriculum plans pertain to different subsubjects of a common field, to the second of the three features which characterize our typical instances of curriculum planning—the fact that the ground of each plan is a theory, a theory as such.

The significance of the existence of theory as such at the base of curricular planning consists of what it is that theory does not and cannot encompass. All theories, even the best of them in the simplest sciences, necessarily neglect some aspects and facets of the facts of the case. A theory covers and formulates the regularities among the things and events it subsumes. It abstracts a general or ideal case. It leaves behind the nonuniformities, the particularities, which characterize each concrete instance of the facts subsumed. Moreover, in the process of idealization, theoretical enquiry may often leave out of consideration conspicuous facets of all cases because its substantive principles of enquiry or its methods cannot handle them. Thus the constantly accelerating body of classical mechanics was the acceleration of a body in “free” fall, fall in a perfect vacuum, and the general or theoretical rule formulated in classical mechanics is far from describing the fall of actual bodies in actual mediums—the only kinds of fall then known. The force equation of classical dynamics applied to bodies of visible magnitudes ignores friction. The rule that light varies inversely as the square of the distance holds exactly only for an imaginary point source of light. For real light sources of increasing expanse, the so-called law holds more and more approximately, and for very large sources it affords little or no usable information. And

what is true of the best of theories in the simplest sciences is true a fortiori in the social sciences. Their subject matters are apparently so much more variable, and clearly so much more complex, that their theories encompass much less of their subjects than do the theories of the physical and biological sciences.

Yet curriculum is brought to bear not on ideal or abstract representatives but on the real thing, on the concrete case in all its completeness and with all its differences from all other concrete cases on which the theoretic abstraction is silent. The materials of a concrete curriculum will not consist merely of portions of “science,” of “literature,” of “process.” On the contrary, their constituents will be particular assertions about selected matters couched in a particular vocabulary, syntax, and rhetoric. They will be particular novels, short stories, or lyric poems, each, for better or for worse, with its own flavor. They will be particular acts upon particular matters in a given sequence. The curriculum will be brought to bear not in some archetypical classroom but in a particular locus in time and space with smells, shadows, seats, and conditions outside its walls which may have much to do with what is achieved inside. Above all, the supposed beneficiary is not the generic child, not even a class or kind of child out of the psychological or sociological literature pertaining to the child. The beneficiaries will consist of very local kinds of children and, within the local kinds, individual children. The same diversity holds with respect to teachers and what they do. The generalities about science, about literature, about children in general, about children or teachers of some specified class or kind, may be true. But they attain this status in virtue of what they leave out, and the omissions affect what remains. A Guernsey cow is not only something more than cow, having specific features omitted from description of the genus; it is also cowy in ways differing from the cowiness of a Texas longhorn. The specific not only adds to the generic; it also modulates it.

These ineluctable characteristics of theory and the consequent ineluctable disparities between real things and their representation in theory constitute one argument for my thesis, that a large bulk of curriculum energies must be diverted from the theoretic, not only to the eclectic but to the practical and the quasi-practical. The argument, again, can be briefly summarized. The stuff of theory is abstract or idealized representations of real things. But curriculum in action treats real things: real acts, real teachers, real children, things richer and different from their theoretical representations. Curriculum will deal badly with its real things if it treats them merely as replicas of their theoretic representations. If, then, theory is to be used well in the determination of curricular practice, it requires a supplement. It requires arts which bring a theory to its application: first, arts which identify the disparities between real thing and theoretic representation; second, arts which modify the theory in the course of its application, in the light of the discrepancies; and, third, arts which devise ways of taking account of the many aspects of the real thing which the theory does not take into account. These are some of the arts of the practical.

THEORIES FROM SOCIAL SCIENCES

The significance of the third feature of our typical instances of curriculum work—that their theories are mainly theories from the social and behavioral sciences—will carry us to the remainder of the argument for the practical. Nearly all theories in all the behavioral sciences are marked by the coexistence of competing theories. There is not one theory of personality but twenty, representing at least six radically different choices of what is relevant and important in human behavior. There is not one theory of groups but several.

There is not one theory of learning but half a dozen. All the social and behavioral sciences are marked by “schools,” each distinguished by a different choice of principle of enquiry, each of which selects from the intimidating complexities of the subject matter the small fraction of the whole with which it can deal.

The theories which arise from enquiries so directed are, then, radically incomplete, each of them incomplete to the extent that competing theories take hold of different aspects of the subject of enquiry and treat it in a different way. Further, there is perennial invention of new principles which bring to light new facets of the subject matter, new relations among the facets and new ways of treating them. In short, there is every reason to suppose that any one of the extant theories of behavior is a pale and incomplete representation of actual behavior. There is similar reason to suppose that if all the diversities of fact, the different aspects of behavior treated in each theory, were somehow to be brought within the bounds of a single theory, that theory would still fall short of comprehending the whole of human behavior—in two respects. In the first place, it would not comprehend what there may be of human behavior which we do not see by virtue of the restricted light by which we examine behavior. In the second place, such a single theory will necessarily interpret its data in the light of its one set of principles, assigning to these data only one set of significances and establishing among them only one set of relations. It will remain the case, then, that a diversity of theories may tell us more than a single one, even though the “factual” scope of the many and the one are the same.

It follows, then, that such theories are not, and will not be, adequate by themselves to tell us what to do with human beings or how to do it. What they variously suggest and the contrary guidances they afford to choice and action must be mediated and combined by eclectic arts and must be massively supplemented, as well as mediated, by knowledge of some other kind derived from another source.

Some areas of choice and action with respect to human behavior have long since learned this lesson. Government is made possible by a lore of politics derived from immediate experience of the vicissitudes and tangles of legislating and administering. Institution of economic guidances and controls owes as much to unmediated experience of the marketplace as it does to formulas and theories. Even psychotherapy has long since deserted its theories of personality as sole guides to therapy and relies as much or more on the accumulated, explicitly nontheoretic lore accumulated by practitioners, as it does on theory or eclectic combinations of theory. The law has systematized the accumulation of direct experience of actual cases in its machinery for the recording of cases and opinions as precedents which continuously monitor, supplement, and modify the meaning and application of its formal “knowledge,” its statutes. It is this recourse to accumulated lore, to experience of actions and their consequences, to action and reaction at the level of the concrete case, which constitutes the heart of the practical. It is high time that curriculum do likewise.

THE PRACTICAL ARTS

The arts of the practical are onerous and complex; hence only a sampling must suffice to indicate the character of this discipline and the changes in educational investigation which would ensue on adoption of the discipline. I shall deal briefly with four aspects of it.

The practical arts begin with the requirement that existing institutions and existing practices be preserved and altered piecemeal, not dismantled and replaced. It is further

necessary that changes be so planned and so articulated with what remains unchanged that the functioning of the whole remain coherent and unimpaired. These necessities stem from the very nature of the practical—that it is concerned with the maintenance and improvement of patterns of purposed action, and especially concerned that the effects of the pattern through time shall retain coherence and relevance to one another.

This is well seen in the case of the law. Statutes are repealed or largely rewritten only as a last resort, since to do so creates confusion and diremption between old judgments under the law and judgments to come, confusion which must lead either to weakening of law through disrepute or a painful and costly process of repairing the effects of past judgments so as to bring them into conformity with the new. It is vastly more desirable that changes be instituted in small degrees and in immediate adjustment to the peculiarities of particular new cases which call forth the change.

The consequence, in the case of the law, of these demands of the practical is that the servants of the law must know the law through and through. They must know the statutes themselves, the progression of precedents and interpretations which have effected changes in them, and especially the present state of affairs—the most recent decisions under the law and the calendar of cases which will be most immediately affected by contemplated additions to precedent and interpretation.

The same requirements would hold for a practical program of improvement of education. It, too, would effect its changes in small progressions, in coherence with what remains unchanged, and this would require that we know what is and has been going on in American *schools*.

At present, we do not know. My own incomplete investigations convince me that we have not the faintest reliable knowledge of how literature is taught in the high schools, or what actually goes on in science classrooms. There are a dozen different ways in which the novel can be read. Which ones are used by whom, with whom, and to what effect? What selections from the large accumulation of biological knowledge are made and taught in this school system and that, to what classes and kinds of children, to what effect? To what extent is science taught as verbal formulas, as congeries of unrelated facts, as so-called principles and conceptual structures, as outcomes of enquiry? In what degree and kind of simplification and falsification is scientific enquiry conveyed, if it is conveyed at all?

A count of textbook adoptions will not tell us, for teachers select from textbooks and alter their treatment (often quite properly) and can frustrate and negate the textbook's effort to alter the pattern of instruction. We cannot tell from lists of objectives, since they are usually so vastly ambiguous that almost anything can go on under their aegis or, if they are not ambiguous, reflect pious hopes as much as actual practice. We cannot tell from lists of "principles" and "conceptual structures," since these, in their telegraphic brevity are also ambiguous and say nothing of the shape in which they are taught or the extent.

What is wanted is a totally new and extensive pattern of empirical study of classroom action and reaction; a study, not as basis for theoretical concerns about the nature of the teaching or learning process, but as a basis for beginning to know what we are doing, what we are not doing, and to what effect—what changes are needed, which needed changes can be instituted with what costs or economies, and how they can be effected with minimum tearing of the remaining fabric of educational effort.

This is an effort which will require new mechanisms of empirical investigation, new methods of reportage, a new class of educational researchers, and much money. It is an

effort without which we will continue largely incapable of making defensible decisions about curricular changes, largely unable to put them into effect and ignorant of what real consequences, if any, our efforts have had.

A very large part of such a study would, I repeat, be direct and empirical study of action and reaction in the classroom itself, not merely the testing of student change. But one of the most interesting and visible alterations of present practice which might be involved is a radical change in our pattern of testing students. The common pattern tries to determine the extent to which intended changes have been brought about. This would be altered to an effort to find out what changes have occurred, to determine side effects as well as mainline consequences, since the distinction between these two is always in the eye of the intender and side effects may be as great in magnitude and as fatal or healthful for students as the intended effects.

A second facet of the practical: its actions are undertaken with respect to identified frictions and failures in the machine and inadequacies evidenced in felt shortcomings of its products. This origin of its actions leads to two marked differences in operation from that of theory. Under the control of theory, curricular changes have their origin in new notions of person, group or society, mind or knowledge, which give rise to suggestions of new things curriculum might be or do. This is an origin which, by its nature, takes little or no account of the existing effectiveness of the machine or the consequences to this effectiveness of the institution of novelty. If there is concern for what may be displaced by innovation or for the incoherences which may ensue on the insertion of novelty, the concern is gratuitous. It does not arise from the theoretical considerations which commend the novelty. The practical, on the other hand, because it institutes changes to repair frictions and deficiencies, is commanded to determine the whole array of possible effects of proposed change, to determine what new frictions and deficiencies the proposed change may unintentionally produce.

The other effective difference between theoretical and practical origins of deliberate change is patent. Theory, by being concerned with new things to do, is unconcerned with the successes and failures of present doings. Hence present failures, unless they coincide with what is repaired by the proposed innovations, go unnoticed—as do present successes. The practical, on the other hand, is directly and deliberately concerned with the diagnosis of ills of the curriculum.

These concerns of the practical for frictions and failures of the curricular machine would, again, call for a new and extensive pattern of enquiry. The practical requires curriculum study to seek its problems where its problems lie—in the behaviors, misbehaviors, and nonbehaviors of its students as they begin to evince the effects of the training they did and did not get. This means continuing assessment of students as they leave primary grades for the secondary school, leave secondary school for jobs and colleges. It means sensitive and sophisticated assessment by way of impressions, insights, and reactions of the community which sends its children to the school; employers of students, new echelons of teachers of students; the wives, husbands, and cronies of exstudents; the people with whom exstudents work; the people who work under them. Curriculum study will look into the questions of what games exstudents play; what, if anything, they do about politics and crime in the streets; what they read, if they do; what they watch on television and what they make of what they watch, again, if anything. Such studies would be undertaken, furthermore, not as mass study of products of the American school, taken in toto,

but as studies of significantly separable schools and school systems—suburban and inner city, Chicago and Los Angeles, South Bend and Michigan City.

I emphasize sensitive and sophisticated assessment because we are concerned here, as in the laying of background knowledge of what goes in schools, not merely with the degree to which avowed objectives are achieved but also with detecting the failures and frictions of the machine: what it has not done or thought of doing, and what side effects its doings have had. Nor are we concerned with successes and failures only as measured in test situations but also as evidenced in life and work. It is this sort of diagnosis which I have tried to exemplify in a recent treatment of curriculum and student protest.³

A third facet of the practical I shall call the anticipatory generation of alternatives. Intimate knowledge of the existing state of affairs, early identification of problem situations, and effective formulation of problems are necessary to effective practical decision but not sufficient. It requires also that there be available to practical deliberation the greatest possible number and fresh diversity of alternative solutions to the problem. The reason for this requirement, in one aspect, is obvious enough: the best choice among poor and shopworn alternatives will still be a poor solution to the problem. Another aspect is less obvious. The problems which arise in an institutional structure which has enjoyed good practical management will be novel problems, arising from changes in the times and circumstances and from the consequences of previous solutions to previous problems. Such problems, with their strong tincture of novelty, cannot be solved by familiar solutions. They cannot be well solved by apparently new solutions arising from old habits of mind and old ways of doing things.

A third aspect of the requirement for anticipatory generation of alternatives is still less obvious. It consists of the fact that practical problems do not present themselves wearing their labels around their necks. Problem situations, to use Dewey's old term, present themselves to consciousness, but the character of the problem, its formulation, does not. This depends on the eye of the beholder. And this eye, unilluminated by possible fresh solutions to problems, new modes of attack, new recognitions of degrees of freedom for change among matters formerly taken to be unalterable, is very likely to miss the novel features of new problems or dismiss them as "impractical." Hence the requirement that the generation of problems be anticipatory and not await the emergence of the problem itself.

To some extent, the theoretical bases of curricular change—such items as emphasis on enquiry, on discovery learning, and on structure of the disciplines—contribute to this need but not sufficiently or with the breadth which permits effective deliberation. That is, these theoretic proposals tend to arise in single file, out of connection with other proposals which constitute alternatives, or, more important, constitute desiderata or circumstances which affect the choice or rejection of proposals. Consider, in regard to the problem of the "single file," only one relation between the two recent proposals subsumed under "creativity" and "structure of knowledge." If creativity implies some measure of invention, and "structure of knowledge" implies (as it does in one version) the systematic induction of conceptions as soon as children are ready to grasp them, an issue is joined. To the extent that the latter is timely and well done, scope for the former is curtailed. To the extent that children can be identified as more or less creative, "structure of knowledge" would be brought to bear on different children at different times and in different ways.

A single case, taken from possible academic resources of education, will suggest the new kind of enquiry entailed in the need for anticipatory generation of alternatives. Over the

years, critical scholarship has generated, as remarked earlier, a dozen different conceptions of the novel, a dozen or more ways in which the novel can be read, each involving its own emphases and its own arts of recovery of meaning in the act of reading. Novels can be read, for example, as bearers of wisdom, insights into vicissitudes of human life and ways of enduring them. Novels can also be read as moral instructors, as sources of vicarious experience, as occasions for aesthetic experience. They can be read as models of human creativity, as displays of social problems, as political propaganda, as revelations of diversities of manners and morals among different cultures and classes of people, or as symptoms of their age.

Now what, in fact, is the full parade of such possible uses of the novel? What is required by each in the way of competences of reading, discussion, and thought? What are the rewards, the desirable outcomes, which are likely to ensue for students from each kind of reading or combinations of them? For what kinds or classes of students is each desirable? There are further problems demanding anticipatory consideration. If novels are chosen and read as displays of social problems and depictions of social classes, what effect will such instruction in literature have on instruction in the social studies? What will teachers need to know and be able to do in order to enable students to discriminate and appropriately connect the aperçus of artists, the accounts of historians, and the conclusions of social scientists on such matters? How will the mode of instruction in science (e.g., as verified truths) and in literature (as “deep insights” or artistic constructions or matters of opinion) affect the effects of each?

The same kinds of questions could be addressed to history and to the social studies generally. Yet, nowhere, in the case of literature, have we been able to find cogent and energetic work addressed to them. The journals in the field of English teaching are nearly devoid of treatment of them. College and university courses, in English or education, which address such problems with a modicum of intellectual content are as scarce as hen’s teeth. We cannot even find an unbiased conspectus of critical theory more complete than *The Pooh Perplex, and treatments of problems of the second kind (pertaining to interaction of literature instruction with instruction in other fields)* are also invisible.

Under a soundly practical dispensation in curriculum the address of such questions would be a high priority and require recruitment to education of philosophers and subject-matter specialists of a quality and critical sophistication which it has rarely, if ever, sought.

As the last sampling of the practical, consider its method. It falls under neither of the popular platitudes: it is neither deductive nor inductive. It is deliberative. It cannot be inductive because the target of the method is not a generalization or explanation but a decision about action in a concrete situation. It cannot be deductive because it deals with the concrete case, not abstractions from cases, and the concrete case cannot be settled by mere application of a principle. Almost every concrete case falls under two or more principles, and every concrete case will possess some cogent characteristics which are encompassed in no principle. The problem of selecting an appropriate man for an important post is a case in point. It is not a problem of selecting a representative of the appropriate personality type who exhibits the competences officially required for the job. The man we hire is more than a type and a bundle of competences. He is a multitude of probable behaviors which escape the net of personality theories and cognitive scales. He is endowed with prejudices, mannerisms, habits, tics, and relatives. And all of these manifold particulars will affect his

work and the work of those who work for him. It is deliberation which operates in such cases to select the appropriate man.

COMMITMENT TO DELIBERATION

Deliberation is complex and arduous. It treats both ends and means and must treat them as mutually determining one another. It must try to identify, with respect to both, what facts may be relevant. It must try to ascertain the relevant facts in the concrete case. It must try to identify the desiderata in the case. It must generate alternative solutions. It must make every effort to trace the branching pathways of consequences which may flow from each alternative and affect desiderata. It must then weigh alternatives and their costs and consequences against one another and choose, not the right alternative, for there is no such thing, but the best one.

I shall mention only one of the new kinds of activity which would ensue on commitment to deliberation. It will require the formation of a new public and new means of communication among its constituent members. Deliberation requires consideration of the widest possible variety of alternatives if it is to be most effective. Each alternative must be viewed in the widest variety of lights. Ramifying consequences must be traced to all parts of the curriculum. The desirability of each alternative must be felt out, "rehearsed," by a representative variety of all those who must live with the consequences of the chosen action. And a similar variety must deal with the identification of problems as well as with their solution.

This will require penetration of the curtains which now separate educational psychologist from philosopher, sociologist from test constructor, historian from administrator; it will require new channels connecting the series from teacher, supervisor, and school administrator at one end to research specialists at the other. Above all, it will require renunciation of the specious privileges and hegemonies by which we maintain the fiction that problems of science curriculum, for example, have no bearing on problems of English literature or the social studies. The aim here is not a dissolving of specialization and special responsibilities. Quite the contrary: if the variety of lights we need are to be obtained, the variety of specialized interests, competences, and habits of mind which characterize education must be cherished and nurtured. The aim, rather, is to bring the members of this variety to bear on curriculum problems by communication with one another.

Concretely, this means the establishment of new journals, and education of educators so that they can write for them and read them. The journals will be forums where possible problems of curriculum will be broached from many sources and their possible importance debated from many points of view. They will be the stage for display of anticipatory solutions to problems, from a similar variety of sources. They will constitute deliberative assemblies in which problems and alternative solutions will be argued by representatives of all for the consideration of all and for the shaping of intelligent consensus.

Needless to say, such journals are not alone sufficient. They stand as only one concrete model of the kind of forum which is required. Similar forums, operating *viva voce* and in the midst of curriculum operation and curriculum change, are required: of the teachers, supervisors, and administrators of a school; of the supervisors and administrators of a school system; of representatives of teachers, supervisors, and curriculum makers in subject areas and across subject areas; of the same representatives and specialists in curriculum, psychology, sociology, administration, and the subject-matter fields.⁴

The education of educators to participate in this deliberative process will be neither easy nor quickly achieved. The education of the present generation of specialist researchers to speak to the schools and to one another will doubtless be hardest of all, and on this hardest problem I have no suggestion to make. But we could begin within two years to initiate the preparation of teachers, supervisors, curriculum makers, and graduate students of education in the uses and arts of deliberation—and we should.

For graduate students, this should mean that their future enquiries in educational psychology, philosophy of education, educational sociology, and so on, will find more effective focus on enduring problems of education, as against the attractions of the current foci of the parent disciplines. It will begin to exhibit to graduate students what their duties are to the future schoolmen whom they will teach. For teachers, curriculum makers, and others close to the classroom, such training is of special importance. It will not only bring immediate experience of the classroom effectively to bear on problems of curriculum but enhance the quality of that experience, for almost every classroom episode is a stream of situations requiring discrimination of deliberative problems and decision thereon.

By means of such journals and such an education, the educational research establishment might at last find a means for channeling its discoveries into sustained improvement of the schools instead of into a procession of ephemeral bandwagons.

NOTES

1. Copyright 1969 by Joseph J. Schwab. All rights reserved. A version of this paper was delivered to Section B of the American Educational Research Association, Los Angeles, February 1969. This paper has been prepared as part of a project supported by a grant from the Ford Foundation.
2. It should be clear by now that “theory” as used in this paper does not refer only to grand schemes such as the general theory of relativity, kinetic-molecular theory, the Bohr atom, the Freudian construction of a tripartite psyche. The attempt to give an account of human maturation by the discrimination of definite states (e.g., oral, anal, genital), an effort to aggregate human competences into a small number of primary mental abilities—these too are theoretic. So also are efforts to discriminate a few large classes of persons and to attribute to them defining behaviors: e.g., the socially mobile, the culturally deprived, the creative.
3. *College Curriculum and Student Protest* (Chicago: University of Chicago Press, 1969).
4. It will be clear from these remarks that the conception of curricular method proposed here is immanent in the Tyler rationale. This rationale calls for a diversity of talents and insists on the practical and eclectic treatment of a variety of factors. Its effectiveness in practice is vitiated by two circumstances. Its focus on “objectives,” with their massive ambiguity and equivocation, provides far too little of the concrete matter required for deliberation and leads only to delusive consensus. Second, those who use it are not trained for the deliberative procedures it requires.

