

LANGUAGE EDUCATION

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IN A KNOWLEDGE CONTEXT

NOT LONG AGO, THE LARGEST CITY in the United States took on a new head of its schools. Among his first substantive public statements — it may even have been his first — was the announcement of a program of incentives for schools that can improve their students' reading scores. As wordly people, we understand that heads of school systems must make statements of popular appeal, but in this instance there is little doubt about the earnestness of Chancellor Frank Macchiarola of New York City. He has indicated in several ways, among which prizes are but one, that his administration will be committed, first and foremost, to the improvement of reading scores, and *not*, please note, to the improvement of reading, which is another matter altogether.

The improvement of reading scores is, in fact, a quite simple goal to achieve. There are several ways to do it, by far the best being to provide students with the official reading test three days before they must take it. The most effective way to do well on a test is to know what the exact questions will be and to make sure you know their answers. In education this is sometimes called reviewing for a test. To borrow from Dr. Johnson, the availability of a test before it is given wonderfully concentrates the mind.

However, for reasons that are not as clear to me as to others of finer ethics, this procedure is generally regarded as dishonest, in which case an alternative method would be to provide students with reading tests that are similar in content and form to the test they will actually take. They may, then, do these tests in class and at home every week for, say, ten weeks prior to the "official test." In this way students will not learn very much about reading, but they are likely to learn a great deal about taking reading tests. Their scores will improve. Their schools will win such awards as Mr. Macchiarola has promised. And *The New York Times* will have a first page story to lift our spirits. The students will

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still be disabled as readers, but their burden will recede as a public issue. As technical people, we are apt to be preoccupied with scores, not competence, which is probably why Mr. Macchiarola offered no incentives for the improvement of speaking and listening. There are no generally accepted standardized tests for producing a speaking or listening score, and Mr. Macchiarola is undoubtedly a product of the Admiral Hyman Rickover school of thought which claims that what we need most of all in education are scores. If we cannot get a score for something, we are, like a submarine with neither radar nor radio, lost at sea. It does not matter that our students speak badly and listen worse. Or write as if English were a foreign tongue. If we cannot get a score for these behaviors, we may safely ignore them, or at least we shall offer no incentives to improve them.

In this way of thinking, Mr. Macchiarola and Admiral Rickover have it wrong, of course, and they have it wrong on at least two counts. The first is that the improvement of reading scores is not, in any sense, a legitimate educational goal, and in my opinion it is shocking that so many people accept it as such. Reading abilities (it is plural, not singular) are not and cannot be measured by the techniques presently used to produce a reading score. The sort of technicalization represented by such procedures demeans our concepts of learning, intelligence, and language, not to mention reading itself. The second mistake, following inexorably from the first, lies in the indifference a "score" mentality displays toward writing, speaking, listening, questioning, and other manifestations of human intelligence. Although the improvement of reading abilities ought to be a constant goal of the schools, such abilities are no more important than other modes of linguistic expression and are, in fact, inseparable from them.

In the face of the nonlinguistic information bias of our culture, I would propose that the schools place the strongest possible emphasis on language education. But it is necessary to stress at the outset that this cannot be done by mentalities that view language behaviors as scores or even as "skills." Those who conceive of language in this way have little to offer us except a kind of vocational or at least mechanical approach to the subject in the form of exercises, assignments, and tests. They eventually get around to proposing "more grammar" as a way of accomplishing their ends, which, sad to say, it never does. We do not know nearly as much as we should about how children learn language, but if there is one thing we can say with assurance it is that knowledge of grammatical nomenclature and skill in sentence-parsing have no bearing whatsoever on the process. The teaching of grammar is both the first and the last refuge of the educational technocrat. It is his natural inclination to think of all learning as modeled on driver education; that is to say, he believes language competence consists of one's being in command of an ensemble of mechanical skills, all of which lie outside of our personalities, our purposes, and our knowledge. I am here arguing the opposite: Of all things to be learned, in school or out, language, as I prefer to call the process, is least like

a mechanical skill. It is, in fact, the most intimate, integrated, emotion-laden learning we do. At no point can we separate what we know and what we are from how our linguistic powers develop, and I would even include in the phrase "linguistic powers" the learning of such matters as spelling, grammar, and punctuation.

People do not speak or write well because they know the mechanics of their language. They know the mechanics of their language because they speak or write well. By this I mean that improved language behavior originates in the deepest need to express one's personality and knowledge, and to do so with variety, control, and precision. Once such a need has been aroused and cultivated, the resources of language, including its mechanics, become objects of intense interest and are apt to be both satisfying and easy to grasp. This is one of several lessons we may learn from the work of Sylvia Ashton-Warner, Paolo Friere, Herbert Kohl, and others who, in successfully teaching children and adults to read and write with intelligently directed purpose, have seen so clearly that language education involves the transformation of personality. To speak new words in new ways is not a cosmetic activity. It is a way of becoming a new person. It involves learning new things and seeing the world in new ways. "A name," Socrates said, "is an instrument of teaching and of distinguishing natures." Twenty-three hundred years later Bertand Russell made the same point: "Language serves not only to express thought but to make possible thoughts which could not exist without it." What this means is that language education is almost entirely irrelevant when conducted at the level of vocabulary lists, spelling tests, and grammar exercises. Languageing, knowing, and living are intertwined, and it is never easy to know in what ways, if any, they may be distinguished from one another. But this much is clear: language learning is extremely serious business. A young man whose range of response to that which displeases him is located somewhere between the word "bullshit" and some other unoriginal obscenity does not simply have a vocabulary deficiency. He has a perception deficiency. He cannot distinguish among degrees or kinds of displeasure. The world may be said to be a blur to him, and it is not sufficient to provide him with a vocabulary list. He must somehow have his consciousness raised. He must be persuaded that he is missing something, that there is value, for him, in seeing what is now hidden from his view. Having achieved some sense of what there is to see, he will then require the words, perhaps demand the words, with which to understand and express a wider field of vision.

But at the same time, words may themselves be the agent through which his consciousness is raised. If they appear on a vocabulary list, they surely will not. But if they appear in a context which is filled with importance, if not urgency, they may arouse the sense of curiosity or wonder or need from which durable and profound learning originates.

Words increase our understanding, and our understanding increases our words. We are here in the presence of a transactional relationship which can-

not be ignored in planning the language education of our youth. Neither can we ignore what some people call the tyranny of words. For a young man whose emotions are aroused in entirely predictable ways by such words as "democracy" or "racist" or "communism" or "Burger King" may in fact be said to have a vocabulary problem, although not of the sort that education technocrats acknowledge. His "vocabulary problem" is that he is living under the direction of someone else's commands. The words are not fully his. He conducts himself at the sufferance of another.

It may come as a surprise to our technocrat philosophers, but people do not read, write, speak, or listen primarily for the purpose of achieving a test score. They use language in order to conduct their lives, and to control their lives, and to understand their lives. An improvement in one's language abilities is therefore not measurable by a vocabulary test. It is to be observed in changes in one's purposes, perceptions, and evaluations. Language education, at its best, may achieve what George Bernard Shaw asserted is the function of art. "Art," he said in *Quintessence of Ibsenism*, "should refine our sense of character and conduct, of justice and sympathy, greatly heightening our self-knowledge, self-control, precision of action and considerateness, and making us intolerant of baseness, cruelty, injustice, and intellectual superficiality and vulgarity."

Although there is more than a touch of utopianism in it, this is a quotation worth remembering, since it expresses a profound and, one might even say, basic conception of the function of all education, as Shaw knew very well. For my purposes, if you replace the word "art" with the phrase "language education," you will have a precise statement of what I have been trying to say. Nothing short of a conception something like this is going to have much effect on the intelligence and character of children who live in a world of instantaneous, nonhistorical, nonlinear visual imagery.

From this point of view, language learning becomes the central preoccupation of a conserving education, wherein every teacher, regardless of level or subject, must be a language educator. This idea is certainly not a new one, although it has often been interpreted to mean merely that each teacher should take responsibility for correcting students' papers. What I have in mind goes far beyond this.

Let us begin, for example, with question-asking. I would expect very little resistance to the claim that in the development of intelligence nothing can be more "basic" than learning how to ask productive questions. Many years ago, in *Teaching as a Subversive Activity*, Charles Weingartner and I expressed our astonishment at the neglect shown in school toward this language art. Such neglect continues to astonish. The "back to the basics" philosophers rarely mention it, and practicing teachers usually do not find room for it in their curriculums. Thus I find it necessary to repeat two obvious facts about question-asking. The first is that all our knowledge results from questions, which is another way of saying that question-asking is our most important intellectual

tool. I would go so far as to say that the answers we carry about in our heads are largely meaningless unless we know the questions which produced them. The second fact is that questions are language. To put it simply, a question is a sentence. Badly formed, it produces no knowledge and no understanding. Aptly formed, it leads to new facts, new perspectives, new ideas. As Francis Bacon put it more than 350 years ago, "There arises from a bad and unapt formation of words a wonderful obstruction to the mind." In other words, stupidity. Let us, then, go "back to Bacon," and make the study of the art of question-asking one of the central disciplines in language education.

Every teacher would then, at all times, be concerned with this discipline. What, for example, are the sorts of questions that obstruct the mind, or free it, in the study of history? How are these questions different from those one might ask of a mathematical proof, or a literary work, or a biological theory? The history teacher, the mathematics teacher, the literature teacher, the biology teacher must show the young how questions are productively formed in speaking their subject, in listening to their subject, in reading their subject. If this or anything like it is presently being done, I have not heard about it. But this I can say for sure: There are at present no reading tests anywhere that measure the ability of students to address probing questions to the particular texts they are reading.

In any event we must not talk of tests but of serious matters. What I am saying is that to study a subject is to enter a particular language environment. What students need to know are the rules of discourse which comprise the subject, and among the most central of such rules are those which govern what is and what is not a legitimate question. I do not intend here to produce a discourse on the art of asking questions or to specify the rules of questioning in different subjects (neither of which tasks I am smart enough to perform). But it is possible to indicate two concepts that are central to the process of question-asking and which must form part of a basic language education. The first is suggested by a charming story attributed to the psychologist Gordon Allport: Two priests, it seems, were engaged in a dispute on whether or not it is permissible to pray and smoke at the same time. One believed that it is, the other that it is not, and being unable to resolve the matter, each decided to write to the Pope for a definitive answer. After doing so they met again to share their results and were astonished to discover that the Pope had agreed with each of them. "How did you pose the question?" asked the first. The other replied, "I asked if it is permissible to smoke while praying. His Holiness said that it is not, since praying is a very serious business. And how did you phrase the question?" The first replied, "I asked if it is permissible to pray while smoking, and His Holiness said that it is, since it is always appropriate to pray."

The point, of course, is that the form in which a question is asked will control the kind of answer one gets, and that every question, therefore, has a fact or knowledge bias embedded in it. It is precisely this point that I meant to call to your attention in referring earlier to Mr. Macchiarola's incentives for reading

scores. The question "How do we improve reading scores?" is not the same question as "How do we improve reading?" Moreover, the question "How do we improve reading?" is not the same question as "How do we improve language competence?" — which, as you gather by now, I regard as a more productive question than either of the other two. But here it is more to the point to say that whichever question one chooses to ask, the choice will control where and how we will look for the answers. A question is a structure for thought. Language education, therefore, must include the most serious exploration of the structure of questions — their assumptions, limitations, levels of abstraction, and the sources of authority to which they appeal. Without this knowledge our students can barely be said to know anything.

The second concept, referred to earlier, is that, although there is essential general knowledge to be learned about questions, each subject in a school curriculum has its own particular rules about questions. As I have implied, the questions that are appropriate in history differ in their form and meaning from those that are appropriate in biology, or mathematics, or literature. The reason for this is that each subject has a unique vocabulary and its own assumptions about what constitutes knowledge. Surely the "facts" of mathematics are not anything like what is meant by the "facts" of history. A biological "truth" is something quite different from "truth" in a literary work. A "correct" answer in physics is different from a "correct" answer in economics. Thus, through an exploration of how questions are asked in a subject, teachers of all subjects may lead their students to a careful consideration of the language that comprises their discipline. That is to say, any understanding of how a question may be asked in a subject presupposes an understanding of the unique language of the subject. And an understanding of a subject's language necessarily includes the study of the role of metaphor.

Unless I am sorely mistaken, metaphor is at present rarely approached in schools except by English teachers during lessons in poetry. This strikes me as an absurdity, since I do not see how it is possible for a subject to be understood in the absence of any insight into the metaphors on which it is constructed. There is no better example of this than the subject of education itself, for every philosophy, every proposal, every improvement one hears about is rooted in some metaphorical conception of the human mind, of knowledge, of the process of learning, and of the institution of school. In a fundamental sense, all arguments about how education ought to be conducted are arguments about the validity of competing metaphors. If you believe that the mind is like a dark cavern, you will suggest activities that are quite different from those suggested by people who believe the mind is like a muscle or an empty vessel. Do you believe that human beings learn the way rats learn? Or do you conceptualize the mind as a kind of computer? Or a garden? Or a lump of clay? Embedded in every test, every textbook, every teaching strategy is a metaphor of the mind — some notion of what it is most nearly like. Similarly, arguments about the roles of teachers, students, and administrators originate in different

metaphors of school. Some think of school as a prison; others, a hospital; still others, a military organization, or an extension of the home. How school is conceptualized will, in turn, control our metaphors of students. What are students? Are they patients to be cared for? Inmates to be punished? Resources to be cultivated? Personnel to be trained? It is right here, on this issue, that the arguments begin. One would think that adversaries in a dispute about education would try to make their metaphors explicit and visible, let us say, as scientists are apt to do. But usually they do not, which is one reason why such disputes tend to remain murky. To borrow a metaphor from linguistics, the deep structure of the argument usually remains hidden.

I do not mean to say that there is a "correct" metaphor of the mind or of learning. Neither do I say that a well-thought-out philosophy of education confines itself to a single one. I am saying that a conversation about education cannot extend beyond two or three sentences before a metaphor is invoked which provides structure, authority, or explanation for a certain belief. Or sometimes confuses the issue entirely. As I have implied, modern writers on education have not, in my opinion, been sufficiently aware of the extent to which their metaphors have controlled their thinking. This is in contrast to such venerable educationists as Plato, Cicero, Comenius, Locke, and Rousseau, who never failed to make their metaphors explicit. "Plants are improved by cultivation," Rousseau wrote in *Emile*, "and man by education." And his entire philosophy is made to rest upon this comparison of plants and children. Even in such ancient texts as the Mishnah, we find that there are four kinds of students: the sponge, the funnel, the strainer, and the sieve. It will surprise you to know which one is preferred. The sponge, we are told, absorbs all; the funnel receives at one end and spills out at the other; the strainer lets the wine drain through it and retains the dregs; but the sieve, that is the best, for it lets out the flour dust and retains the fine flour. The difference in education philosophy between Rousseau and the compilers of the Mishnah is precisely reflected in the difference between a wild plant and a sieve.

Again, I hope it is clear that at this point I am not arguing in favor of one metaphor as against another in education. I am merely pointing to the obvious fact that all disciplines in a curriculum, including education itself, are based on powerful metaphors which give direction and organization to the way we will do our thinking. In history, economics, physics, biology, or linguistics, metaphors, like questions, are organs of perception. Through our metaphors, we see the world as one thing or another. Is light a wave or a particle? Are molecules like billiard balls or force fields? Is language like a tree, or a river, or the ever-shifting wind? Is history unfolding according to some instructions of nature or divine plan? Are our genes like information codes? Is a literary work like a blueprint or a mystery to be solved? It is questions like these that preoccupy scholars in every field, because they are "basic" questions — which is to say, you cannot understand what a subject is about without some understanding of the metaphors which are its foundation. Do we want a "basic" edu-

cation for our youth? Then we must explore with them that which is basic in a subject: its metaphors, as well as its questions.

To this must be added all of the issues involved in what may be called definition. There is no more depressing symptom of a "nonbasic" education than to hear a student ask for "the" definition of a term, since the question so often implies a lack of understanding of what a definition is and where definitions come from. Definitions, like questions and metaphors, are instruments for thinking. Their authority rests entirely on their usefulness, not their correctness. We use definitions in order to delineate problems we wish to investigate, or to further interests we wish to promote. In other words, we invent definitions and discard them as suits our purposes. And yet, one gets the impression that students (and not a few teachers) believe that God has provided us with definitions from which we depart at the risk of losing our immortal souls. This is the belief that I have elsewhere called "definition tyranny," which may be defined (by me, not God) as the process of accepting without criticism someone else's definition of a word or a problem or a situation. I can think of no better method of freeing students from this obstruction of the mind than to provide them with alternative definitions of every concept and term with which they must deal in a subject. Whether it be "molecule," "fact," "law," "art," "wealth," "gene," or whatever, it is essential that students understand that definitions are hypotheses, and that embedded in them is a particular philosophical, sociological, or epistemological point of view. One of the more interesting examples of this idea is found, once again, in the field of education. I refer to the meaning of the word "basic," as in "back to the basics." I would particularly like to call to your attention that the meaning given to this word by some educators is not its "real" meaning. The word "basic," like any other word, has no "real" meaning. It has been assigned certain meanings in order to further an education philosophy which is thought to be both sensible and effective. The "basic" educators are entirely justified in doing this, but neither you nor I are under any obligation to accept their definition of what is "basic."

From my point of view, obviously, explorations of question-asking, metaphor, and definition are "basic": nothing that students are given to study can be properly considered unless they know about the assumptions and structure of questions, the controlling power of metaphor, and the origins and motivations of definitions. I assume that Admiral Rickover, for example, does not regard these matters as "basic," which it is his privilege to do. But it is my privilege to prevent him from preempting the word. I will use "basic" as I choose, not as he chooses, and it is my intention to persuade others that my definition is more useful than his. In short, the definition of something is usually the starting point of a dispute, not the settlement.

What I am proposing is that in every subject — from history to biology to mathematics — students be taught, explicitly and systematically, the universe of discourse which comprises the subject. Each teacher would deal with

the structure of questions, the process of definition, and the role of metaphor, as these matters are relevant to his or her particular subject. Here I mean, of course, not merely what are the questions, definitions, and metaphors of a subject, but *how* these are formed and how they have been formed in the past.

Students would also be taught how such terms as "right," "wrong," "truth," and "falsehood" are used in a subject, and what assumptions they are based upon. This is particularly important since words of this type cause far more trouble in students' attempts to understand a field of knowledge than do highly technical words. It is peculiar, I think, that of all the examinations I have ever seen, I have never come across one in which students were asked to say what is the basis of "correctness" or "falsehood" in a particular subject. Perhaps this is because teachers believe the issue to be too obvious for discussion or testing. If so, they are wrong. I have found that students at all levels rarely have thought about the meaning of such terms in relation to a subject they are studying. They simply do not know in what sense an historical fact is different from a biological fact. They do not even know how an historical fact is arrived at and by what procedures it may be shown to be false. Equally astonishing is that students, particularly those in elementary and secondary schools, rarely can express an intelligible sentence on the uses of the word "theory." Since most subjects studied in school consist largely of theories, it is difficult to imagine exactly what students are in fact studying when they do their history, biology, economics, physics, or whatever. It is obvious, then, that language education must include not only the serious study of what truth and falsehood mean in the context of a subject, but also what is meant by a fact, an inference, an assumption, a judgment, a generalization, and so on. In this way students will be learning both the language of a subject and the methods of inquiry in that subject, since inquiry consists of nothing else but the generation of questions, the invention of definitions and metaphors, the separation of facts from inferences, the forming of generalizations, and so on.

In addition, some attention must obviously be given to the style and tone of the language in a given subject. Each subject is a manner of speaking and writing. There is a rhetoric of knowledge, a characteristic way in which arguments, proofs, speculations, experiments, polemics, even humor are expressed. One might even say that speaking or writing a subject is a performing art, and each subject requires a somewhat different kind of performance from every other. Historians, for example, do not speak or write history in the same way biologists speak or write biology. The differences have much to do with the kind of material they are dealing with, the degree of precision their generalizations permit, the type of facts they marshal, the traditions of their subject, the type of training they receive, and the purposes for which they are making their inquiries. The rhetoric of knowledge is not an easy matter to go into, but it is worth remembering that some scholars — one thinks of Veblen in sociology, Freud in psychology, Galbraith in economics — have exerted influence as much through their manner as their matter. The point is that knowledge is a

form of literature, and the various styles of knowledge ought to be studied and discussed. I will grant that the language found in typical school textbooks tends to obscure this entire area. Textbook language is apt to be the same from subject to subject, and creates the impression that systematic knowledge is always expressed in a dull and uninspired monotone. I have found that, typically, the recipes found on the back of cereal boxes are written with more style and conviction than is a textbook description of the causes of the Civil War. Of the language of grammar books, I will not even speak, for to borrow from Shakespeare, it is unfit for a Christian ear to endure. But the problem is not insurmountable. Teachers who are willing to take the time can find materials which convey ideas in a form characteristic of their particular discipline.

As our students learn about the rhetoric of a subject, as they learn about the meaning of facts and assumptions in a subject, as they learn about the presuppositions of truth and falsehood, as they learn about how definitions, metaphors, and questions are formed, they would, of course, be learning how to read, write, speak and listen to the subject. As Wendell Johnson once remarked, you cannot write writing. In the sense he meant it, neither can you read reading or speak speaking. You must write about something, just as you must read and speak about something. The "something" is often some aspect of human knowledge which has been given systematic expression in a particular kind of language. Thus all reading, in truth, is reading in a content area. To read the phrase "the law of diminishing returns" or "the law of supply and demand" requires that you know how the word "law" is used in economics, for it does not mean what it does in the phrase "the law of inertia" (physics) or "Grimm's law" (linguistics) or "the law of the land" (political science) or "the law of survival of the fittest" (biology). To the question, "What does 'law' mean?" the answer must always be, "In what context?"

Perhaps you will now understand more fully my earlier remarks about reading tests. A reading test of the sort usually given in school does not test reading any more than a context-free vocabulary exam tests one's understanding of how words are used. A reading test measures one's ability to read reading tests, and reading tests are in themselves a very peculiar sort of situation. The world of reading tests is somewhat akin to the world of crossword puzzles or Scrabble or the game of twenty questions. Some people play these games well, and all praise is due them for their skill. But if we ask, What aspect of the world do they comprehend in doing these games well? the answer is, Only the world within the games themselves.

To put it simply, the question, "How well does one read?" is a bad question, because it is essentially unanswerable. A more proper question is "How well does one read poetry, or history, or science, or religion?" No one I have ever known is so brilliant as to have learned the languages of all fields of knowledge equally well. Most of us do not learn some of them at all. No one is a "good reader," period. There are those, for example, who read the physical sciences well, but not history, and those who read political science well, but not poetry.

Each discipline requires of the reader a particular set of abilities, store of knowledge, and frame of mind, so that there must always be great variability in our capacities to read, write, or speak in different subjects. I assume, for instance, that Admiral Rickover reads mathematics and engineering brilliantly. I should very much like to test his ability to read poetry or religion. I suspect he would fall below the "national norm" (whatever that means) on such a test. I have evidence from his writing that he is not at all skillful in the subject of education. He appears to me unaware of his own metaphors for teachers and students and the nature of mind; he confuses facts with inferences; he reifies definitions; he seems oblivious to the biases of his questions. In his limitations Admiral Rickover is no better or worse than most of us; in fact, probably better, since his command of the language of science is so rich and thorough that he has been able to achieve a just fame for his scientific work. Most of us do not learn to read or speak any subject half as well. Admiral Rickover has become a burden only because he has assumed that he can read and write education as well as he does engineering.

From what I have been saying about the teaching of language in a knowledge context, you may assume that I believe the following:

1. The improvement of language behavior requires increased knowledge of various aspects of human experience. The more you know about a subject, the better you can listen to it, and read, write, and speak it.
2. Knowledge of a subject means knowledge of the language of that subject, which includes not only what its words mean but, far more important, *how* its words mean. As one learns the language of a subject, one is also learning what the subject is. It cannot be said often enough that what we call a subject consists mostly, if not entirely, of its language. If you eliminate all the words of a subject, you have eliminated the subject. Biology is not plants and animals. It is language about plants and animals. History is not events. It is language describing and interpreting events. Astronomy is not planets and stars. It is a way of talking about planets and stars. Therefore, there are two levels of knowing a subject. There is the student who knows what the definition of a noun or a gene or a molecule is; then there is the student who shares that knowledge but who also knows how the definition was arrived at. There is the student who can answer a question; then there is the student who also knows what are the biases of the question. There is the student who can give you the facts; then there is the student who also knows what is meant by a fact. I am maintaining that, in all cases, it is the latter who has a "basic" education; the former, a frivolous one.
3. I maintain further that such a "basic" education can begin in the earliest grades, and that it is not necessary for even a fourth grader to be burdened by such obstructions of the mind as definition tyranny, reification, superfi-

ciality, and total unawareness of what a subject is. The concepts to be studied in learning the language of knowledge may be presented in different ways and at variable levels of complexity; learning the language of knowledge is not beyond the range of elementary-school children. Moreover, since there is no such thing as complete knowledge of a subject, one is always working to improve one's reading, writing, etc., of a subject. As Thomas Henry Huxley said, "If a little knowledge is a dangerous thing, is there anyone who knows so much as to be out of danger?" The notion that reading and writing instruction, for example, may cease in the tenth or eleventh grade is nonsense. The fourth grader and the tenth grader are faced with the same sort of problem — learning about the uses of language in different subjects. That the latter may know more about it than the former does not imply that his instruction can end. The problems of learning to read or write are inexhaustible. Anyone who has worked with graduate students can tell you that they require continuous instruction in reading and writing their subject.

4. It is to be understood that the evaluation of a student's speaking or writing behavior must focus on whether or not he or she *makes sense*, on whether or not a student knows what is being asserted and can respond to it in appropriate ways. But this does not mean that grammatical or rhetorical error is irrelevant in evaluating students. As I have said, each subject is a manner of speaking. An historian is not likely to say "Bullshit!" when he disagrees with another historian. That is the language of another universe of discourse. The difference between "Bullshit!" and "I disagree" is not solely a matter of propriety. It is a difference in outlook and usually reflects differences, not in social class, but in understanding of the kind of situation history or any other subject is. The same may be said of writing that is filled with mechanical and grammatical error, as compared with writing that conforms to the rules of standard edited English. Surely, we do not want to say that there is a necessary correlation between mechanical and editorial accuracy and intellectual substance. There are many books that are mechanically faultless but which contain untrue, unclear, or even nonsensical ideas. Carefully edited writing tells us, not that the writer speaks truly, but that he or she grasps, in some detail, the manner in which knowledge is usually expressed. The most devastating argument against a paper that is marred by grammatical and rhetorical error is that the writer does not understand the subject.

Thus, the quality of students' learning is to be judged by both their manner and their matter. And it is precisely through one's learning about the total context in which the language of a subject is expressed that personality may be altered. If one learns how to speak history or mathematics or literary criticism, one becomes, by definition, a different person. The point to be stressed is that a subject is a situation in which and through which

people conduct themselves, largely in language. You cannot learn a new form of conduct without changing yourself.

5. I want, finally, to point out that the meaning I have given here to "language education" represents it as a form of metaeducation. That is, one learns a subject and, at the same time, learns what the subject is made of. One learns to talk the subject, but also learns to talk about the talk; one learns subjects as human situations whose language is at all times problematic. If it be said that such learning will prevent students from assimilating the facts of a subject, my reply is that this is the only way by which the facts can truly be assimilated. For it is not education to teach students to repeat sentences they do not understand so that they may pass examinations. That is the way of the computer. I prefer the student to be a programmer.