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COMMON DILEMMAS

THERE are distinctive differences between the common people of the industrially advanced societies and the farmers and peasants of the Latin American countries in whose behalf Paulo Freire has worked and written. In *Pedagogy of the Oppressed*, Freire says:

> . . . the oppressed, who have adapted to the structure of domination in which they are immersed, and have become resigned to it, are inhibited from waging the struggle for freedom so long as they feel incapable of running the risks it requires. Moreover, their struggle for freedom threatens not only the oppressor, but also their own oppressed comrades who are fearful of still greater oppression. When they discover within themselves the yearning to be free, they perceive that this yearning can be transformed into reality only when the same yearning is aroused in their comrades. But while dominated by the fear of freedom they refuse to appeal to others, or to listen to the appeals of others, or even to the appeals of their own conscience. They prefer gregariousness to authentic comradeship; they prefer the security of conformity with their state of unfreedom to the creative communion produced by freedom and even the very pursuit of freedom.

In the United States, the contrast between oppressor and oppressed is not plainly drawn in the relation between one class and another. Nor are the roles so personalized. Much more often, both oppressor and oppressed exist in the same individuals. There are of course the very rich and the very poor, but the arena of both social control and social change is not so much defined by these polarities as by the vast extent of the middle class.

The first task of the teacher, on coming to a Latin American village, is to help the people throw off their belief that the oppressors are right in saying that peasants are dull-witted, helpless, and in need of guidance from their educated betters. Freire remarks:

> Not infrequently, peasants in educational projects begin to discuss a generative theme in a lively manner, then stop suddenly and say to the educator: "Excuse us, we ought to keep quiet and let you talk. You are the one who knows, we don't know anything." They often insist that there is no difference between them and the animals; when they do admit a difference, it favors the animals. "They are freer than we are."

Fear of freedom comes all too easily to such people. Inevitably, freedom will mean the pain of having to think for themselves, of making choices. First the teacher has to find ways of restoring the villagers' sense of being competent, or such apprehensions, encouraged by their rulers for centuries, will continue to cut them off from independent decision. It is for them a difficult and momentous thing, as Freire points out, to have to choose "between being spectators or actors; between acting or having the illusion of acting through the action of the oppressors; between speaking out or being silent, castrated in their power to create and re-create, in their power to transform the world." Freire calls this "the tragic dilemma of the oppressed which their education must take into account."

One of Freire's objectives is to help the peasants to develop their own resistance to "the seductions of the modern consumer culture," and in working for this he has been joined by Ivan Illich, who severed himself from the Roman priesthood because he believed that the Church had allowed itself to become a transmission belt for the artificial consumer values of North American culture.

How, then, can middle class Americans have anything in common with the rural poor of the countries to the south? Americans, after all, are both the champions and enjoyers of modern consumer culture; we have what everybody else wants, and what some revolutionists claim they are fighting to get for all. Yet middle class

America is by no means happy and "fulfilled." Are there any people in the world who complain so much and so loudly? Their medical and psychiatric bills alone stagger the imagination.

Yet it is certainly true that Americans ought to become aware of where their troubles lie. What Freire calls "conscientization"—and which we might term critical selfconsciousness—is equally needed here. In his review (*Science*, May 14, 1971) of Freire's writings, Michael Maccoby said:

> As a number of psychologists and analysts have pointed out, many people do not know what they feel, or have suppressed feeling in order to fit their roles. The sense of wonder has been lost. In rural Latin America, hopelessness has been caused by scarcity and oppression. Here it often comes from consumerism, anxiety about the future, and the lack of responsiveness or joy in human relations. To apply Freire's approach to our own society requires considerable study.

Here, then, we need to look at tendencies, not accomplished facts or existing situations. We should look at the distribution of attitudes, not income. The greatest problem of the peasants is how they think of themselves. It is at this level, then, that comparisons need to be drawn.

Well, how do *we* think of ourselves?

In our own way, we are subject to some of the delusions that keep the peasants from feeling their own competence. That is, Americans, as a people, are now relying increasingly on specialists. The enormous authority of the legal and medical professions is well known, and found very profitable by these practitioners. Unconventional healers are shut out from practice by prejudicial laws. It is difficult for anyone to defend himself in court, although this is sometimes done. Meanwhile, the style of our technological progress is making it harder and harder for householders to make their own repairs on appliances and other things. There are a few exceptions to this, as in the case of plastic pipe for plumbing, and wallboard with taped joints in home construction, but the building codes often seem designed to serve the interests of the large contractor, not the owner-builder. Culture is increasingly in the hands of specialist university professors, while art is defined by obscurantist critics. Public affairs have grown so complex that they can hardly be understood by the common people without a Ralph Nader handbook, and politicians with no claim to distinction save that they won an election are endlessly written about in what are supposed to be our best magazines. There seem to be hardly any private citizens of parts and attainment left, judging from what we read in the papers and periodicals. Everyone who writes or gets written about is some kind of specialist. More than forty years ago, Albert Jay Nock noticed this cultural weakness of the times, speaking of it in his *Theory of Education in the United States:*

> Another interesting feature of this present condition of affairs is the complete disappearance of what may be called the non-professional scholar, such as foreign countries have always produced, and still produce, and of which we ourselves formerly produced quite a few, some of them quite notable. One of the best Latinists in England of the last generation was a bishop; one of the very best Greek scholars in England was the head of the huge Westminster Bank. Some of England's public men of the period, like Mr. Asquith and Mr. Gladstone, were good scholars. Even now, among France's public men, M. Poincaré is an excellent man of letters. At the height of the war M. Poincare, representing the French Academy at the centenary of Ernest Renan, wrote an appreciation of Renan's position in the world of letters that was redolent of good sound literary learning and taste; and M. Barthou did as much in his capacity as representing the Institute of Science on the same occasion. In our own country, the revision of our standard Latin lexicon was made almost entirely by a man in the insurance business. The history of the Inquisition which has held the field undisputed for thirty years was written by a retired publisher in Philadelphia. A newspaper editor gave us our best translation of a Greek historian.

While Mr. Nock's devotion to the classics and the Great Tradition is obvious enough, his point still has substance, even if we do not value Greek and Latin scholars, or even scholarship, as much as he did. The point is that men of distinction

were amateurs, not professionals; or if professionals, they were also diversely talented human beings. The whole trend to specialization has been against the emergence of such individuals, although we have had at least a few in our own time—Lewis Mumford for one, Paul Goodman for another, and Buckminster Fuller a third.

Another evidence of the division between ordinary people and performing specialists is the increasing tribute paid to cleverness and brilliance, to the neglect of substance. This is certainly a charge applying to many of the writers of today, who seem to vie with each other in fashionable obscurity, using an "in" language which the reader is bound to find bewildering. Among the journals published for a literate public, the *American Scholar* is the only one which has not submitted to this trend.

Enough has been said by others in indictment of professional scholars who care only for the niceties and progress of their own "field," and whose interest in students is limited to the quest for graduate assistants who want to follow in their footsteps. The idea of helping to bring into being a civilized community of genuinely educated individuals has long since been forgotten, with the result that the cry for "relevance" from rebellious students of the 60s was in most cases uninstructed, or was only the demand for teaching with a particular political orientation. The insistence upon relevance usually made recognizable sense only in the case of students who already had a clear sense of direction—who knew what they wanted and found themselves unable to get it from a modern university—as in the case of the Berkeley graduate student whose Ph.D. program prevented him from taking the courses he needed to become an ecologist. This man, Garrett De Bell, quit school and went after his education independently. "The trouble with the academic approach," he said (in his contribution to *The New Professionals*, edited by Ronald Gross), "is that it rarely is directed toward *solving* problems." The research projects that could be formulated to seek and sometimes find solutions for ecological problems "would almost certainly be rejected as Ph.D. theses," he said, "for their common characteristic is that they bridge many disciplines, and not only study what is but what should be."

So relevance is no mystery for students like Garrett De Bell. But what about relevance in relation to a general education? For discussion of this question we turn to a paper by Robert McClintock (appearing in the Teachers College *Record* for January, 1969):

> Students are demanding that their studies be made more relevant. It is no accident that this demand has arisen at a time when the student's power in comparison to his teachers is nil; the demand that studies *be made* more relevant signifies the student's total surrender: all is left up to the teacher. No faculty should permit itself to be so deified; at most it should help the students find meaning for themselves in their studies. Thus, the question of relevance should be left up to the student, and with respect to it, his first task is to make what he chooses to study relevant to himself, to the self he seeks to be. To articulate to himself the value of various subjects for his self-development, he needs a formative theory of man, a nascent conception of what he as a man can and should become, hence, he needs to address himself to pedagogy.

Now we are getting back to Freire, if not to Freire's language, although we can use that, too. Why should a man learn to read, why does he seek knowledge? Maccoby says: "Freire's approach is based in his concept of man's nature: Man is different from other animals because he has a drive to perfect himself and 'humanize' the world." In Freire's words: "Whereas animals adapt themselves to the world to survive, men modify the world in order *to be more."* This is what McClintock is talking about—"a formative theory of man, a nascent conception of what he as a man can and should become"—which leads to the study of pedagogy, if we adopt, as McClintock does, William Dilthey's definition: "the blossom and goal of philosophy is pedagogy in its widest sense—the formative theory of man."

McClintock turns to the Greeks for a development of this subject, finding it "in the seminal treatise, Plato's *Protagoras."*

> Plato suggested that, above all' pedagogy was the topic on which the student should meditate. The student could learn many things without knowing anything about pedagogy; and because of this fact, he should seek first to learn about pedagogy, for only then could he choose intelligently what other things to learn. By ignoring pedagogy, the student risked harming himself, for he would learn many things without having any inkling of what sort of person these things would make him become. Such reflections led to the dialogue recorded in *Protagoras.* Recall how the young man, Hippocrates, was going to study with Protagoras without having considered what effects on himself such learning would have. Socrates pointed out the foolishness of such an action, and the two together decided instead to ask Protagoras to explain what sort of persons his students would become by accepting his teachings. With that, all three were launched on an inquiry into whether excellence could be taught, and the resultant discussion is still relevant to anyone who wishes to find a formative theory of man that he can use to help guide his own pursuit of excellence. Present-day youth might follow Socrates and Hippocrates in asking its would-be teachers to explain how the various matters taught will form the man who studies them.

This would lead, McClintock suggests, to "general courses on pedagogy." But pedagogy, after all, is practically the same subject as General Education, which means, then, that we need to reform general education into the study of pedagogy. And this would require no "new programs," but simply a reform in practice—changing what is now done into a study "suitable to the student *qua* student."

Are the universities likely to institute such changes? The prospects are not good. This being the case, the students will have to do it for themselves. But *can* they? someone will ask. Can they, without a Socrates or a Freire to press them on with "generative" questions?

Now we are at the core of the matter, for we know that the number of students who will play Socrates to one another is very small. Yet it is part of the human heritage that we *had* a Socrates, that we *have* a Freire, and that others are keeping their ideas and questions fresh and current before the minds of troubled and wondering people. Freire's theory of the formation of human beings is that they must be *self -formed,* or the process will abort, producing only more oppressors and more victims.

How do we know that Plato was right, or that Freire's doctrine is a true one? We don't, of course. To verify a theory of human formation, you have to try it out. Talking about it isn't good enough. But the Platonic approach has the virtue of insisting that the inquirer remain his own authority. In the *Gorgias* Socrates told his opponents that he would utterly fail unless they adopted his view because *they* found it to be true. He wanted no "social pressure" to convert them, and he scorned the tricks of lawyers. This Socratic rule might well be made the condition of every such undertaking: Will it lead to the equality which Tolstoy declared was the goal of all education?

Who is, or how many are willing to take on a project like that? The question cannot be answered in the abstract, since no one knows until he tries. There is a benign infection in asking "generating" questions. If enough people ask them, they begin to create together the air and sunlight and landscape of a civilized community. In his review of Freire's work, Michael Maccoby said that "no count has been made of the educational experiments based on Freire's methods, but they are numerous throughout Latin America." If you raise the same question about Plato's methods, you could arrive at some kind of count of the centers, groups, and schools that have at least started out with the study of pedagogy as found in the *Protagoras.* There must have been scores of them in the twenty-five hundred years since Plato and Socrates lived in Athens.

The old rejoinder, "Well, why haven't these wonderful men accomplished more?" is really a

false question. We have no knowledge of the normative rate of progress for the human species. We know only what we'd *like* it to be. And the situation is much as Loren Eiseley described it in *The Night Country:* "our desire is not to seek the good life but to produce a painless mechanical version of it—our willingness to be good if goodness can, in short, be swallowed in a pill." We want our freedom and our own careless opinions, but we also want the privileges and indulgences promised by the Grand Inquisitor—or, in our time, the packaged delights of technological consumerism.

Are we so different, then, from the peasants labored with by Paulo Freire? Different, perhaps, in having what they want, but not so different in thinking of ourselves as requiring them, as being people of little or no importance unless we keep on getting them. And not so different in honoring as authorities and Better Minds the people who cultivate our appetites, design our conformities, and declare our goals. And do not we too have to choose "between being spectators or actors," between "speaking out or being silent" and refusing to recognize our "power to transform the world"?

REVIEW
THE PURSUIT OF TRUTH

HUMAN inquiry passes from the simple to the complex. First comes the desire to know what is true about the world. We learn from other people, and without much difficulty are able to separate what we learn from those who have said or taught it. Then, after some failures, discouragements, and disappointments in what we have believed, we recognize that people make mistakes, that they can be wrong, or have even pretended to know about things they didn't understand. Then we see the importance of paying attention to how people learn or find out what they know, or believe that they know. Not only what is true, but how we know it to be true, requires investigation.

Here we encounter more complexity, since there is so much variety in the way people learn. We still want to know what is really true, but being able to recognize the *path* to knowledge has become equally important. So, you could say, we turn from philosophy to psychology. The epistemologist is, after all, a psychologist. Now another change in direction begins to take place, and, speaking historically, has very largely taken place already. It is that the goal of finding the truth itself begins to seem either unattainable or meaningless. The word "truth" becomes unpopular, and people stop using it except within quotation marks. Scholars become specialists in showing all the ways in which men fool themselves into supposing that they have found the truth, and eventually the devices and mechanisms of belief take up all the space in our minds that once gave room to what we were sure were the undoubted facts of life.

Yet underneath all this doubting and popular sophistication there remains the longing to know, which does not really die. Wherever persisting emotion is linked with opinion, there is probably a strong, underlying desire to know, to have some certainty, no matter what the words men choose to express their feelings. And now and then some daring individual will go full circle through all the phases of initial belief, doubt, disillusionment, to careful skepticism, finally arriving at determined renewal of the desire to know, although with full recognition of how very difficult it is to be sure about anything, and of the care one must exercise to avoid fooling not only oneself but others, too. And then, when such a man appears, and has the courage to make himself heard, the rest of us who have similar but secret hopes respond with enthusiasm to what he says. He speaks to our condition. We see in him a kind of "twice-born" man.

This simple and unsubtle account of the mental processes we all go through seemed a good way to introduce another posthumous book by Dr. Maslow—*Dominance, Self-Esteem, Self-Actualization: Germinal Papers of A. H. Maslow* (Brooks/Cole Publishing Co., Monterey, Calif., 1973, $5.95), edited by Richard J. Lowry. Mr. Lowry wrote *A. H. Maslow: An Intellectual Portrait,* reviewed in MANAS for Nov. 14, 1973, and is now preparing for publication *The Journals of A. H. Maslow.*

This book can be read as a survey of Maslow's interests, starting with the papers which formed his doctoral thesis—on the subject of dominance in primate monkeys (1936)—moving to the study of dominance in humans (1939), and reaching what became his primary concern in a paper on motivation (1943) and one on self-actualization and psychological health (1950) . Lowry feels that the idea of self-actualization is present in germ in the first papers on monkeys, since he detects a sympathy with the self-confidence and assurance of the dominant monkeys in Maslow's accounts of their behavior, and regards this as an anticipation of the confidence of the self-actualizer. However, what is beyond doubt in these first papers is the evident combination of freshness of approach with meticulous care in making accurate description, a fine choice of words, and similar qualities which

make the reader feel that here indeed is the practice of serious science in a very difficult area. This work was done at the University of Wisconsin under the supervision of Harry F. Harlow. It was begun in the early 1930s and first published in 1936. Harlow remarked, when Maslow left Wisconsin in 1935, that he thought "a fine monkey man had gone down the drain," but added that he had known all along that "Abe's interests surpassed the simians."

Human subjects did, indeed, give scope to Maslow's interest in the inward side of human behavior, as reflected in "feelings of shyness, timidity, embarrassability, self-confidence, self-consciousness, inhibition, conventionality, modesty, fearfulness, poise, inferiority feelings, social ease, and the like." The paper, "Dominance, Personality, and Social Behavior in Women" (1939), presents the same careful accounts of behavior, then turns to generalizations which bring some unity to the conclusions of the study. Maslow says, for example, that the "high-dominance woman may be spoken of as psychologically free, easy, and relaxed," while the "low-dominance woman is strained, tense, and inhibited." The former, in his opinion, is "more natural." Maslow goes on to say that much confusion in the study of personality could be avoided if a distinction were made between the "implicit and explicit personality." The traits of a human being need to be understood, if possible, underneath cultural modifications. After illustrating how cultural and social influences produce changes in behavior, he says:

> The implications of the foregoing distinctions are considerable. It must be obvious that a purely behavioral approach to personality takes the long way 'round, to say the least, and even, because of limitations of method, may possibly not even hope to learn all there is to learn about personality. This amounts to saying that what people feel, think, and wish is as important as what they do, if the aim is to understand personality. In this we agree with the psychoanalysts who have long claimed that the academic psychologist scratched the surface and neglected the most important aspects of personality. At the same time, we do feel that it is quite possible to study inner personality in an acceptably scientific fashion.

Maslow was here declaring an intention that would occupy the rest of his life.

"The Authoritarian Character Structure," a paper published in 1943, can be regarded as a "transition" paper in several senses. First, one could say that it represents a differentiation of "dominance" characteristics into healthy and unhealthy kinds. The authoritarian person is definitely of the unhealthy sort. His "dominance" finds its archetype in the behavior of animals in the jungle. There can be "strength" in the non-authoritarian person, in the healthy human being, but in this case the strength is used for coping with tasks and problems, not to increase the drive for power over others.

This paper is also evidence of transition in that its "research" consists mainly in the hard thinking of the author. While Maslow takes off from the discussion of the subject in Erich Fromm's *Escape from Freedom,* its conclusions are Maslow's reflections on what he has learned from a general observation of people's behavior and attitudes, and his footnotes refer to examples in current literature of the human types he has under consideration. This paper, then, is a splendid example of Maslow's major achievement in winning acceptance as authentic psychology for an intensively thought-out *essay.* The value of this paper will be quite evident to the reader. It is luminously reasonable and explains a great deal about a peculiarly offensive and dangerous form of human behavior.

He begins by showing that the authoritarian finds the world a dangerous place filled, like the jungle, with threatening forces and entities which must be ruthlessly opposed. Power is the key to success for the authoritarian, and virtues indifferent to power, such as kindness and gentleness, are signs of weakness and defeat in his eyes. He admires the hard, the selfish, the cruel way of doing things. He is hostile and anti-

toward groups not his own. His antipathies may change; not a particular scapegoat, but *some* scapegoat, is necessary to him. The authoritarian has only one scale of values, and to be high on the scale is to be *better* than others, to be superior, not merely different, as with the democratic person. People are objects or tools for the authoritarian, and by using, defeating, destroying others he vindicates his own excellence and superiority. The passive authoritarian finds fulfillment in submerging himself in the patterns of the leader—the authoritarian is thus both masochistic and sadistic. Love is foreign to him. And he can never achieve final or balanced satisfaction or content.

The concluding note is of particular interest:

> Is it possible to change the authoritarian person? We can say "yes" with the utmost assurance, for this change has been wrought many times by psychoanalysis and by shorter therapies as part of their routine psychotherapeutic business. But this is only a partially practicable answer, for these people come to be cured, not of authoritarianism but almost always of specific neurotic or psychosomatic symptoms. Where there is no will or desire to become well, cure is very difficult.
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> There remains the final question, "Is the authoritarian ultimately right or wrong?" If we confine ourselves to purely psychological considerations the answer is easy. The conditions which the authoritarian attributes to human nature in general are in point of fact found only in a small proportion of our population. The only individuals who ultimately fulfill their conditions are those we call psychopathic personalities. Of no other human beings can it be said that they are completely selfish, completely ruthless, completely without conscience, completely without basic ties or self-imposed obligations to other human beings.

The two remaining papers, those on the hierarchy of needs and self-actualization, introduce the reader to the themes for which Maslow has become famous as a reformer and innovator in psychology. The postulation of the higher needs, later identified by Maslow as Being-needs, led to a view of man which took into consideration "man's deeper motivations" and brought a profoundly humanistic conception of health. It also required, as Maslow said, "basic revision of the Freudian theory." The Needs paper was published in 1943, the study of Self-Actualizing People in 1950. In the latter paper, Maslow describes his work in studying both individuals known to him and eminent "high-achievers" in history. These concluding papers may be regarded as classics of psychological research. They also represent the return of a thoughtful man to the pursuit of truth. As he said toward the end of his life, his work grew increasingly philosophical as the years went by.

COMMENTARY
A. H. MASLOW

ON reading over contents of this issue, it becomes apparent that A. H. Maslow was a splendid illustration of Ortega's ideal learner—a man whose motives grew out of his personal need to know. Yet he was also an ideal teacher, since his over-all influence was toward helping people to realize their own competence and recognize their own potentialities. You don't read or study Maslow because he is an "authority," but because of the inspiration he awakens. He doesn't write as a "leader," but as a colleague—you get the feeling that he maintained his "student" status throughout his life. He doesn't tell you about what he "knows," but what he wants to find out or be sure of, what he regards as important, and about his sense of direction and the encouragements he finds in evidence he uncovers along the way. And then, once in a while, you sense a rock-like foundation of knowledge underneath the theories and "experiments" of this friendly, strong, and independent mind.

His theories are fine; they raise the hopes of the learner; they seem good guides to self-realization. But his open, unpretentious way of "research" seems even more valuable. In the foreword to his paper on self-actualizing people (see Review), he speaks of seeking "solutions of various personal, moral, ethical, and scientific problems," explaining that certain studies he made seemed so important that they ought to be reported, even if only as "theory." But then, he said, they were in his opinion also "empirical reports," more than just "theorizing." Continuing, he wrote:

> Finally, I consider the problem of psychological health to be so pressing that *any* leads, *any* bits of data, however moot, are endowed with a certain temporary value. This kind of research is in principle so difficult—involving as it does a kind of lifting oneself by one's anxiological bootstraps—that, if we were to wait for conventionally reliable data, we should have to wait forever. It seems that the only manly thing to do is not to fear mistakes, to plunge in, to do the best one can, hoping to learn enough from blunders to correct them eventually. At present the only alternative is simply to refuse to work with the problem. Accordingly, for whatever use can be made of it, the following report is presented with due apologies to those who insist upon conventional reliability, validity, sampling, etc.

It must have been the lucid intelligence combined with the disarming honesty, simplicity, and daring of this man that led to his election as president of the American Psychological Association in 1967. The members sensed if they did not wholly understand what he stood for and was working toward in the practice of a psychology of *human* beings.

CHILDREN
. . . and Ourselves
A GOOD BOOK TO OWN

PERSUASIVE evidence of the validity of Jean Piaget's theories of child psychology may lie in the fact that while some of his books are very difficult for the lay reader to understand, when he sets out to write for the general public he conveys his meanings quite clearly. We now have in our library three of Piaget's books, all published by Grossman. One of these, *Science of Education and the Psychology of the Child*, appeared in 1970 and was discussed in MANAS for Sept. 9 of that year. This is an excellent introduction to Piaget's thinking. *The Child and Reality—Problems of Genetic Psychology* ($7.95) came out early in 1973, and proved too complicated for us to review with any confidence, although it would doubtless be valuable for anyone who is willing to study Piaget's experiments and to learn the special language of his research. And now we have *To Understand Is To Invent* ($7.50), issued late last year, a luminous text concerned with the future of education.

This third book contains two discussions prepared for UNESCO. The first paper is a brief review and critique of prevailing methods of child education, followed by an exposition of Piaget's constructivist approach, which "leads to placing all educational stress on the spontaneous aspects of the child's activity." Piaget's fundamental contention, repeated again and again, is that all genuine learning or growth is at first-hand; as his title declares—*To understand is to invent.* To repeat the words which represent knowledge without having experienced the discovery which makes it his own, is a falsification by the student, who does not *know* what he is saying. When education mistakes this verbal repetition for learning, it betrays both the child and the social community, since both are deceived by appearances, and the pretense involved will lead to both individual and social breakdowns in the future.

It is in the area of mathematics that the method of lecturing and verbal communication fails most rapidly and most evidently; in consequence both teachers and parents speak of children who have a special "aptitude" for math, while others, usually the majority, are regarded as lacking in this ability. Piaget, while not entirely denying aptitudes, says that the apparently poor student in math is not defeated by the subject but by the way it is taught.

> What they do not understand are the "lessons" and not the subject. Thus it may be—and we have verified it in many cases—that a student's incapacity in a particular subject is owing to a too-rapid passage from the qualitative structure of the problems (by simple logical reasoning but without the immediate introduction of numerical relations and metric laws) to the quantitative or mathematical formulation (in the sense of previously worked out equations) normally employed by the physicist.

What should be done? Piaget proposes that the teacher must work to establish certain basic intellectual conditions—"doubtless those of all intellectual training"—as the foundation of elementary instruction in the sciences:

> The first of these conditions is, of course, the use of active methods which give broad scope to the spontaneous research of the child or adolescent and require that every new truth to be learned be rediscovered or at least reconstructed by the student, and not simply imparted to him. Two common misunderstandings, however, have diminished the value of the efforts made in this field up to now. The first is the fear (and sometimes hope) that the teacher would have no role to play in these experiments and that their success would depend on leaving the students entirely free to work or play as they will. It is obvious that the teacher as organizer remains indispensable in order to create the situations and construct the initial devices which present useful problems to the child. Secondly, he is needed to provide counter-examples that compel reflection and reconsideration of over-hasty solutions. What is desired is that the teacher cease being a lecturer, satisfied with transmitting ready-made solutions; his role should rather be that of a mentor stimulating initiative and research.

We take time out here to underline Piaget's aside that these conditions are "doubtless those of all intellectual training," and also, as he later shows, equally important in the development of ethical attitudes and understanding. Other men who have taught all their lives have reached practically the same conclusion. We are thinking of what Leonard Nelson says concerning the teaching of philosophy in *Socratic Method and Critical Philosophy* (Dover,

1965), and of what Ortega says in the first chapter of *Lessons in Metaphysics* (Norton, 1969). Nelson insists on the importance of self-discovery in philosophy:

> To Socrates the test of whether a man loves wisdom is whether he welcomes his ignorance in order to attain to better knowledge. The slave in the *Meno* does this and goes on with the task. Many, however, slacken and tire of the effort when they find their knowledge belittled, when they find that their first few unaided steps don't get them far. The teacher of philosophy who lacks the courage to put his pupils to the test of perplexity and discouragement not only deprives them of the opportunity to develop the endurance needed for research but also deludes them concerning their capabilities and makes them dishonest with themselves.
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> Now we can discern one of the sources of error that provoke the familiar unjust criticisms of the Socratic method. This method is charged with a defect which it merely reveals and which it must reveal to prepare the ground on which alone the continuation of serious work is possible. It simply uncovers the harm that has been done to men's minds by dogmatic teaching.
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> Is it a fault of the Socratic method that it must take time for such elementary matters as ascertaining what question is being discussed or determining what the speaker intended to say about it? It is easy for dogmatic instruction to soar into higher regions. Indifferent to self-understanding, it purchases its illusory success at the cost of more and more deeply rooted dishonesty. It is not surprising, then, that the Socratic method is compelled to fight a desperate battle for integrity of thought and speech before it can turn to larger tasks. It must also suffer the additional reproach of being unphilosophical enough to orient itself by means of examples and facts.

The parallels with what Piaget says are obvious enough. It matters little whether children or philosophy students or other quite adult persons are involved. The difference between knowledge and words remains.

Now Ortega, who also insists upon the necessity for firsthand knowledge:

> It is an imperative of our time—I will later explain the serious reasons for this—that we think things through to their naked, factual, and dramatic selves. This is the only way of coming face to face with them. It would be delightful if being a student were to mean feeling a most lively desire for this, that, or the other kind of knowledge. But the truth is exactly the opposite; to be a student is to see oneself as the person obliged to interest himself in the very thing that does not interest him or, at best, interests him only vaguely, indirectly, or in general terms. . . .
>
> And so the terrible gap which began at least a century ago continues to grow, the gap between living culture, genuine knowledge, and the ordinary man. Since culture or knowledge has no other reality than to respond to needs that are truly felt and to satisfy them one way or another, while the way of transmitting knowledge is to study, which is not to feel those needs, what we have is that culture or knowledge hangs in mid-air and has no roots in sincerity in the average man who finds himself forced to swallow it whole. That is to say, there is introduced into the human mind a foreign body, a set of dead ideas that could not be assimilated.

Assimilation requires the self-discovery that both Piaget and Nelson speak of; there is no other way. What then must education do? It must do what they also say: What Ortega declares must be done:

> The solution . . . does not consist of decreeing that one not study, but of a deep reform of that human activity called studying and, hence, of the student's being. In order to achieve this, one must turn teaching completely around and say that primarily and fundamentally teaching is only the teaching of a need for the science and *not* the teaching of the science itself whose need the student does not feel.

We probably ought to be grateful that Piaget did all those experiments with children, making his conclusions undeniable. They are valuable, too, in providing scores of illustrations of how to go about helping children to make the discoveries he shows to be essential. Meanwhile, Nelson and Ortega made *their* experiments at another level, exposing exactly the same truth or law of learning.

Only the first few propositions in this book by Piaget have been given. The rest of the book is equally valuable, especially the way in which he shows how moral ideas also need the reinforcement of independent self-discovery. He then goes on to describe a program for genuine internationalism, based upon these pedagogic principles. *To Understand Is To Invent* would be a good book to own.

FRONTIERS

World Food Supply

MORE than fifty years ago Walter Lippmann pointed out that the press, whatever its value and services, cannot "be charged with the duty of translating the whole public life of mankind." Not even the most conscientious journalism can make the press more than "the beam of a searchlight that moves restlessly about, bringing one episode and then another out of darkness into vision." While we need these sporadic illuminations, "Men cannot do the work of the world by this light alone."

The sagacity of Lippmann's comment becomes evident to anyone who tries to form an opinion about the general condition of the world from newspaper and magazine articles. Doctors find it very difficult, sometimes, to make a reliable diagnosis, even though the symptoms of ill-health are plentiful and plain, and how much more complicated than a single human organism is the entire body of human society!

Yet the fact remains that some diagnoses are better than others; and there are commentators on public affairs whose views seem more comprehensively accurate than the average run of opinions. For example, three articles in the *Saturday Review World* for December 18, 1973, report on the diminishing supply of food for the world. Factors which point to the impossibility of food supply keeping pace with population growth are various, but what brings the problem home to Americans is the fact that the days of food surpluses—mostly wheat—are now over. America can no longer rush enormous food shipments to hungry areas of the world. Stephen S. Rosenfeld writes at length on how this has happened. Population growth is one cause; another is increased meat-eating, not only in America, but in several other countries which have recently become prosperous. That is one side of the picture. Another side is given by Lester R. Brown, who writes on "The End of American Independence." The need to buy fuel from the Arab countries—along with other considerations, such as the unlikelihood of there being any increase in the world's fish catch—is making the United States into a country dependent upon imports, especially if we hope to continue our present "standard of living." Mr. Brown says:

> We [the people of the U.S.] make up 6 per cent of the world's people; yet we consume one-third of the world's resources.
>
> As long as the resources we consumed each year came primarily from within our own boundaries, this was largely an internal matter. But as our resources come more and more from the outside world, "outsiders" are going to have some say over the rate at which and the terms under which we consume. We will no longer be able to think in terms of "our' resources, but only of *common* resources. Everyone now wants to use the energy resources in the Middle East, or the protein from oceanic fisheries, or the soybeans that we produce [soy beans constituted our greatest single export item in dollar value in 1972]. . .
>
> Increasingly we find that our day-to-day well-being is dependent on the resources and cooperation of other countries. We can no longer protect the value of our currency without the assistance of other governments. Even our daily weather may be influenced by activities beyond our boundaries.
>
> Eor the United States this means rethinking the way in which we relate to the rest of the world. It means a major reordering of national priorities. A foreign-affairs budget of nearly $85 billion—of which $82 billion is for military expenditures and $3 billion for economic, food, and technical assistance—does not reflect a genuine sense of concern for the problems of the rest of mankind. Declining U.S. economic assistance, trade policies that discriminate against the poor countries, and a military budget bloated out of all proportion to national security needs have alienated and embittered many of the poor countries on whose resources and cooperation our future well-being depends. We cannot expect people in these countries to concern themselves with our worsening energy and food shortages or spreading drug addiction unless we demonstrate some concern for the hunger, illiteracy, and disease that are diminishing life for them.

The other *SRW* article is a brief account by Geraldine Pluenneke of the recent acceleration of

experiment with soybean protein, as meat "extenders" and meat-flavored substitutes. The large food-producers and food-processors of America are now planning to put a whole new array of soy products "on supermarket shelves by next spring." Chemists all over the world are working on soy foods. The *SRW* writer concludes with a note on a conference of scientists in Munich last November, sponsored by the American Soybean Association:

> Some experts saw soy enhancing an affluent way of life but sadly questioned how far this planet's supply of soy can stretch to feed the world's poor. The bitter truth is that the hungry may be priced out of soy foods just as they have been priced out of other high-quality proteins.

In present U.S. practice, only a fraction of the soybean crop is devoted to human consumption—an estimated 1.5 per cent in 1973. The rest was used to feed animals. Yet the soybean has been eaten by humans for forty centuries, in the Orient, where it is known as "the chicken without bones." Other pertinent facts:

> For every pound of beef protein produced from an acre of soybeans, food processors could turn out ten pounds of high-protein foods. . . . Nutritionally, soy foods rival a sirloin steak or milk in high-quality protein, like meat, they average 18 to 20 per cent protein. Soy is a pale, creamy legume that contains 44 per cent protein in its natural state and reaches a 50- to 90 per cent protein after its valuable oils have been crushed out.

Yet the slogan of the big food processors—"You can't sell nutrition"—is still the basis of their plans for the future.

Well, as we—or rather Walter Lippmann—said, the press can serve only as a searchlight, and there is still the job of working on what the searchlight picks up. These three articles in the *Saturday Review World* provide a discouraging picture of the food problems of the world, and an even more discouraging picture of the indifference of both governments and large food-processing interests toward what ought to be done. Setting other activities in motion—even though, statistically, they can be no more than "token" at the start—remains the task of individuals and small groups. These few pioneers will have to set the patterns for future developments, even though what they attempt is bound to seem wholly inadequate in relation to the dimensions of world need. In such a situation, it is well to remember that every great change *begins* with the private opinions of a few individuals who start acting on what they believe to be right and necessary. The movement for change cannot gather strength except from such beginnings.