Intellectual Pluralism:
Modes of Thought and Teaching[1]

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I. Introduction

I understand that there is a variety of education students here, some undergraduate, some graduate, as well as some faculty. My talk is going to be about philosophy of education, and so it will have some abstraction to it. My hope is that those of you at the undergraduate level can follow the general idea of what I am doing; for those at the graduate level as well as the faculty, I am sure you will all understand right away what is going on. The theme that I'm going to talk about today is intellectual pluralism. Coming from the United States, I live a very complex society, where pluralism is an extremely important issue and has been discussed for a long period of time. Let me back up one step, though, and talk about why I think that this is important.

Any difficulty that a human has, if you look at it long enough and push it far enough, becomes a issue of philosophy. Pushing it far enough means to explore the limits of the conventional ways of treating it and investigating new ways of treating that difficulty. Consequently, to be able to think about it consistently, coherently, to be able to communicate with others about it, ultimately requires treating questions that are of a philosophic nature. There is just recently a wonderful example of this. I come to you from India, where I was for six weeks. While I was in India, there is a Bengali economist by the name of Amartya Sen who won the Nobel Prize for economics. He had taken his Ph.D. at Cambridge and then Harvard had made him a professor. More recently, however, Trinity College, Cambridge, had brought him back to England again. This Nobel Prize is quite unique because for the last 20 years the people in the discipline of economics had been running computer models and crunching numbers, they had solely been doing mathematics. Crucially, there was no particular interest in what happened to the human beings with the mathematics that they crunched; whatever the computer said was whatever they published. Amartya Sen, this fascinating Indian philosopher and economist who comes from Calcutta, has spent his entire career, with some difficulty in his profession getting published and so forth, saying that the issues of economics are more than just the creation of wealth: they have to do with the distribution of that wealth and what economics means for people in their daily, human lives.

This is an example of what I mean that any question pushed far enough—how to make money, whether as an individual or as the nation—if you push that question far enough, you get into philosophic issues. *Why* am I making money? For what purpose? What will it do? What will it do to me? What will it do to the people around me? Fortunately, they are beginning to recognize this in economics, that this is a serious issue, because, as I say, for 20 years we have

[1] This paper is a slightly rewritten transcription of a talk I gave at Chulalongkorn University in Bangkok, Thailand, on Nov. 12, 1998, the first time I had been there. I have tried to retain its informal character. Audience laughter in several places is indicated by an [L!] in the text. Diagrams put on a transparency for use in the lecture have been reproduced her and identified with a Figure or Table number.

not treated it as such at the Nobel Prize level. This change is exciting to me to see. So, then, my point is that one has to look at philosophy if one really wants to examine the foundations of, the assumptions underlying, any field that one is interested in. I don't care whether it is mathematics, physics, chemistry, biology, psychology, economics, sociology, anthropology, history, literature, dance: any field pushed far enough ultimately raises philosophic questions that you have to engage in. So, too, with education.

My background is in the history of Western ideas. One of the reasons that I have been coming to China, Japan, India, and Thailand is that in my old age, I'm beginning to discover how indefensibly provincial I am, sitting in United States, about what's happening in the rest of world; and before I go off to my reward, whenever that may be, I would like to learn a little something regarding the framework of what goes on beyond United States. Consequently, I need to be clear that I am talking today about what I know regarding the Western tradition. I'm discovering that there are some parallels in Eastern traditions as I begin to explore this area, but I am just a beginner there and so I would not make any professional judgments about parallels between philosophy in India, China, and Japan, for example, or in Thailand, here in the Asian circumstances, and what the West has been doing. I'll be talking about Europe and America. But given that, if you have had any exposure to the history of Western ideas, you are obviously exposed to the fact that it has been engaged in an enormous debate from the beginning. Nobody agrees with anybody else, and you have 2,500 years of recorded history, continuous, of people disagreeing about everything. So a question immediately comes to the fore: If I am interested in something, and if whenever I am interested in something, I have to engage in philosophy, and I then go and look at philosophy and find this debate, what do I do about it? I have all these possible opinions. How do I sort my way through them? That's the kind of issue that I am particularly interested in, and today I am not going to speak you about what the *right* way to think about these issues is, but I am going to suggest a *variety* of ways to look at issues from a Western perspective, from that of European culture going back to Hellenic times, that will maybe give you some tools to organize this infinitely complex collection of disagreements and opinions, maybe even see more clearly the disagreements that have occurred in the Asian context.

II. Modes of Thought.

A. <u>The Problem of Experience</u>. One the assumptions that I'm going on is that when you have a question and it's a philosophic issue, you cannot simply turn to facts and data. And because I don't know what your familiarity is with English and its origins from the ancient Latin, I want to do a couple of word origins with you because we've forgotten them even in the West, they are very powerful words, and I wish we remembered them. Normally when I have these discussions in United States with colleagues, enemies, whoever happens to be walking by, they always say, Well, it's just take a look at the facts. Let's find out what the facts are, OK? It's pretty simple. The assumption, consequently, is that we have a science; so, we're going to go to the science and we'll turn on the laboratory equipment, we'll turn on the computers, we'll hire ourselves a statistician, we'll crank out a result, we'll publish it, and we'll have an answer to whenever the question is. But I want to argue that it is neither that simple nor easy because *fact* comes from Latin word *facio*, which means *to make*, and a *fact<u>um</u>*—this is the past participle of the verb in Latin—means *something made*. It is not something that the gods give us. A fact is something that humans invent and now treat as though it were a beginning point: a fact. What are the facts of physics? What are the facts of psychology? Where the facts in literary analysis? Ascertain what

they are and then we can go on from there. We don’t look at the issue that a fact is not a starting point but is *itself* the result of human creation. There is an important variation on this, and it concerns the word *data*, which actually is the plural of the Latin word *datum*, which refers to one—*data* are two or more—which comes from the verb *do*, *to give*. So a *datum* is something given. Now, unless you believe that, again, the gods are giving you your data, they come from somewhere else, and that means it's worth asking the question, Who gave you the data? Where did they come from? How were they created? What's their basis?

What I'm trying to do here is to raise questions about the common assumption, at least in my country, that whenever you have a serious question, you turn the question over to science, let it establish what the facts are, based upon what the data are, and then have the scientists give you a report, and only then will you know what knowledge is. Now, we’re all in education here, so let me give you an example from education to exemplify what I am saying. In the United States, a we have two main sources of education policy. The external force comes from the political sphere, of course, what the society through its political mechanisms wants people to do in schools with their children; so we have formal school laws passed by the state and the nation as well as informal laws of the community, including its attitudes. That's the external source. The internal source over the last, close to one hundred years now has been psychology. Whenever, over the last century in United States in education, we wanted to know what to teach and how to teach it, we either asked the government, What you want? or we asked the psychologists, What do you want? The psychologists are scientists; that means that they are, by definition, good Americans. So we asked them, What should we do in education? And in the last hundred years there’s been basically two main approaches to psychology as a science, behaviorism and the one that is most popular now, cognitive science—commonly known as “cog sci” once you get into this—, and this science is treated as the way to establish what goes on when children learn. Why? Because *only* the psychologists know what the facts are, based upon the data of experiments. There are lots of things that happen with this, but one of the things that I will point out is that one consequence is that classroom teachers are not thought to know anything about education. Unless you're a psychologist, you don't have a subject matter in United States because you're not a scientist. Unfortunately, anybody that has been in charge of a classroom, I think, should have some problem with such a statement, that teachers do not know what education is.

What I want to talk today about is the business of intellectual pluralism. I think that instead of turning to facts and data, what we need to do is to think about what it is that we’re doing when we think (philosophers like to do this sort of thing): thinking about thinking. This may actually turn out to be more helpful that sounds! What I want to present to you is an approach to this that will both allow for all the debates that have gone on in education over the years without at the beginning picking one side or another and saying, This is *the* right way, the right way to think about education. I want to give you a sense of alternative ways of thinking about education as we've done it in the West. There's one significant philosophic point that is important here, and I'll mention it as almost a footnote. This is an approach which is designed to exhaust all the possibilities. The object is to make sure that you have thought about all the ways of thinking if you are going to do this kind of an analysis. So, let me show you how it works.

The work that I am doing here is not original. I'm following the lead of an American philosopher who has recently died, and if you're interested, his name is Richard McKeon. He lived from 1900 to 1985. He taught philosophy at the University of Chicago when I was there,

and I studied with him, though I did not take my degree with him (I took it in another Department, Education). Nevertheless, I have been very heavily influenced by him, and it's his work that I'm trying to translate into an educational context. Because he can be difficult to read, I am also editing some introductory materials so that people can get a better feel for this approach. Moreover, I think that an introduction might, at least in United States, be of help because this is currently a very uncommon approach. I suspect it will seem like an uncommon approach here in Thailand, also.[2]

B. <u>The Four Modes of Thought</u>. The essence of it, as was implied above, is starting with experience (see fig. 1). I have put a bunch of dashes or broken lines around *experience* because I don't want you to think of experience as being something hard, fixed, like this table is; that is, if you just grab the table with your hand, then you really know what it is, you really have a hold of, have grasped, your experience! I am arguing that experience is very squidgy! You reach for it and it disappears; it becomes a real issue as to what's going on. In fact, if you begin thinking about it, experience is *infinitely* complex. If you were to ask, What is my experience right at this moment? and include everything that was going on, you would literally die before, at that moment when I snapped my fingers, you tried to take account of everything that was happening in your experience. First of all, there are all the different lights, shapes, colors, sounds in this room, smells, tastes—if you just had lunch—all sorts of things are going on in terms of our five senses. But that's just in this room. There's stuff outside that's potentially influencing what's happening to your senses in this room. I can hear that there's some special air-conditioning coming in here, so part of your experience is a circulation system that goes outside this room. The light that's coming in the windows has to do with a source that's outside this room. Maybe, if you follow this out, you begin to get a sense that you can go almost anywhere in terms of the experience that you have now of the sun that's out there; in that case, you've got to go hundreds of millions of miles away.

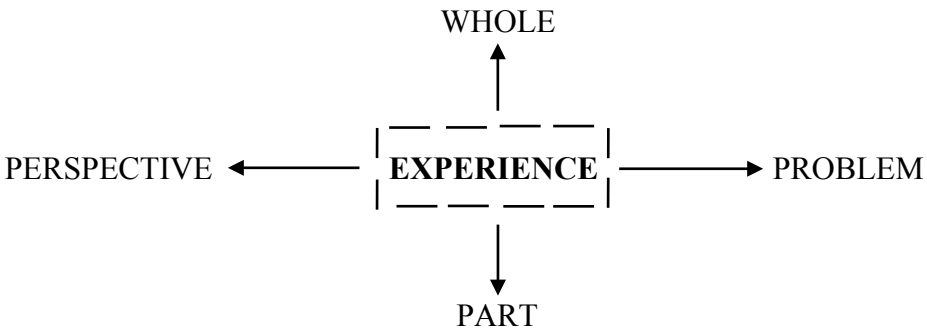

Fig. 1. *Experience and Four Modes of Thought*.

[2] The material consists of edited transcriptions of his introductory semester-long courses in the natural and social sciences, published by the University of Chicago Press as *On Knowing—The Natural Sciences* and *On Knowing—The Social Sciences.* A third equivalent volume, on the humanities, is in preparation.

The same kind of thing happens in terms of ideas. At the moment I snapped my fingers, what was happening in your head? Well, maybe you were listening in English, maybe you were busy translating into Thai, maybe you were thinking about the next class you want to go to, how hot it is today, something that happen last night, what you're planning to do in December; in other words, an infinite number of possibilities of things could be going on right at that one instant. If you were to record all the data, all the facts, as I say, if you trace this out, you would literally be dead before you got everything down into your lab notebook to account for every possible thing that happened in that instant. That, by the way, is why in science they always do everything in a laboratory; they want to cut off all the possibilities so that they only have limited variables to deal with, which immediately raises questions about the answers they get because they've cut almost all the variables out.

1. Part. So, broadly speaking, one can make four basic approaches to experience, I'm going to argue. I'm going to characterize them *modes of thought*—if you will, ways of thinking. The one most conventional in United States today is to take experience and to look at it in terms of its least parts. This, in its most common form, is a materialism. You take whatever is going on here and now and you say: Whatever I am aware of up here in *experience* is really the result of physical forces; and if I take all the physical forces that are in my experience right now, ultimately, since I'm a biological organism, a human being, what's going on in my consciousness is electrochemical activity up here in my brain. That's all my consciousness is when I have an experience of Professor Owen lecturing. There's just electrochemical activity up here in my head. Once you make that move, it's very easy to say that your experience depends upon chemistry. Then, once it depends upon chemistry, you can go on to say that chemistry depends upon atoms and so you get down to atomic structure of the physical world. Consequently, that becomes your ultimate understanding about how you account for what experience is.

In education this has been called behaviorism, which is one of the two most important schools of psychology in United States. Behaviorism has a long tradition starting a hundred years ago this year with E. L. Thorndike writing a dissertation called *Animal Intelligence*, which was the title of the book that he published. The very title indicates a reductionism because you take intelligence, which previously had been treated as a uniquely human, immaterial activity, and you reduce it to an animal, physical activity. Thorndike's experiment a hundred years ago was with chickens and rats. In the laboratory setting, chickens and rats had to do certain kinds of actions to be able to get food. They would hit little levers or run through little mazes and do all sorts of clever things—Thorndike was a very bright man. He called this action, or behavior, *intelligence* and then subsequently translated from the chickens and the rats to humans and called the latter's behavior *human* intelligence: there was no difference. This, of course, is an outgrowth of Charles Darwin and his idea of the origin of species and the descent of man, the ascent of man,[3] however you want to call it—the continuity of humans with the animal kingdom, the animal kingdom with the plant kingdom, and so on down the line. So you end more recently with somebody like Skinner—I would suspect some of you have paid attention to B. F. Skinner and behavior modification, operant conditioning. Skinner is doing basically the same kind of thing. What you do is you figure out in a physical situation what the stimuli are, what the reinforces are, and you can predict what the behavior will be of the animal in the same way that you can predict the behavior of an atom if you can figure out what's going on with the atom.

[3] The title of a book by Jacob Bronowski. For names mentioned in the text, see References.

Are you familiar with the game of billiards, a billiard table with balls on it with a stick, a cue, and you knock balls and they roll around—is it called billiards here? [Audience member: Yes.] Yes? Okay. This is a billiards conception of the universe. The universe is one giant billiards table. All that exists are a bunch of physical objects, like balls bouncing around off of each other, called atoms. If you know what the atoms are, that is, the balls that are on the table and how they're moving, you can calculate everything that is going to happen on that billiards table: that's what a great billiards player does—it's just that God, being the ultimate billiards player, has a much larger table to play with! But out of atoms you get molecules, some of which are organic molecules, then out of organic molecules you get DNA/RNA, out of DNA/RNA you get organic creatures, out of organic creatures you get you and me—it's all just billiards. In a very deep sense, then, this is the most fundamental idea operating in Western general cultural habits of thought today. It is a reductionist approach, it is a materialistic approach, and it has very substantial consequences because humans cease to be humans: they become basically no different than rocks and stars and chickens and, you know, whatever else happens to be floating around.

2. Whole. The opposite approach—and I am sure you can already guess this—if you're not going to start with parts, your going to do it in terms of a whole. To understand what's happening in your experience, you don't take your experience and reduce it to its simplest elements. You take your experience and expand to the largest possible framework your understanding of what's going on in that experience; and it is only in that larger context that you can understand the meaning of what it is that is happening. If you're in a classroom and you have a child that is not doing what you want it to do, what do you do in these circumstances? If you're approaching it like Skinner, from the part point of view, you say, What are the stimuli in this environment that I can manipulate to generate the behavior that I want? In America, for awhile, we actually went through and were handing out candy in classrooms, giving little stars and smiley faces on papers, patting kids on the head. In short, there are all kinds of ways you can implement this kind of thinking and generate various stimuli to shape up the child's behavior. This is the part approach. By contrast, the holistic approach tries to look at it from an opposite point of view and when you ask the question, Why is the child behaving this way? you observe that the child may be behaving this way because of the social, cultural, racial, ethnic, gender group that it comes from; and the action which I as a teacher find confusing is confusing because I don't understand the larger context in which this child is acting as merely one instance.

I can think of a wonderful example from India. I had a devil of a time. Indians like to say *yes* by tilting the head to the left and right; in America, you go like that and it's, "No! Ain't no way!" So I'd have these people who I'd go up to and ask a question and they'd say *yes* while shaking their head and I'd have no idea what I was dealing with! [L!] Because the English in India was sometimes not the same as American English, my question was always, Do I listen to the verbal or do I listen to the body language? Eventually I found that I had to distinguish whether the person was a northern Indian or a southern Indian because this head gesture seems to be more a southern tradition rather than a northern tradition. My point is that you need to understand what is happening in a broader context, in this example, that the individual's behavior is the behavior of a representative of some group. If you have studied any Marxism—I don't know if Marxism got this far south in Asia; I suspect it did, given the force of circumstance—Marx is somebody who loves to use this approach. For him, the individual behavior of somebody is a reflection of their socio-economic class. What do workers do? Well, workers are people without money that fight against owners, capitalists. What are capitalists? Those are people who are

owners that take advantage of workers. So, somebody with, you know, a Mercedes-Benz car—I've seen a bunch here in Bangkok; obviously, the Germans are here—somebody with a Mercedes-Benz you would interpret this as an individual who's a member of a class. Whatever they do, it is a class action. And here Marx is very clever: What you do about the individual driving a Mercedes-Benz who wants to help the workers? Marx's response: he or she has false consciousness. They really aren't behaving according to their class, but that's to be accounted for by a class analysis.

There are lots of different forms of this. Anthropology tends to function in this fashion. Sociology tends to function in this fashion. When you have a particular event, you want a larger group of events to understand what’s happening, to find a pattern that each event exemplfies. A very interesting thing is going on in American medicine now, as a matter of fact, as a result of it. Where we have been doing a much of our medical research in the laboratory with individual monkeys, with mice, and whatever it is they do in laboratories, that’s a reductionistic approach: find out what the DNA/RNA is and do genetic engineering. That's a reduction downwards. If somebody has a particular physical illness, what you do is you find out what the genes are underlying it, and the theory which you have in genetic engineering is that you go in and change the gene and then the illness will go way. That's a reductionist approach to thinking about the experience of somebody with a disease, somebody with some sort of physical malformation. American medicine is beginning to pay attention to something called epidemiology; and what epidemiology says is that there is no way you can tell what's happening to the individual and so you need to go in and study a large population: 10,000, 50,000, 100,000 people. Why would you want to do that? A wonderful example: let’s say you have a factory in town, it’s got a tall chimney putting out very black smoke. The older people in the town say, Gee, when I was young, nobody ever had cancer. Now they say to their children, their grandchildren, Everybody I know seems to have cancer. Scientifically, you can’t follow it from the exact emission in the smokestack to the individual case of cancer that appears in somebody 20 years later; you can’t trace that causal part to part to part relationship of cause and effect, cause and effect, cause and effect. But if you look at a hundred thousand people living in this community and you find that the sole difference between this community and seven other communities around it is the smokestack from this industry and your cancer rates in this town have been higher over the last 20 years by a factor of 10, you can begin to understand the meaning of the experience of somebody who's having cancer. You need a different perception of the framework with which you work to attach meaning and understanding to what's happening.

3. Problem. The third possibility—I'm talking too much [L!]; we'll get there—well, I need a new color anyway for my transparency—oh, I like this, this is green; that's rich, it's growing, it has a nice agricultural sense—there are people who would argue that there is no way we can figure out ultimately what least parts underlie, what the atoms are which organize everything in the universe. That won't handle our problems. Materialism is not the answer. Conversely, we can’t know what the whole structure of everything is about. When you begin to take the orientation of the whole, you begin to be like Marx; but you can get beyond Marx back to Hegel, even beyond Hegel and back to Plato, where basically you’re organizing the whole universe because until you understand how the universe as a whole functions, you can’t understand what's happening to the individual. I find in the East some extremely interesting connections with this. There are some traces of this holistic approach here. —By the way, in English it’s the same word, *whole* and *hol*istic. Both of these come from the Greek *holos*; the former is through Anglo-

Saxon and the latter is through Latin. You'll see in the literature a lot of stuff on holistic, but they're also talking about whole.— There're some very interesting conceptions of *whole*-ism in Chinese Taoism and in Indian yoga. In *An autobiography of a Yogi*,[4] which I'm reading now, there's some fascinating traces of it; that is, to understand what is happening to the individual in the individual's consciousness is to understand how that individual consciousness relates to the cosmic consciousness. That's an attempt to understand individual experience from the very largest context, not a reduction to its underlying, simple, material substrate out of which you can build your awareness.

The problem people here in the middle say is that you can't do either of these. What you do, as a human being, is that you encounter problems as they occur in your experience, and you need to be aware that there are different *kinds* of problems. The essence of this approach is to say that we have to distinguish between the different aspects of the object we're trying to consider. —I was looking for something I can use as an example. OK. Let's pretend this eraser is a book.— If, using problem in this sense, I were to hold this up and to say, What's this problem with this book? you would then need to know what it is that we are talking about. For instance, this book has a physical character; you can drop it, it has weight, it falls like stone. But the book also has a chemical character: it's made up of certain kinds of molecules which have certain chemical traits. In addition, it's a book with paper that eventually had some biological origin in terms of wood or whatever became the pulp for the paper, and so it has a biological character. It certainly has a social and political character: let's say this is Mr. Marx's *Communist Manifesto*, that has very powerful political value. Consequently, the problems that I would deal with this book if I were dealing with it physically and if I were dealing with it as the *Communist Manifesto* are very, very different kinds of problem. Even more, the book may also be an ethical object that I would want to look at: for somebody to sit down and write a 200-page-long book requires a certain amount of self-discipline and thereby represents a certain kind of ethic about how one lives, how one treats one's life; so, one analyzes it from an ethical point of view. You could also argue that this book, the very same book that we've been looking at from these other points of view, that this book also has an aesthetic or literary, artistic value. How well was this book put together? Is it aesthetically satisfying? Does it move me? One of the reasons that Marx is very effective is that in some sense he is a great aesthetician: he knows how to make arguments that have a character to them that are satisfying. Therefore, you could treat it in that fashion. My point here is that people from the first two positions, the part and the whole, tend to want to reduce everything to make it understandable. The people approaching experience as problems are very sophisticated and slippery and always want to be making distinctions about whether we should be treating this experience as one object of inquiry or as another kind of object, thus making distinctions about which approach is appropriate.

4. Perspective. The last group that I want to talk about is those treat experience as a matter of perspective. They take the position that we can't know what underlies everything in our experience (the part), we can't know the whole context in which the experience takes place (the whole), we can't even tell what the problems are that we run into because what's your problem and what's my problem are entirely different (the problem). All that we know is our own, individual perspective, and *my* perspective is different than *your* perspective and *has* to be. There is *no* way that the two of us can have the same perspective. You can do it in visual terms:

[4] Yogananda

there's no way that two people can look through the same eye at the same time, so that visually you cannot have the same view of any physical object that any other person has at the same time. This is a position that has a very long tradition in the West and has been called by many names: the skeptical position, the relativistic position, in the middle of this twentieth century this was the existentialist position. Right now, quite frankly, this is what the best physicists are doing: the subatomic physicists, as I understand it, are making a very simple statement about the nature of what we used to think…—Notice, the part people like to think in terms of atoms, which comes from the Greek word *a-tomos*, which literally means that which cannot be cut up, in my example, Newton's billiard ball; you can't make it any smaller, we're stuck with it, that's the base of everything, what we build everything on, it's the brick out which we build the whole structure.— The physicists in the twentieth century—it's a very interesting history in this sort of general, anecdotal level that I'm telling you, and remember, I'm not a physicist—what they have done is that they have taken atoms and they have literally made them disappear, they have gone away. First we had atoms, then we broke them down into nuclei and electrons, then we broke the nuclei down into protons and neutrons, and then we broke all those pieces down into sub-atomic particles, and now, as we generate additional energies in the laboratories, we're getting rid of the particles, we've got nothing left. There's a joke in English which may not work very well, but I find fascinating: they are calling one of the things that is left *gluon*, something that helps hold everything together. And since glue is something which you use when you go to the store, you know, to get glue to put two pieces of paper together, the name humorously suggests to me how desperate some of the physics is today, that they have to have *gluon* down there to make all this work.

Anyway, what the subatomic physicists are saying is that you can either know where a particle is or you can know the direction and speed in which it is traveling; you cannot know both of these things about the same particle at the same time: it depends upon your perspective, how you look at it; and if you change your perspective, you have different knowledge of what the particle is. Those of you who have taken physics probably have run into something I never have understood, but I rather like the idea, that light is a wave-particle phenomenon: sometimes it seems to be a wave, sometimes it behaves like a particle; sometimes it's continuous, sometimes it's discrete; it all depends upon how you look at. That is this position. They even go further, the subatomic physicists—all I'm trying to do, by the way, is to counterbalance the fact that a lot of people dislike this position, this relativistic approach; they think that this is, you know, not really serious, these perspectivalists are just people playing intellectual games with us—the physicists go even farther and say that the mere fact that we are making an experiment changes nature and prevents us from knowing what nature is. The very act of making an experiment is by its very existence an intrusion on nature, changes nature, and inevitably and automatically creates the results that it gets; consequently, the only possibility is that a perspective is all that can be taken. This is a position that basically argues, you know, your world is what you make it, very literally. How you look at life is what it is.

There's a lot more that goes along with this, and I want to get on to education, which I suspect is much more interesting to you. I have a lot of fun with this, but I find that other people get bored with it sometimes. My point only, again to go back to intellectual pluralism, is to say that you can go through systematically in the history of the West and find all these positions being taken in virtually any period. Let me put some names in here for those of you that are interested in this sort of thing. In the ancient world, McKeon states, the orientation to the whole was the position of Plato, to the problem was the position of Aristotle, to the part was the position of

Democritus, and to the perspective was the position of the Sophists in Greece: Gorgias, Protagoras, a whole bunch of people. In the modern period, arguing for the whole we've had people like Einstein, and I have mentioned Marx. Here, for the problem orientation, those of you who are educators will recognize, I hope, the name John Dewey. Those oriented to the part clearly include Newton, and a whole group of people, I'm tempted to say—I'll put down just for kicks Watson and Crick, DNA/RNA. And for perspective, well, as I say, the subatomic physicists today. So these differing orientations have an ancient tradition, and what McKeon has done—and the reason why I am interested in him—is that he is traced this history exhaustively and absolutely brilliantly up to the 20th century. I think one of the most important contributions in the 20th century is the work that he has done because it creates a meaning to what is otherwise this infinitely complex set of debates. But this is the structure that he comes up with, at a very simple level. Let me give you an example of how this approach works itself out in education, and then I will open it up for your questions.[5]

III. Education and Different Teachers.

A. <u>The Topics of Education</u>. So, what is the education setting? (See fig. 2.) —Not only am I not a physicist, but I'm not an artist! [L!]— For education in a general sense—and there are ex-

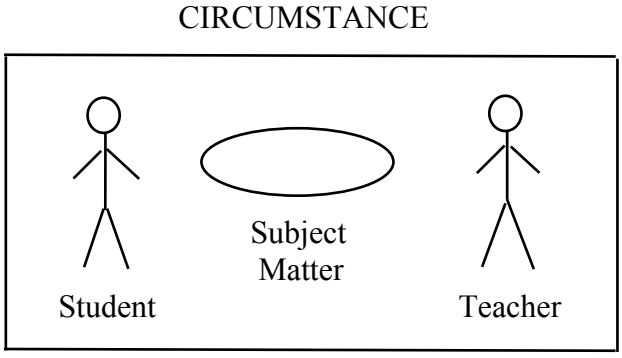

Fig. 2. *Topics of Education*.

ceptions to what follows that I can account for; I'm doing it just in terms of formal education both because it's the easiest way to describe it and because most of you are going to be involved in schools formally teaching people things——basically you have someone who is a student plus a teacher and some sort of subject matter. That's exhaustive of the things that are going on in an educational setting. If you add one thing, namely, the circumstances in which this activity takes place, you've exhausted what there is to talk about in education. This is important because one of the things that happens with educators is that we all get so buried in our practice that we forget

[5] McKeon, on whom I have based this summary, names these four approaches with different terms than I have, calling them the modes of thought *construction* (part), *assimilation* (whole), *resolution* (problem), and *discrimination* (perspective). Examples of his introduction of them can be seen in the first chapters of his *On Knowing-The Natural Sciences* and *On Knowing—The Social Sciences*.

what the larger picture is and forget to evaluate what is going on. We take things as given, as data, when they are not real, fixed things but merely variables potentially coming from a variety of sources. So, this is the structure that can account for all of education. What I'm going to do with this now is to put it into a tabular form.

I've taken the four approaches of the modes of thought, and instead of placing them around experience, I have merely dropped them in a list. In addition, I have then taken the four key topics of education and listed them as column headings. Now I have matrix, which is a lovely word in Latin because it means *mother*: out of this can be born any educational argument you want to make or that has been made (see table 1). I'm interested in this as a way to give myself some understanding of the character of the debates that go on an education in order to locate what people are saying and why, when they disagree with one another, they are disagreeing. Are they talking about different things? Are they using different modes of thought? Are they functioning in different circumstances? This allows me to work that through.[6]

B. Different Teachers. I'm going to do just the first column, and I'm going to suggest that in the West, there are four fundamentally different conceptions about what it means to be a teacher. So, for example, when we are engaged in teacher preparation or when we're engaged in manpower evaluation for the state, we can ask ourselves, How many teachers are we going to need

Table 1. Kinds of Teacher.

	TOPICS OF FORMAL EDUCATION (Internal)			(External)
MODE OF THOUGHT	**Teacher**	**Subject Matter**	**Student**	**Circumstance (e.g., Society)**
Whole	Master	—-	—-	—-
Problem	Mediator	—-	—-	—-
Part	Trainer	—-	—-	—-
Perspective	Tutor	—-	—-	—-

when we set up our curricula? What do we want teachers to do, that corps of people we are talking about who will be in charge of the classrooms. —There's the whole issue of education outside the classroom setting; I'm happy to talk about that. But, as I say, I just want to keep this a

[6] If the reader is familiar with the discipline of rhetoric, they may note that my matrix is a transformation of the rhetorical commonplaces of speaker, speech, audience, and situation. McKeon calls such an intellectual move the operational method, which is what he himself uses.

little bit simple because, of course, a student can be a teacher to him- or herself, the television can be a teacher, the subject matter can be. In other words, all sorts of things can happen here, but, given enough time, I think I can account for such variations.

1. Tutor. Okay, let's begin. I'm now going to shift down here to the bottom and then talk about and work my way up from the perspective approach. If you think that the way to understand your entire experience depends upon the perspective you take upon that experience, you are a perspectivalist. What kind of a teacher would that lead to? I would call that teacher a *tutor*. The origin of this word in Latin means *someone who protects,* a guardian. What are you guarding? You guard each individual's ability: the teacher now guards the individual student's ability to have and develop their own perspective. This is the ultimate child-centered curriculum, and the function of the teacher is to make sure that the child *has* its own perspective, not that of its neighbor, not of mom or dad or of older brother or sister, not of the community, but the child's own view of what its life is about; and this fundamentally because there is no way anybody else can know the child's view of things. The object is to protect the child so it can develop.

2. Trainer. To take the part's point of view is the Skinnerian, behaviorist approach. Here the teacher is a *trainer*: the object isn't to protect the child, there is no child to protect, it is no different fundamentally than any other individual, any other *thing* around it. The child is a biological organism whose behavior—I am now using the technical behaviorist language—whose behavior can be shaped up by the proper reinforcement schedule. In the United States we had somebody that defined education—a man by the name of N. L. Gage—as change of behavior; that's all that education is about. Well, I can change behavior, just give me the right pleasures or the right pains, and I'll change your behavior. And if I'm Mr. Gage, I will call that *learning*: you do something different, you've learned. Don't ask me whether you like it or not; it is just you behave that way. If you behave that way, that's learning. That's a trainer.

3. Mediator. This the point of view of the people who focus on problems and is where John Dewey comes in as an important example of describing the teacher as a *mediator*. —Is Dewey read here much in Thailand? Do people pay some attention to Dewey? OK, good. I was interested that the Chinese have had a great love affair with John Dewey, which is quite fascinating. He was there from 1919 to 1921, right after the fall of the last Ching Emperor. However, the Civil War broke out subsequently between Mao and Chang; and when Mao took over, of course, although Dewey was a socialist, he was the wrong kind of socialist, he wasn't a Marxist, and he wasn't allowed back into China again. Now, fortunately, the Chinese are again spending a lot of time with Dewey; it's quite interesting. Dewey is almost unknown in the United States. —This history is full of irony if you are interested in the changes of culture. It's really quite interesting that as an American, I had to go to communist China to find the greatest American philosopher of education actually being taken seriously; American educators read him only a little if at all. It's rather amazing.—

Dewey took the position that the function of the teacher was to mediate between the individual, which the tutor was protecting, and the society, the circumstances—notice, Skinner would have characterized this as solely the physical environment. For Dewey, the teacher belonged in the middle. You had to start with the child, but it was a mistake to let the child grow unguided and so be unrestrictedly child-centered. You always had to encourage that child's understanding, his or her understanding within a larger human context, within a group. If you're

interested, I can give you a series of essays which are absolutely brilliant, the best of which I think is *The Child and the Curriculum*, where Dewey lays this out. He has this wonderful dialectic, on the one hand, on the other: there's society on the one hand that has these sorts of demands, there's the child that has these kinds of wishes; there are the social laws and obligations, there are individuals' desires; obligations and desires. He runs through a whole series of these pairs, and what the teacher does is run right down the middle of them and provide a balance that allows the individual to move ever outward into a larger and larger structure of social relations.[7] But the child is not—and here is one of the things that is frequently forgotten in Dewey—the child is not to *fit into* society. There was a movement in the United States called the child-adjustment movement where the child was supposed to adjust to society. That's *not* what Dewey is about. The child is also supposed to change the society: by helping to solve problems the society has, the child changes the society that he or she participates in, hopefully for the better, whether it's the classroom or the GNP [Gross National Product] or the country's culture, or whatever it is. Consequently, both the individual and the society are in flux, and the teacher's job in the middle is to keep both of them flexible so that each can fluidly adapt to the other. Notice, if different individuals, then different societies, and, notice, different problems. Now, those of you who have taught, even if your students are paying perfect attention, you know that there different kinds educational problems in different classrooms in the same subject at the same level, depending upon who the people are in the room. Forget about anything else: Who are the people there? What are the social interactions? Change the people, and even if you're teaching tenth-grade physics, you have a different class, you have a different set of problems. Dewey's extremely interested in those kinds of subtle relationships.

4. Master. This is the last orientation toward teaching I'll describe, and then I'm going to call it quits. From the point of the whole, I going to use a word which we do not use in the West very much, but I find it used over here a lot, a *master*. In India they spoke of gurus, somebody who is a master of understanding, truly wise. People then go and put themselves—the *Autobiography of a Yogi* is extremely interesting: people put themselves completely in this master teacher's control because the teacher understands what the individual is about way beyond what the individual understands, and he or she can tell the individual how to live because the former is wise, they understand what the whole picture is about, they understand where each individual fits into that picture, what their strengths and weaknesses are, what needs to be cultivated, where the individual is going to be in 10, 50 years, what the maximum possible understanding of wisdom would be if this child were to become the very best it could and advanced as far as it could. For example, Plato does this in the *Republic* where he talks about philosopher-kings: these are the very best people that understand the nature of the universe and how things work. The best education of the pupils who are best by nature leads to the best leaders.

C. <u>Some Consequences for Teachers</u>. So, these are fundamentally different conceptions of teachers. You would prepare them in different kinds of ways, they would function in classrooms in different kinds of ways, you would evaluate them in different kinds of ways, and you would produce very different kinds of society if teachers behaved in these different kinds of ways. That's intellectual pluralism. Notice, I'm not saying that one is right or that one is wrong; I'm saying that this is the structure, very broadly conceived, of the great debate that is been going on

[7] Consequently, I would argue that the key to understanding the three works by Dewey cited in the List of References below is the conjunction "and" in their titles.

from the beginning in the West. I also think it gives us some alternatives in the United States, at the very least, for a way of thinking, because we have clearly become stuck in this part mode, the Skinnerian, behavior-modification mode, the materialistic mode. It gives us a way of creatively thinking about what some of the alternatives are which are open to us. Because of the time, I won't go through all the columns in table 1. Nevertheless, I can do the same thing with different structures of subject matter: I can teach physics in very different ways. I can have four different kinds of students: the same warm bodies can be sitting in my classroom, but I can structure four different kinds of physics and make that student into four different kinds of student depending upon what kind of a teacher I am and what I think is meaningful in that student's life. As for circumstances, finally, one of the circumstances is the society we live in, and I can talk about each of these columns producing major differences in the kind of society one ends up with, what knowledge looks like, what equality looks like, what freedom looks, what creativity looks like, anything you want to talk about in a larger social context. In that sense this is a matrix: it is a mother that can give birth to any kind of argument that you want to make to help invent educational alternatives when you are looking to create something other than the way things are being done now. Notice, I am not just saying, Well, I'm a follower of John Dewey—I happen to like John Dewey a lot—and I could come here and I could say I'm a follower of John Dewey; then, whatever you would say to me, I could say that this is what John Dewey says, I'm a Deweyan. What I'm trying to suggest to you is that there are very good Deweyans out there, but Skinner is very good, too. Then, again, I wrote my dissertation on the perspective orientation—Jean-Jacques Rousseau, the *Emile*—and some of those people are also quite good. Then, there's always Plato, Marx, those who argue from the position of the whole, and they're really good, too. So, this is a way of thinking not only about what has already been thought and said in the past but also about alternative paths for the future.

Let me stop there and give you a chance to catch your breath and think maybe of a question you want to ask either about what I said or, if you have more general issues, I'd be happy, for example, to comment on education in the U.S. if that would be helpful.

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