

OPEN DISCUSSION

WALTER: I wonder if anyone here has heard about Dubono at Cambridge. He's written some books on lateral thinking, in which he suggests that one of our difficulties is exactly the sort of thing that Burke has been saying and that many of us have said in one way or another—we tend to be very constricted by our vocabulary. We are taught to think vertically so as to probe our problem vertically downwards, which is what a scientist does and even the literary critic does very often, but the creative thinker or doer will think laterally. He will acquire lateral associations, perform lateral acts which spread out from what seems to be the main focus or hub of the subject and develop a lateral idea from which, again, one can go down to different levels. It's been said in various ways by many of you people, and I think it's very important that this actually can be cultivated. Dubono's point is not only that this can happen, but that it can be cultivated and that our educational system tends to stultify this ability by teaching us to specialize in particular vertical means of thinking. It would be nice if some people did start to learn to think laterally and form the necessary associations.

I want to comment just a bit on what Dr. Meerloo said, that "machines do not create." I don't think there's any reason why machines should not create. We don't want them to create. The machines we've made so far are those that do logical thinking for us in arithmetic or logical algebra and we can then delegate our thinking about this, because this is what we want from them. But I don't see any a priori reason why machines should not be creative in some particular senses. They already are, in fact, as you will find out if you talk to a mathematician who has used a computer at its highest level, a computer can develop propositions and theorems which are not the obvious result of thinking put into it. In other words, computers' imagination has gone beyond what was put into them as a logical necessity. These may be trivial examples, but I don't think there is any a priori reason why

machines should not be creative or why you shouldn't delegate to them some of the functions of creation.

Dr. Meerloo also talked about subliminal stimuli, and this again has run through quite a lot of our discussion. I have great difficulty with the definition of subliminal. One knows actually the measurement of responses in the brain. A brain may show response to a stimulus which appears to be sub-threshold, but when you measure the threshold with reference to significance, you find that the threshold has dropped enormously.

Also this question of science as being merely an identifying process. After all scientists, even classical scientists classify, and if you classify, you differentiate. There is differentiation in science as well as identification. Science does look at differences, not merely identities. I was struck by Burke's point which seemed to me a very important one, the enormous value, the explosive value of the personification of abstractions. This of course is exactly what the classical philosophers did, all the classical thinkers did—they personified abstractions in the form of deities. I mean, when you found that your five abstractions became your five children, the five pips on a die . . .

BURKE: That was ruining my book. . . .

WALTER: Yes, I think there is an explosive power or destructive power of personification. You can, of course, develop this into a symbolic form in which people personify abstract powers or abstract entities. This seems to me a very important thing in creation. I'm sure scientists have done this a great deal; much more than they think.

BLEKSLEY: Thank you Dr. Grey Walter. And now, Dr. Margenau.

MARGENAU: The last remarks prompt me to wonder whether there has not been a diversity of understandings of the term "creativity." We've been told that even machines can be creative. This is certainly true in a rather large sense of the word. I do want to bring out the following facts, however. If a mathematical equation, when given, requires creativity on the part of the person who finds its solution, then machines can be creative. If, however, mere construction of a set of axioms or equations is not creative, then machines do not create. So we are divided here on the definition of creativity. I, myself, do not believe that axioms, which themselves may be creative, call for creativity in their solutions, although this may run counter to the usage of the term by mathematicians. I wonder how Dr. Bleksley feels about that.

Mr. Burke, whose paper was entitled "No Word is an Island," did

not tell us about the effect of science upon this particular issue. It seems to me—and I wonder how he would react to this—that science sometimes does make words into islands by creating technical meanings which are associated with specific terms.

BLEKSLEY: Mr. Towle is next.

TOWLE: Thank you. I think all the talks were very stimulating this morning, but I think Mr. Burke's in particular struck a few notes that were very close to me. I just want to make a few remarks about the thoughts that he elicited in me as he went along. I think that what Mr. Burke said about starting with three terms, and then juggling with them—now that struck rather a profound note in me because I think it's a very deep and general idea. In spite of the long years of misuse and skepticism about trinities, I think there is really something deep in that and in my own work in physics, it comes up a lot. What we talk about amongst ourselves a lot is the problem of the "observer," the "observed," and "the process of measurement." There's no really good satisfying theory of measurement that I've come across in physics. At least that's my own opinion of it anyway. I'd like to see if I can engage in a little lateral thinking at this point about something I brought out at the end of my paper yesterday about the idea of triplicity—I wonder if three is all we need. You seem to be saying five, and in my own mind I would saw away at your five reducing it to three. But why do you settle upon three instead of two or four? I'd like to know the psychological background of that thinking.

Before you answer that, just let me finish what I started to say. As a group of physicists right now, we're trying to create a new frontier for physics, to go beyond the usual Copernican interpretation of quantum mechanics and even beyond some of the other ones that have been suggested for the past twenty years or so, and that we take as one of our guides for insight; not only are these facts that involve no forces, but they can bring about changes in the interference patterns without the use of any force. It would seem to be a topological leaping. What we're taking as one of our guides is the kind of algebra that I just mentioned very quickly at the end of my talk, called the "SU-2" group, and they seem to come back on themselves rather than just going off into an infinite regress. In there somewhere there's the square root of minus one, so they're kind of slippery little things, in a way, and they don't commute either, just like the present quantum mechanics, whose most primary relation is called the "commutation relation," which I think Dr. Bleksley mentioned yesterday about "eight times seven doesn't equal seven times eight." But in this kind of algebra,

these things are operators, not integers, so it's even more slippery just thinking about that. So what we're trying to do is take this creative leap that we were talking about this morning in order to step beyond where you are. So we're trying to bring in all those things, keeping our roots in the SU-2 group, that is these three non-commuting triplemplementary matrices along with some of these symbols that seem to have very deep psychological and spiritual meaning. So we're trying to keep lateral while we're plunging ahead vertically. Thank you.

BLEKSLEY: Dr. Chu.

CHU: May I introduce a note of disagreement as well as large agreement into this very harmonious pleasant unanimity? I'm particularly stimulated by Mr. Burke's analysis of language implications. Each term spawns many other terms, and he derived the implications rationally and non-rationally, and that's creative. There's a beautiful illustration of his own theory in that the very nature and structure of the English language would lead an investigator to weed out such concepts as "non-being." I can see why Mr. Burke cannot see any meaning in the concept of non-being because of the nature of the English language. If you take the Chinese language, which has a very different structure and very different assumptions, you don't necessarily take the word creativity and you have a creator, creations, and creatures. This analysis follows from the fact that English requires a subject for the sentence, a verb, and an object. Now in a Chinese sentence, a subject is not necessary, and many times there are no subjects. When subjects are unknown, you don't use a subject and there are many instances where there are no possible subjects. For example, "fall rain," or "drop rain," is a perfectly good Chinese sentence, but in English you say, "Who drops the rain?" It's incomplete, therefore you must say "It rains." In Chinese, "drop rain" is a perfectly good sentence, and a Chinese sentence need not have the verb "to be." For example, in a definition in English, you would say, "A cup is an article that you drink from." You have to use "be" whereas in the Chinese language, you don't use the verb "to be" there at all. If you work with that type of sentence, it leads not to the law of causality or identity as assumed by Aristotle, but away from that into an illogical thinking. Therefore you develop a different kind of thinking and concepts, and no external agency is required. Creation is inherent in the cosmic process. I don't want to waste your time. I have published an article called, "Interplay Between Language and Thought in Chinese," in which I explain the inherent connection between thought and language structure in Chinese as compared with Western thought and Western languages. It was pub-

lished several years ago in a little magazine called *Etc.*, a review of general semantics. Mr. Burke's analysis is a beautiful example of direct implication from language.

BURKE: Latin does the same thing. I know Latin, and in Latin, it just says "Rains." It doesn't say "It rains."

MARGENAU: Latin always presupposes the subject. Aristotle would not have developed his logic if it had not been so.

BURKE: That's true.

MARGENAU: Anybody who has ever studied an Oriental language will see this, as Dr. Chu said.

BURKE: I work with two big cycles of terms in English and in my "Rhetoric of Religion" I work with the cycle of terms implicit in the idea of order. Now, order is a tremendous term and I built a theory of public relations and I carried it out to all of the terms that are implicit in that. There is, obviously, first disorder, and then obeying the order, disobeying the order, and I spell them all out. In my grammar, that is really all carrying out the cycle of terms implicit in the idea of an act as if an action lent passion, glamour. What Dr. Walter called the regress, I would call reflection, but this to me is the essence of language that is reflexive. The difference between mere sign usage, such as apparently bees have, and human language is the ability to learn conventional symbol systems, because conventional symbol systems can talk about themselves, and Dr. Meerloo talked of Spinoza's defining consciousness as "ideas of ideas." Now we have Aristotle's "thought of thought," and that would fit in with this reflexive principle when you get to this notion of something being able to talk about itself. There is something that Dr. Chu spoke of yesterday about treating all these aspects of language as themselves a part of nature—well, I think of that this way: That nature gave birth to an animal that could use conventional symbol systems and these enable nature to comment on itself. It's only by having this kind of animal that nature can have itself discussed. I don't care what language you're using, look at the word "rains" long enough and you're going to find implied in it that something is making it rain. There may be some condition in the heavens that is causing rain. Rain doesn't just happen by itself. Rain is the result of conditions, and therefore there is this equivalent. Just look at it long enough and you'll find that "rains" just can't sit out there by itself. It's got to have some underlying situation that leads to it, so you get back to it. The language would change that. I'd like to talk on some of the other points that were brought up here.

The reference to science, particularly in regard to social science, brings up something that I call, in my analyses of the various types of consciousness, "ismic consciousness." You can make a new "ism," and every time you make a new "ism," you make a new corresponding kind of unconscious. And as soon as Marx figured out a system which led to class consciousness, you had the corresponding class unconsciousness where the bourgeois saw the world unconsciously as defining man just in bourgeois terms. And if a scientist made a discovery, which is quite conceivable, whereby you could actually test in literary styles the difference between a man who loved carrots and a man who hated carrots, then all of a sudden you'd find that a poet was unconsciously an example of carrot-eating or non-carrot-eating. All you've got to do is make a new discrimination and you make a new kind of unconscious on the basis of that.

Now as to the matter of the "five," I think the "three" is perfect because you've got the beginning, middle, and end in structures, and a good work of art makes a turn in the middle, so you've got a big transformation there. Now the five act form is really the three act form with a transition between one and three and another transition between three and five if it's properly built. But your fundamental threeness is just in the fact that once you have a thesis basically, the very nature of the negative brings up an antithesis, and now once you have thesis and antithesis you've got to have some ground between them, so there's your synthesis—a logological necessity.

TOWLE: I got the impression from Hegel that it's more a banging together, some kind of a smash thing sprouting out there, but the kind of triplicity I'm talking about is one that fits to each other, not that it's over here and then there and then bang! you've got something new. It's already there.

BURKE: That's just what I mean by the various transformations you can do with these things. You take the three that you have in Father, Son and Holy Spirit, and there your trinity is not antagonistic, and then of course it's all brought together by the Holy Spirit which combines the two.

BLEKSLEY: Ladies and gentlemen, so far there has been one notable gap in the coverage of the fields of creativity in this symposium of ours, and it's now going to be filled by Mrs. Patricia Mangione who is going to talk on "Some Observations on the Experience of Painting."