

## *Conscious Purpose versus Nature\**

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Our civilization, which is on the block here for investigation and evaluation, has its roots in three main ancient civilizations: the Roman, the Hebrew and the Greek; and it would seem that many of our problems are related to the fact that we have an imperialist civilization leavened or yeasted by a downtrodden, exploited colony in Palestine. In this conference, we are again going to be fighting out the conflict between the Romans and the Palestinians.

You will remember that St. Paul boasted, "I was born free." What he meant was that he was born Roman, and that this had certain legal advantages.

We can engage in that old battle either by backing the downtrodden or by backing the imperialists. If you are going to fight that battle, you have to take sides in it. It's that simple.

On the other hand, of course, St. Paul's ambition, and the ambition of the downtrodden, is always to get on the side of the imperialists-to become middle-class imperialists themselves-and it is doubtful whether creating more members of the civilization which we are here criticizing is a solution to the problem.

There is, therefore, another more abstract problem. We need to understand the pathologies and peculiarities of the whole Romano-Palestinian system. It is this that I am interested in talking about. I do not care, here, about defending the Romans or defending the Palestinians-the upper dogs or the underdogs. I want to consider the dynamics of the whole traditional pathology in which we are caught, and in which we shall remain as long as we continue to struggle within that old conflict. We just go round and round in terms of the old premises.

Fortunately our civilization has a third root-in Greece. Of course Greece got caught up in a rather similar mess, but still there was a lot of clean, cool thinking of a quite surprising kind which was different.

Let me approach the bigger problem historically. From St. Thomas Aquinas to the eighteenth century in Catholic countries, and to the Reformation among Protestants (because we threw out a lot of Greek sophistication with the Reformation), the structure of our religion was Greek. In mid-eighteenth century the biological world looked like this: there was a supreme mind at the top of the ladder, which was the basic explanation of everything downwards from that-the supreme mind being, in Christianity, God; and having various attributes at various philosophic stages. The ladder of explanation went

downwards deductively from the Supreme to man to the apes, and so on, down to the infusoria.

This hierarchy was a set of deductive steps from the most perfect to the most crude or simple. And it was rigid. It was assumed that every species was unchanging.

Lamarck, probably the greatest biologist in history, turned that ladder' of explanation upside down. He was the man who said it starts with the infusoria and that there were changes leading up to man. His turning the taxonomy upside down is one of the most astonishing feats that has ever occurred. It was the equivalent in biology of the Copernican revolution in astronomy.

The logical outcome of turning the taxonomy upside down was that the study of evolution might provide an explanation of *mind*.

Up to Lamarck, mind was the explanation of the biological world. But, hey presto, the question now arose: Is the biological world the explanation of mind? That which was the explanation now became that which was to be explained. About three quarters of Lamarck's *Philosophie Zoologique* (1809) is an attempt, very crude, to build a comparative psychology. He achieved and formulated a number of very modern ideas: that you cannot attribute to any creature psychological capacities for which it has no organs; that mental process must always have physical representation; and that the complexity of the nervous system is related to the complexity of mind.

There the matter rested for 150 years, mainly because evolutionary theory was taken over, not by a Catholic heresy but by a Protestant heresy, in the mid-nineteenth century. Darwin's opponents, you may remember, were not Aristotle and Aquinas, who had some sophistication, but fundamentalist Christians whose sophistication stopped with the first chapter of Genesis. The question of the nature of mind was something which the nineteenth-century evolutionists tried to exclude from their theories, and the matter did not come up again for serious consideration until after World War II. (I am doing some injustice to some heretics along the road, notably to Samuel Butler-and others).

In World War II it was discovered what sort of complexity entails mind. And, since that discovery, we know that: wherever in the Universe we encounter that sort of complexity, we are dealing with mental phenomena. It's as materialistic as that.

Let me try to describe for you that order of complexity, which is in some degree a technical matter. Russel Wallace sent a famous essay to Darwin from Indonesia. In it he announced his discovery of natural selection, which coincided with Darwin's. Part of his description of the struggle for existence is interesting:

*“The action of this principle [the struggle for existence] is exactly like that of the steam engine, which checks and corrects any irregularities almost before they become evident; and in like manner no unbalanced deficiency in the animal kingdom can ever reach any conspicuous magnitude, because it would make itself*

*felt at the very first step, by rendering existence difficult and extinction almost sure to follow."*

The steam engine with a governor is simply a circular train of causal events, with somewhere a link in that chain such that the more of something, the less of the next thing in the circuit. The wider the balls of the governor diverge, the less the fuel supply. If causal chains with that general characteristic are provided with energy, the result will be (if you are lucky and things balance out) a self-corrective system.

Wallace, in fact, proposed the first cybernetic model.

Nowadays cybernetics deals with much more complex systems of this general kind; and we know that when we talk about the processes of civilization, or evaluate human behavior, human organization, or any biological system, we are concerned with self-corrective systems. Basically these systems are always conservative of something. As in the engine with a governor, the fuel supply is changed to conserve-to keep constant-the speed of the flywheel, so always in such systems changes occur to conserve the truth of some descriptive statement, some component of the status quo. Wallace saw the matter correctly, and natural selection acts primarily to keep the species unvarying; but it may act at higher levels to keep constant that complex variable which we call "survival."

Dr. Laing noted that the obvious can be very difficult for people to see. That is because people are self-corrective systems. They are self-corrective against disturbance, and if the obvious is not of a kind that they can easily assimilate without internal disturbance, their self-corrective mechanisms work to sidetrack it, to hide it, even to the extent of shutting the eyes if necessary, or shutting off various parts of the process of perception. Disturbing information can be framed like a pearl so that it doesn't make a nuisance of itself; and this will be done, according to the understanding of the system itself of what would be a nuisance. This too-the premise regarding what would cause disturbance-is something which is learned and then becomes perpetuated or conserved.

At this conference, fundamentally, we deal with three of these enormously complex systems or arrangements of conservative loops. One is the human individual. Its physiology and neurology conserve body temperature, blood chemistry, the length and size and shape of organs during growth and embryology, and all the rest of the body's characteristics. This is a system which conserves descriptive statements about the human being, body or soul. For the same is true of the psychology of the individual, where learning occurs, to conserve the opinions and components of the *status quo*.

Second, we deal with the society in which that individual lives-and that society is again a system of the same general kind.

And third, we deal with the ecosystem, the natural biological surroundings of these human animals.

Let me start from the natural ecosystems around man. An English oak wood, or a tropical forest, or a piece of desert, is a community of creatures. In the oak wood perhaps 1000 species, perhaps more; in the tropical forest perhaps ten times that number of species live together.

I may say that very few of you here have ever seen such an undisturbed system; there are not many of them left; they've mostly been messed up by *Homo sapiens* who either exterminated some species or introduced others which be, came weeds and pests, or altered the water supply, etc etc. We are rapidly, of course, destroying all the natural systems in the world, the balanced natural systems. We simply make them unbalanced-but still natural.

Be that as it may, those creatures and plants live together in a combination of competition and mutual dependency, and it is that combination that is the important thing to consider. Every species has a primary Malthusian capacity. Any species that does not, potentially, produce more young than the number of the population of the parental generation is out. They're doomed. It is absolutely necessary for every species and for every such system that its components have a potential positive gain in the population curve. But, if every species has potential gain, it is then quite a trick to achieve equilibrium. All sorts of interactive balances and dependencies come into play, and it is these processes that have the sort of circuit structure that I have mentioned.

The Malthusian curve is exponential. It is the curve of population growth and it is not inappropriate to call this the population *explosion*.

You may regret that organisms have this explosive characteristic, but you may as well settle for it. The creatures that don't are out.

On the other hand, in a balanced ecological system whose underpinnings are of this nature, it is very clear that any monkeying with the system is likely to disrupt the equilibrium. Then the exponential curves will start to appear. One plant will become a weed, some creatures will be exterminated, and the system as a balanced system is likely to fall to pieces.

What is true of the species that live together in a wood is also true of the groupings and sorts of people in a society, who are similarly in an uneasy balance of dependency and competition. And the same truth holds right inside you, where there is an uneasy physiological competition and mutual dependency among the organs, tissues, cells, and so on. Without this competition and dependency you would not be, because you cannot do without any of the competing organs and parts. If any of the parts did not have the expansive characteristics they would go out, and you would go out, too. So that even in the body you have a liability. With improper disturbance of the system, the exponential curves appear.

In a society, the same is true.

I think you have to assume that all important physiological or social change is in some degree a slipping of the system at some point along an exponential curve. The slippage may not go far, or it may go to disaster. But in principle if, say, you kill off the thrushes in a wood, certain components of the balance will run along exponential curves to a new stopping place.

In such slippage there is always danger-the possibility that some variable, e.g., population density, may reach such a value that further slippage is controlled by factors which are inherently harmful. If, for example, population is finally controlled by available food supply, the surviving individuals will be half starved and the food supply overgrazed, usually to a point of no return.

Now let me begin to talk about the individual organism. This entity is similar to the oak wood and its controls are represented in the total mind, which is perhaps only a reflection of the total body. But the system is segmented in various ways, so that the effects of something in your food life, shall we say, do not totally alter your sex life, and things in your sex life do not totally change your kinesic life, and so on. There is a certain amount of compartmentalization, which is no doubt a necessary economy. There is one compartmentalization which is in many ways mysterious but certainly of crucial importance in man's life. I refer to the "semipermeable" linkage between consciousness and the remainder of the total mind. A certain limited amount of information about what's happening in this larger part of the mind seems to be relayed to what we may call the screen of consciousness. But what gets to consciousness is selected; it is a systematic (not random) sampling of the rest.

Of course, the *whole* of the mind could not be reported in a *part* of the mind. This follows logically from the relationship between part and whole. The television screen does not give you total coverage or report of the events which occur in the whole television process; and this not merely because the viewers would not be interested in such a report, but because to report on any extra part of the total process would require extra circuitry. But to report on the events in this extra circuitry would require a still further addition of more circuitry, and so on. Each additional step toward increased consciousness will take the system farther from total consciousness. To add a report on events in a given part of the machine will actually *decrease* the percentage of total events reported.

We therefore have to settle for very limited consciousness, and the question arises: How is the selecting done? On what principles does your mind select that which "you" will be aware of? And, while not much is known of these principles, something is known, though the principles at work are often not themselves accessible to consciousness. First of all, much of the input is consciously scanned, but only after it has been processed by the totally unconscious process of perception. The sensory events are packaged into images and these images are then "conscious."

I, the conscious I, see an unconsciously edited version of a small percentage of what affects my retina. I am guided in my perception by *purposes*. I see who is attending, who is not, who is understanding, who is not, or at least I get a myth about this subject, which

may be quite correct. I am interested in getting that myth as I talk. It is relevant to my purposes that you hear me.

What happens to the picture of a cybernetic system—an oak wood or an organism—when that picture is selectively drawn to answer only questions of purpose?

Consider the state of medicine today. It's called medical science. What happens is that doctors think it would be nice to get rid of polio, or typhoid, or cancer. So they devote research money and effort to focusing on these "problems," or purposes. At a certain point Dr. Salk and others "solve" the problem of polio. They discover a solution of bugs which you can give to children so that they don't get polio. This is the solution to the problem of polio. At this point, they stop putting large quantities of effort and money into the problem of polio and go on to the problem of cancer, or whatever it may be.

Medicine ends up, therefore, as a total science, whose structure is essentially that of a bag of tricks. Within this science there is extraordinarily little knowledge of the sort of things I'm talking about; that is, of the body as a systemically cybernetically organized self-corrective system. Its internal interdependencies are minimally understood. What has happened is that purpose has determined what will come under the inspection or consciousness of medical science.

If you allow purpose to organize that which comes under your conscious inspection, what you will get is a bag of tricks—some of them very valuable tricks. It is an extraordinary achievement that these tricks have been discovered; all that I don't argue. But still we do not know two-penn'orth, really, about the total network system. Cannon wrote a book on *The Wisdom of the Body*, but nobody has written a book on the wisdom of medical science, because wisdom is precisely the thing which it lacks. Wisdom I take to be the knowledge of the larger interactive system—that system which, if disturbed, is likely to generate exponential curves of change.

Consciousness operates in the same way as medicine in its sampling of the events and processes of the body and of what goes on in the total mind. It is organized in terms of purpose. It is a short-cut device to enable you to get quickly at what you want; not to act with maximum wisdom in order to live, but to follow the shortest logical or causal path to get what you next want, which may be dinner; it may be a Beethoven sonata; it may be sex. Above all, it may be money or power.

But you may say: "Yes, but we have lived that way for a million years." Consciousness and purpose have been characteristic of man for at least a million years, and may have been with us a great deal longer than that. I am not prepared to say that dogs and cats are not conscious, still less that porpoises are not conscious.

So you may say: "Why worry about that?"

But what worries me is the addition of modern technology to the old system. Today the purposes of consciousness are implemented by more and more effective machinery, transportation systems, airplanes, weaponry, medicine, pesticides, and so forth.

Conscious purpose is now empowered to upset, the balances of the body, of society, and of the biological I world around us. A Pathology-a loss of balance-is threatened.

I think that much of what brings us here today is basically related to the thoughts that I have been putting before you. On the one hand, we have the systemic nature of the individual human being, the systemic nature of the culture in which he lives, and the systemic nature of the biological, ecological system around him; and, on the other hand, the curious twist in the systemic nature of the individual man whereby consciousness is, almost of necessity, blinded to the systemic nature of the man himself. Purposive consciousness pulls out, from the total mind, sequences which do not have the loop structure which is characteristic of the whole systemic structure. If you follow the "common-sense" dictates of consciousness you become, effectively, greedy and unwise-again I use "wisdom" as a word for recognition of and guidance by a knowledge of the total systemic creature.

Lack of systemic wisdom is always punished. We may say that the biological systems-the individual, the culture, and the ecology-are partly living sustainers of their component cells or organisms. But the systems are nonetheless punishing of any species unwise enough to quarrel with its ecology. Call the systemic forces "God" if you will.

Let me offer you a myth.

There was once a Garden. It contained many hundreds of species-probably in the sub tropics-living in great fertility and balance, with plenty of humus, and so on. In that garden, there were two anthropoids who were more intelligent than the other animals.

On one of the trees there was a fruit, very high up, which the two apes were unable to reach: So they began to think. That was the mistake. They began to think purposively.

By and by, the he ape, whose name was Adam, went and got an empty box and put it under the tree and stepped on it, but he found he still couldn't reach the fruit. So he got another box and put it on top of the first. Then he climbed up on the two boxes and finally he got that apple.

Adam and Eve then became almost drunk with excitement. This was the way to do things. Make a plan, ABC and you get D.

They then began to specialize in doing things the planned way. In effect, they cast out from the Garden the concept of their own total systemic nature and of its total systemic nature.

After they had cast God out of the Garden, they really went to work on this purposive business, and pretty soon the topsoil disappeared. After that, several species of plants became "weeds" and some of the animals became "pests"; and Adam found that gardening was much harder work. He had to get his bread by the sweat of his brow and he said, "It's a vengeful God. I should never have eaten that apple."

Moreover, there occurred a qualitative change in the relationship between Adam and Eve, after they had discarded God from the Garden. Eve began to resent the business of sex and reproduction. Whenever these rather basic phenomena intruded upon her now purposive way of living, she was reminded of the larger life which had been kicked out of the Garden. So Eve began to resent sex and reproduction, and when it came to parturition she found this process very painful. She said this, too, was due to the vengeful nature of God. She even heard a Voice say "In pain shalt thou bring forth" and "Thy desire shall be unto thy husband, and he shall rule over thee."

The biblical version of this story, from which I have borrowed extensively, does not explain the extraordinary perversion of values, whereby the woman's capacity for love comes to seem a curse inflicted by the deity.

Be that as it may. Adam went on pursuing his purposes and finally invented the free-enterprise system. Eve was not, for a long time, allowed to participate in this because she was a woman. But she joined a bridge club and there found an outlet for her hate.

In the next generation, they again had trouble with love. Cain, the inventor and innovator, was told by God that "His [Abel's] desire shall be unto thee and thou shalt rule over him." So he killed Abel.

A parable, of course, is not data about human behavior. It is only an explanatory device. But I have built into it a phenomenon which seems to be almost universal when man commits the error of purposive thinking and disregards the systemic nature of the world with which he must deal. This phenomenon is called by the psychologists "projection." The man, after all, has acted according to what he thought was common sense and now he finds himself in a mess. He does not quite know what caused the mess and he feels that what has happened is somehow unfair. He still does not see himself as part of the system in which the mess exists, and he either blames the rest of the system or he blames himself. In my parable Adam combines two sorts of nonsense: the notion "I have sinned" and the notion "God is vengeful" If you look at the real situations in our world where the systemic nature of the world has been ignored in favor of purpose or common sense, you will find a rather similar reaction. President Johnson is, no doubt, fully aware that he has a mess on his hands, not only in Vietnam but in other parts of the national and international ecosystems; and I am sure that from where he sits it appears that he followed his purposes with common sense and that the mess must be due either to the wickedness of others or to his own sin or to some combination of these, according to his temperament.

And the terrible thing about such situations is that inevitably they shorten the time span of all planning. Emergency is present or only just around the corner; and long term wisdom must therefore be sacrificed to expediency, even though there is a dim awareness that expediency will never give a long-term solution.

Moreover, since we are engaged in diagnosing the machinery of our own society, let me add one point: our politicians-both those in a state of power and those in a state of protest

or hunger for power-are alike utterly ignorant of the matters which I have been discussing. You can search the Congressional Record for speeches which show awareness that the problems of government are biological problems, and you will find very, very few that apply biological insight.  
Extraordinary!

In general, governmental decisions are made by persons who are as ignorant of these matters as pigeons. Like the famous Dr. Skinner, in *The Way of All Flesh*, they "combine the wisdom of the dove with the harmlessness of the serpent." But we are met here not only for diagnosis of some of the world's ills but also to think about remedies. I have already suggested that no simple remedy to what I called the Romano-Palestinian problem can be achieved by backing the Romans against the Palestinians or vice versa. The problem is systemic and the solution must surely depend upon realizing this fact.

First, there is humility, and I propose this not as a moral principle, distasteful to a large number of people, but simply as an item of a scientific philosophy. In the period of the Industrial Revolution, perhaps the most important disaster was the enormous increase of scientific arrogance. We had discovered how to make trains and other machines. We knew how to put one box on top of the other to get that apple, and Occidental man saw himself as an autocrat with complete power over a universe which was made of physics and chemistry. And the biological phenomena were in the end to be controlled like processes in a test tube. Evolution was the history of how organisms learned more tricks for controlling the environment; and man had better tricks than any other creature.

But that arrogant scientific philosophy is now obsolete, and in its place there is the discovery that man is only a part of larger systems and that the part can never control the whole.

Goebbels thought that he could control public opinion in Germany with a vast communication system, and our own public relations men are perhaps liable to similar delusions. But in fact the would-be controller must always have his spies out to tell him what the people are saying about his propaganda. He is therefore in the position of being responsive to what they are saying. Therefore he cannot have a simple lineal control. We do not live in the sort of universe in which simple lineal control is possible. Life is not like that.

Similarly, in the field of psychiatry, the family is a cybernetic system of the sort which I am discussing and usually when systemic pathology occurs, the members blame each other, or sometimes themselves. But the truth of the matter is that both these alternatives are fundamentally arrogant. Either alternative assumes that the individual human being has total power over the system of which he or she is a part.

Even within the individual human being, control is limited. We can in some degree set ourselves to learn even such abstract characteristics as arrogance or humility, but we are not by any means the captains of our souls.

It is, however, possible that the remedy for ills of conscious purpose lies with the individual. There is what Freud called the royal road to the unconscious. He was referring to dreams, but I think we should lump together dreams and the creativity of art, or the perception of art, and poetry and such things. And I would include with these the best of religion. These are all activities in which the whole individual is involved. The artist may have a conscious purpose to sell his picture, even perhaps a conscious purpose to make it. But in the making he must necessarily relax that arrogance in favor of a creative experience in which his conscious mind plays only a small part.

We might say that in creative art man must experience himself-his total self-as a cybernetic model.

It is characteristic of the 1960s that a large number of people are looking to the psychedelic drugs for some sort of wisdom or some sort of enlargement of consciousness, and I think this symptom of our epoch probably arises as an attempt to compensate for our excessive purposiveness. But I am not sure that wisdom can be got that way. What is required is not simply a relaxation of consciousness to let the unconscious material gush out. To do this is merely to exchange one partial view of the self for the other partial view. I suspect that what is needed is the synthesis of the two views and this is more difficult.

My own slight experience of LSD led me to believe that Prospero was wrong when he said, "We are such stuff as dreams are made on." It seemed to me that pure dream was, like pure purpose, rather trivial. It was not the stuff of which we are made, but only bits and pieces of that stuff. Our conscious purposes, similarly, are only bits and pieces. The systemic view is something else again.

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