Gregory Bateson[1]

Epistemology of organization[2]

It seems that TA (Transactional Analysis) people tell stories. I think there are probably reasons for this. Since your leader has been telling stories about me, let me reply with a story about, perhaps, why TA people tell stories. It is said that a gentleman, who owned a large computer, wanted to know whether computers would ever think like human beings. So he programmed the computer to investigate this question and reply to it. The computer thumped and bumped and went through its actions and finally wrote an answer on a piece of paper. The man ran to get the piece of paper. He found written on the paper these words: "That reminds me of a story."

The point is that it is not an accident that TA people, and sometimes anthropologists, tell stories. It arises from the fact that mental process, thinking like a human being, or indeed thinking like anything that one is willing to dignify with the word "thinking," does in fact consist of weaving, comparing, creating, muddling, and otherwise maltreating stories. That's what we are here to do. This is what psychotherapy consists of. It is what thinking consists of. It is probably what even evolution consists of — if you consider, say, the human being as the plot of an anthropoid ape, somewhat distorted.

I also speak to the honored Eric Berne who was a classicist, one of the very few people I have ever known who had use of Greek. I mean, not just able to spell it out and the sort of thing you learn in the British public schools, but actual use of Greek texts as a source of information. The Greeks knew a great deal about stories that we have almost forgotten. You have to remember that we live in a very decadent age which really badly needs a lot of psychotherapy, which is the subject of our talk. The Greeks knew that proper stories are structured and glued together from beginning to end by what they call *ananke*, by necessity. That if you start off at the beginning of the story with the wife of Atreus going to bed with Thyestes, you will then work down through three generations of horror to the finale of Aeschylus' Orestes trilogy. That is something which we no longer really demand in our stories. Yes, great stories perhaps have a cement of an *ananke* running through to hold them together. But we scarcely have a sense of necessity in most of our thinking and without that you see stories become entertainment.

Entertainment is a very dangerous drug, which seems for the moment to cure various sorts of boredom and depression, but which in fact is addictive; it leaves you a few hours later more bored and more depressed than you were before. If any of you should suffer from depression or boredom, I very strongly recommend you to avoid entertainment. Kick the TV in the face, and go to the classics where there is necessity running through the plots, however terrible those plots may be. Entertainment is one of the deaths of civilization. It is at least a very serious disease of civilization; it is not a rare disease at the present time. If you compare Aeschylus and Sophocles at the beginning of our known

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surviving collection of Greek tragedies with Menander at the end, you will see exactly what I mean: A quasi-religious art became a sort of Saturday evening post-silliness in something of the order of a hundred years, or a hundred and fifty years. Entertainment will eat up religion; it will eat up art; it will eat up any serious effort to understand the human destiny, the human dilemmas. That is what we are here for tonight. So we are not trying to be funny.

Our *Ananke* — our necessities as of the present time — center around our beliefs. This is a very curious matter. The beliefs are not just what you read in the newspaper at the top level of what the newspaper tells you, but at the next level down. Why is it structured that way?

What do we really believe about a hotel, an industry, a nation, an army, a person, a family?

We have quite a number of very well accepted, rather uninteresting beliefs. We believe that preference is transitive, that if you prefer A to B and B to C, you will of course prefer A to C. It is often not true, but we believe it is. We believe, in fact, that biological creatures (and we are of that kind) have various structures such that if A is better than B and B is more than C, A more than B, B more than C, A is good, B is less good, C will be less good and A will be much better than C. (Editor's Note: Bateson is discussing how we tend to think in terms of magnitude; thus he intentionally switches between "better" and "more".)

This is true apparently, partially, of money, that $1,001.00 is to be preferred to $1,000.00. And this goes on even for larger sums. It is — as far as I know — not true for any biological need that you can think of. If you want oxygen, and you do, too much oxygen is toxic. If you want water, and you do, too much water will be toxic. The same goes for proteins, calcium, vitamins, love, hate, and even psychotherapy. There is nothing of which if more of it is good, then still more will surely be better. It is of the nature of being an organism that we go for optima and not for maxima. However, we believe to the contrary and our belief is the setting for our *ananke*, for our necessity, for the plot of which we are a part.

Then, we believe that the mind is separate from the body. This is a very strange belief which has pestered the human race certainly from before the beginnings of history. If you think of the cave paintings: that silly sorcerer with antlers on his head, a sort of mask in a very well-known Aurignacian cave painting, suggests that already in Aurignacian times man was sort of split wide open between himself and himself, or himself and his body, or his body or something. That split has grown and twisted through the civilizations of man and reaches a sort of climax with Descartes and the mind-matter dualism. Notice that it is the same Descartes who invented the Cartesian graphs — those square things you make at school and you draw a line on them. The line represents the quantitative behavior of some variable. A very ingenious device, but disastrous. If you take mind away from matter (and say it is something separate or transcendent — that it has its own order of being), you are left with matter. You have taken away pattern and qualitative variables. You are left with quantity. The whole enormous emphasis of science upon quantity, which is in fact true or false at the level at which science makes its statements, is a distortion of the universe which has been created by purifying matter down and by pushing mind out of the relevance at the given moment. So we get quantitative science and its very noble achievements. It will probably kill us. If you look at even the 19th century

physicists, before physics became so serious (people like William Crookes, for example), and if you read Darwinian evolution, you will see this whole effort of the 19th century to try to push mind out of the explanatory operation. If you do that, you will end up with something that is quite unsatisfactory. You will find your leading physicists going off to consult mediums to get messages from their deceased aunts. The pure materialism becomes intolerable. That is a part of the plot of the story that you engage in if you accept the premise of the separation of mind from matter.

What I am building up are the plots. Then there is the plot which is very closely related to this mind-matter split which says that "you can see me and that I can see you." No! I have a picture by some miraculous process. The Lord alone knows how I make such pictures. But on my picture I can see that yellow dress. I can see these blue stripes, that red and orange, and so on. Do not think that this picture which I have of you all, is you; or that the picture which you have of me, is me? Korzybski pointed out that the map is not the territory. These are maps which you make with almost total unconsciousness of the process of making them. The laws of perception are, approximately, that you can contemplate the product but never the process. With long blood, sweat and tears, you can make alternation in your perceptive processes. You can render yourself not subject to optical illusions which you were subject to three months ago. This is a matter of practice and drill. You can learn to see things "more as they are." But you still do not know how you did it. The matter is not under voluntary control except with this sort of three-month latent period of work, and sweat and drill to change your mental process. It is about as difficult as learning a new piece on the piano and about as equally unconscious. You can criticize; you can say it is right, it is wrong; but the real process by which the perception and the action come together is by and large beyond us. Perhaps, it is a very good thing.

Here we are with a whole series of fallacious notions. I mentioned only three: The notion that if something is good, more is better; the notion that mind is separate from body; and the notion that you can perceive.

Granted a good technology, those are enough to motivate you to destroy the world, and the technology will make it possible for you to do so. The same set of ideas will also motivate you to improve the technology as fast as you can. (That's another rather important fallacy, by the way, which I ran into the other day with a geneticist who was going to monkey with your DNA. He says evolution has done this for two billion years. Yes. But that does not mean that what evolution did in two billion years is something which could, conceivably, be done in a hundred years. A process done at a different speed is not the same process. A very important thought for those who would talk about process as maturation, growth, and so on. And all social change: One of the things we suffer from is the enormous speed of social change at the present time. Even the best things come too fast.)

So, let me now, from that outline of the three premises upon which our story is to be built (unless we take a tumble to ourselves as they say, and this is one of the groups that is going to take a tumble to itself and, therefore, worth talking to), go sideways into what we did in Palo Alto nearly 20 years ago with double-bind and related things, to consider what sort of a business it is when mind is part of the whole business; when we know that the human individual is in some degree a fiction; when we know that preferences are intransitive, and so forth.

Let me give you three paradigms of the double bind. Paradigm one is Bertrand Russell's original spelling out of the paradoxes of abstraction. Let me put it in the form of a story. A philosopher made classes. He said, "Let there be a class of chairs, a class of tables, a class of microphones, and so forth." He observed that the moment he made a class — by that very act—he made a second class of non-chairs, non-microphones, non-tables, and so on, which was the class of nonmembers of the first class of chairs, microphones, tables, and so on. He noticed that the class of microphones is not a microphone; you cannot talk into it. The class of chair is not a chair; you cannot sit on it. A class of elephants does not make a sound. He said, "Oh, there are some classes which are not members of themselves." But he observed that his class of "non-microphones," as a non-microphone, seems to be a member of itself. And a class of ideas certainly seems to be an idea and seems to be a member of itself. And he said, "Oh, so now we have classes of classes. We climb a ladder of abstraction, and there would seem to be classes of classes. And one of these classes of classes has members which are members of itself; and the other has members which are not members of itself. The class of elephants is not a member of itself. The class of ideas is a member of itself." He asked, "Is the class of classes which are not member of themselves, a member of itself" And you will find that the answer is, "If yes, then no;" "If no, then yes." That was the tautological skeleton upon which double-bind theory was initially built.

Let me give you a second paradigm of the double bind. I take this one from Lewis Carroll's Alice *Through the Looking Glass.* It is the biology of the bread and the butterfly. It is, I think, Lewis Carroll's ironic caricature of Darwinian evolution or Darwinian natural selection. The story goes like this. Alice is in a railroad carriage. She hears a sort of buzzing and it is a gnat and the gnat talks to her to show her the insects through the looking glass: there, where they have not butterflies but bread and butterflies. She sees a sample of the bread and butterfly. It has wings made of thin slices of bread and butter in the English manner and its head is made of a lump of sugar. Alice asks as she does of every insect, "What does it live on?" And the gnat says, "Weak tea with cream in it." At this point, Alice perceived a difficulty, namely, that its head would dissolve in its food. So, she asked, "What happens if it can't find any?" The gnat says, "It dies." Alice says, "That must happen rather often." The gnat says, "It always happens."

Now what has happened is adaptation. The bread and butterfly actually isn't a very perfect example because you know it's static. It just comes up out of nothing. It is difficult to imagine its evolution. But a great deal of evolution has that sort of characteristic that the change which is adaptive in one direction becomes lethal, because it touches off another characteristic of the creature of the system, which cannot bear the change that this change would demand of it.

We were recently debating in the University of California the problem of the Lawrence Labs. The Lawrence Lab are atomic physic labs and a large part of them are devoted to the less desirable applications of atomic physics, like bombs and stuff. But, the system is addicted to making these bombs. It is not only addicted at the level of a lab in a University, or a part of a particular industrial concern, but addicted at a national level, addicted at an international level and probably addicted at the level of human individuals. And to stop doing that to which you have become addicted is essentially a double-bind problem. Are you willing, are you even able, to face the agonies of withdrawal in order to achieve a somewhat longer sojourn upon earth? Or would you rather be blown to hell upon a

mushroom-shaped cloud and not suffer the disruption of your society which stopping to make atom bombs would involve? And this is a problem for atom bombs. It is a problem for alcoholics.

The point I want to make is that it is as much a double-bind problem as the problem of bread and butterfly, or the class of classes which are not members of themselves. These all go in the same family of formalities. It is the same family of formalities (not of precise formalities, if I may so speak of it), that runs through all these things. It is the same family of formalities that, of course, runs through problems of changing personality, and that runs through the enormously strong and ingenious operations which people will go through in order not to be changed by well-intentioned chargers like you fellows. You all went through those changes yourselves to get where you are.

These are all essentially within the family of what we call double-bind problems. They turn upon levels of organization: from the species to the genus; from the class to the class of classes; from the immediate act (taking the next drink) which will relieve the immediate withdrawal versus the more distant perspective. The more abstract perspective may mean survival; the short perspective means, very likely, death. It is not a joke even to give up tobacco cold turkey, believe me. It leaves you more or less nuts for a time after you do it. I think I'm reasonably back now with you but there was a period of two years at least when I had scatter symptoms following giving up tobacco. And societies are as much organized as people and are going to have after-effects of these things.

What really are the steps and procedures by which one makes the next move, where one discovers that one is a bread and butterfly, or one discovers that one is making atom bombs, and that it is much more comfortable to make atom bombs, and be destroyed, than it is to give up making atom bombs and face the disruption of the withdrawal? Let me answer with a porpoise story.

When I arrived in Hawaii, in the Oceanic Institute, which is a porpoise-arium (that makes porpoise shows for the public who pay for tickets), I found that trainers (who had a sort of freedom to plan their own shows) said to the audience, "When the porpoise comes out into the show tank from the storage tank (the kennel), I am going to show you how we train porpoises." (The institution was under the belief that they trained porpoises according to a sort of Skinnerian theory. I don't think anybody's ever trained anything according to a Skinnerian theory, from pigeons upwards. But you can go through what look like Skinnerian operations and it works. That's true.) "Well, what I'll do," says the trainer, "is I'll watch the porpoise when she comes on stage and when she does something I want her to repeat, I'll blow this whistle and mark that instant (thereby marking that act), and I will then give her a fish. She'll come over and ask for the fish. And then she'll go back and do it again and get another whistle and another fish." The porpoise was coming on stage; was doing something or other; and it was all working. It took about five minutes to show that audience that the porpoise had learned something "new." There were about five shows a day, six days a week. Obviously, you could not honestly have the porpoise do the same thing in every show, in which case the porpoise would not have learned anything. These trainers are reasonably honest people. In fact, they were insisting that the porpoise do something different. And the porpoise had learned that it should do something different when it came onstage.

I took a look at that and I said, "Here we have learning of a higher order than the

straight learning and conditioning of the psych-labs. Very, interesting." And, finally, we managed to do the thing over experimentally, record it properly and see what happened. We got a new naive porpoise from the sea, trained her to the whistle and the fish and then started a series of training sessions of which the rule was that she should never be rewarded in session *n + 1* for that for which she had been rewarded in session *n*. Indeed, better not reward her for anything which she had previously been rewarded for. She had to do something new.

The typical sessions ran about ten minutes. She would spend three-quarters of the time doing what had been rewarded in a previous session. She would then more or less accidentally do something else which the trainer could regard as a "something." The trainer would then reward that. The porpoise would go on for the rest of that session doing that rewarded thing. For two-thirds of the next session she would do it unrewarded, and get quite impatient: "It wasn't fair." What was happening to her? When people say "it isn't fair," you can be pretty sure it is going to be a double bind of some kind. Between the 14th and 15th sessions the porpoise got enormously excited in the holding tanks. She was jumping, splashing, twisting, and rolling. When she came on stage for the 15th learning session, she did 12 totally new behaviors, one after the other, several of which had never been seen in that species before. That is, she transcended. In that sense of the word transcended, she went up a logical type to a step learning, a discontinuous piece of learning, up at the next level. Now, I want to make two points; let me not leave the porpoise too soon.

One of the interesting points about the porpoise is that we could not make the trainer obey the rules. She said, "If I don't give that porpoise a fish (an unearned fish, mark you), I will lose the porpoise." That is, the porpoise would cease to believe that the trainer loved it. Quite carefully, she did not throw fish, when the porpoise thought it had done right and it had not, but she did throw some "irrelevant" fish to the porpoise in order to maintain her relationship with her trainee. Otherwise, it would seem that the problem of handling these double bind type things is always to be dealt with ideally by climbing a logical type to the next higher level where you begin to get a crow's eye view of the trouble you are in. This has certain threads which are rather interesting.

I come back to the question of why do TA people continue to tell stories and continually double bind each other. I do not know how many of you were at last night's dinner when a show of this was put on for everybody's entertainment of everybody. Because at the moment when you break through upwards, one of the possibilities is that where you were before—or the act of breaking through — becomes incredibly laughable. Sex, of course, is always rather laughable for reasons that have to do with this. I mean always where one was before the sex act is somehow a lower logical type than that which one gets by climbing to the next level. This means also that the double bind theory has a quite different sort of position. It is not only a way of accounting for the behavior of porpoises who have decided that they are unloved, and go a little psychotic on the strength of it. It is also something which lies behind — what shall I say? — the pains of withdrawal if you try to give up an addiction cold turkey.

It also contains a sort of formal explanation of why people go and climb mountains. The common sense thing if you're addicted to a drug is to take another dose. This will take away your symptoms. The common sense thing when you are climbing a mountain is to sit down under a tree and eat your lunch. But the human species, for some unknown

reason, insists on going on climbing the mountain (increasing the pain in its arms, legs, and other places) to a sort of a victory, which is a very peculiar sort of victory. In a formal sense, one should not really call it a victory. It is not a victory of A over B. It is not a victory, of course, of mind over matter which would be a nonsense way of talking, as I have already mentioned.

The notion of the power of mind over matter suggests that mind has power, but power is a physical attribute. You could equally say, "the obedience of matter to mind," which would suggest that matter has a mental attribute. To make mind and matter meet in any such attribute, you have to shift one or the other over so that you can see that there is something screwy about the whole talk when you talk about the power of mind over matter.

But these mountain climbers climb, and they go on climbing, sometimes even to death, and this discipline (is that the word? I do not know what the word is) would seem to be very central to the whole nature of what it is to be a human being. If really you get totally away from that rather peculiar unreality, it is quite an unreal thing to do to climb mountains; or indeed to give yourself a discipline of becoming a TA trainer; or whatever it is; give myself the discipline of standing up at a podium and talking. But it seems to be human, and perhaps necessarily human, to go through things like that. You will see that it is necessarily human to go through things like that because there is a learning and, no doubt, there is a transfer of learning, a generalization of learning, so that those who learn to laugh in double bind situations, or those who learn to suffer the pangs of climbing the mountain, in fact have certain advantages and certain joys in life that other people do not have.

Discussion

Bateson: Let's see what we can do in discussion.

Question: I'm in my own double-bind. I'm stuck with the porpoise. Did the porpoise get 12 fish?

Bateson: No.

Question: I couldn't understand the dilemma of the trainers. Why were they trying to give the porpoise 12 fish?

Bateson: The unearned fish? You've got to know this was a psychological experiment, and in psychological experiments you have certain rules of procedure which have no bearing upon mammalian interrelations. The rule of the game was that the porpoise should be rewarded for one thing in each session and that thing should be different from what it had previously been rewarded for. The porpoise comes on and does a new thing and is rewarded for that. The porpoise then does 11 new things. No reward. And in the following sessions the porpoise had to learn to do only one new thing in each session. Psychologists are very curious people. The Institution thought that it was using Skinnerian techniques, so the head trainer was persona grata when she went to visit the Skinner labs and see the pigeons. She was allowed to make about 50 feet of little 8-mm toy movies of the pigeons. I never knew—and I do not believe it is in the published works—the truth of the matter is that to begin with, the PhD's who write the experimental schedules, are never allowed to touch a pigeon. The only person who touches the pigeon is a lady with very large hands, and in her hands those pigeons swoon with love. So that, "Stone walls do not a prison make, / Nor iron bars a cage / … If I have freedom in my love …" (Richard

Lovelace, *To Althea: From Prison*); and "Love will find out the way."

Question: Will you explain a little further your statement, or will you expand on your statement, that Skinner's method did not work?

Bateson: No, I didn't say that. I said it does work, but it is never according to his own theory. The higher logical abstraction which is communicated by that woman's hands is not included in the experimental report. What happened is a multi-level phenomenon, not a flat phenomenon which Skinner ideologically argues for.

Question: And, of course, his writings and his ideology produce a great embarrassment on the part of B. F. Skinner because everybody thinks of the pigeon.

Bateson: Yes, that's right.

Question: How does God fit into your conception of the universe?

Bateson: God? Well, I follow the rules of Alcoholics Anonymous who say, Imagine God the way you want him to be. And I do so approximately like this: First of all, how do I imagine I am? I do not think that I end with my skin. (I insisted on having a black board and I did not use it. Now I can use it.) The necessity of perception is that if you make a mark "so" on the blackboard [Bateson grinds the chalk on the board to make a big dot] and drop your finger on it, you will not feel it. If I move my finger laterally, I can still feel it even though it is almost deleted. There, it is gone. You move your finger across it, scanning it with a sense of touch, you will feel it. This means that for mental life all that you can really receive is news of a difference, and you receive news of difference by turning it into an event in time. Therefore, I say that mind is for me — my mind is for me — the total network of those things that carry differences, which can reach me as news of differences.

The moon is something which I can see by rubbing my retina on the sky, so to speak; it is a part of my mental equipment just as much a part as the neurons on which the news is going to travel, or the end organs which are going to pick it up by being touched off, or triggered. So my mind is not something confined inside me. It is a good deal of it inside me. But a good deal of it is outside. It is in books. It is in notes. It is in my five fingers if I use them to count with, to do arithmetic with. With that view of self, if I begin to say, "Well, now what happens when you and I talk?" Obviously, all of the things that I do, which are picked up by your perceptions, are a part of you. And the things that you do, which are picked up by my perceptions, are a part of me. And there's an enormous overlap in our two minds. So that it is not unreasonable to speak of a "shared mind." This is not a miraculous phenomenon; it is a common-sense phenomenon. We are not talking about the "supernatural" at all. If you go out into the Redwoods, which we do on the other side of the country — here you have lakes — you will find that you are there in similar networks in which differences, news of differences, are traveling; that there is a sort of mind, which is the ecology of that lake or the ecology of that redwood forest, whatever it is with you partly there, partly intrusive, not very perfectly assimilated in. Now that sort of larger mind I am willing to call, in a sense, God when it reaches a sufficient scale. Notice that this God differs from the more conventional ideas of God, in that the conventional God cannot go insane. The Eco-God, which is what I have roughly tried to describe to you, is capable of insanity when sufficiently maltreated. And this is a very serious aspect of God. Because insane people are very spiteful, as you know.

Question: What is your prognosis for Western Civilization?

Bateson: To begin with, one has to give it what the physicist calls a half-life by which I mean, estimate how long from this moment does it seem probable, does it seem will elapse to an even probability, let's say, something more serious than the destruction of any nation or a group of nations is ecologically unimportant. Others will go on and they will commit the same errors over. And nothing much will have happened.

But if you get to be more serious than that — if you destroy the plankton, for example, that might be more serious; the destruction of the Antarctic ice cap might be more serious; the releasing of the sort of viruses and bacteria that they are making for biological warfare purposes might be very serious; and other things, fallout — I will give it a half-life of probably less than 50 and perhaps as little as 20 years (What do you think?) to an even chance of very serious disaster.

Question: What about the possibility of little bit of disaster?

Bateson: "Not with a bang but a whimper" (Eliot)? Could be. The sea is a very peculiar object. People have an almost totally false picture of the nature of the sea. They think it is continually mixing itself up. It is not. It is much more accurate to think of the sea as made of very large clumps of water of the order of say 200-300 miles in width or diameter which in general do not mix with each other because there is no spoon big enough to stir them for mixing. The wind will mix at the surface from 20 to 30 feet disturbance, but not very far. So, when they finally crack the rocks where they blow these atom bombs up in Alaska, what is going to happen is the pollution of a slow moving current of polluted water, which comes down the West Coast of the U.S. to Santa Barbara, will move as a single unit. It will then, of course, destroy not only its own plankton but the bottom living organisms which do not move on as the water changes. And the sea in general has this characteristic: it doesn't mix; it moves in relatively integrated units. The loss of plankton may be quite serious, I think. But that's not a problem in TA exactly.