

STEPS TO AN  
ECOLOGY OF MIND  
*From Versailles to Cybernetics\**  
Gregory Bateson

I have to talk about recent history as it appears to me in my generation and to you in yours and, as I flew in this morning, words began to echo in my mind. These were phrases more thunderous than any I might be able to compose. One of these groups of words was, "The fathers have eaten bitter fruit and the children's teeth are set on edge." Another was the statement of Joyce that "history is that nightmare from which there is no awakening." Another was, "The sins of the fathers shall be visited on the children even to the third and fourth generation of those that hate me. And lastly, not so immediately relevant, but still I think relevant to the problem of social mechanism, "He who would do good to another must do it in Minute Particulars. General Good is the plea of the scoundrel, hypocrite, and flatterer."

We are talking about serious things. I call this lecture "From Versailles to Cybernetics," naming the two historic events of the twentieth century. The word "cybernetics" is familiar, is it not? But how many of you know what happened at Versailles in 1919? The question is, *What* is going to count as important in the history of the last sixty years? I am sixty-two, and, as I began to think about what I have seen of history in my lifetime, it seemed to me that I had really only seen two moments that would rate as really important from an anthropologist's point of view. One was the events leading up to the Treaty of Versailles, and the other was the cybernetic breakthrough. You may be surprised or shocked that I have not mentioned the A-bomb, or even World War II. I have not mentioned the spread of the automobile, nor of the radio and TV, nor many other things that have occurred in the last sixty years.

Let me state my criterion of historical importance:

Mammals in general, and we among them, care extremely, not about episodes, but about the patterns of their relation-ships. When you open the refrigerator door and the cat comes up and makes certain sounds, she is not talking about liver or milk, though you may know very well that that is what she wants. You may be able to guess correctly and give her that—if there is any in the refrigerator. What she actually says is something about the relationship between her-self and you. If you translated her message into words, it would be something like, "dependency, dependency, dependency." She is talking, in fact, about a rather abstract pat-tern within a relationship. From that assertion of a pattern, you are expected to go from the general to the specific—to deduce "milk" or "liver."

This is crucial. This is what mammals are about. They are concerned with patterns of relationship, with where they stand in love, hate, respect, dependency, trust, and similar abstractions, vis-à-vis somebody else. This is where it hurts us to be put in the wrong. If we trust and find that that which we have trusted was untrustworthy; or if we distrust, and find that that which we distrusted was in fact trust-worthy, we feel *bad*. The pain that human beings and all other mammals can suffer from this type of error is extreme. If, therefore, we really want to know what are the significant points in history, we have to ask which are the moments in history when attitudes were changed. These are the moments when people are hurt because of their former "values." Think of the house thermostat in your home. The weather changes outdoors, the temperature of the room falls, the thermometer switch in the living room goes through its business and switches on the furnace; and the furnace warms the room and when the room is hot, the thermometer switch turns it off again. The system is what is called a homeostatic circuit or a servocircuit. But there is also a little box in the living room on the wall by which *you set* the thermostat. If the house has been too cold for the last week, you must move it up from its present setting to make the system now oscillate around a new level. No amount of weather, heat or cold or whatever, will change that setting, which is called the "bias" of the system. The temperature of the house will oscillate, it will get hotter and cooler according to various circumstances, but the setting of the mechanism will not be changed by those changes. But when *you go* and *you move* that bias, you will change what we may call the "attitude" of the system.

Similarly, the important question about history is: Has the bias or setting been changed? The episodic working out of events under a single stationary setting is really trivial. It is with this thought in mind that I have said that the two most important historic events in my life were the Treaty of Versailles and the discovery of cybernetics.

Most of you probably hardly know how the Treaty of Versailles came into being. The story is very simple. World War I dragged on and on; the Germans were rather obviously losing. At this point, George Creel, a public relations man—and I want you not to forget that this man was a granddaddy of modern public relations—had an idea: the idea was that maybe the Germans would surrender if we offered them soft armistice terms. He therefore drew up a set of soft terms, according to which there would be no punitive measures. These terms were drawn up in fourteen points. These Fourteen Points he passed on to President Wilson. If you are going to deceive somebody, you had better get an honest man to carry the message. President Wilson was an almost pathologically honest man and a humanitarian. He elaborated the points in a number of speeches: there were to be "no annexations, no contributions, no punitive damages..." and so on. And the Germans surrendered.

We, British and Americans specially the British—continued of course to blockade Germany because we didn't want them to get uppity before the Treaty was signed. So, for another year, they continued to starve. The Peace Conference has been vividly described by aynard Keynes in *The Economic Consequences of the Peace* (1919). The Treaty was finally drawn up by four men: Clemenceau, "the tiger," who wanted to crush Germany; Lloyd George, who felt it would be politically expedient to get a lot of reparations out of Germany, and some revenge; and Wilson, who had to be bamboozled along. Whenever Wilson would wonder about those Fourteen Points of his, they took him out into the war cemeteries and made him feel ashamed of not being angry with the Germans. Who was the other? Orlando was the other, an Italian. This was one of the great sellouts in the history of our civilization. A most extraordinary event which led fairly directly and inevitably into World War II. It also led (and this is perhaps more interesting than the fact of its leading to World War II) to the total demoralization of German politics. If you promise your boy something, and renege on

him, framing the whole thing on a high ethical plane, you will probably find that not only is he very angry with you, but that *his* moral attitudes deteriorate as long as he feels the unfair whiplash of what you are doing to him. It's not only that World War II was the appropriate response of a nation which had been treated in this particular way; what is more important is the fact that the demoralization of that nation was expectable from this sort of treatment. From the demoralization of Germany, we, too, became demoralized. This is why I say that the Treaty of Versailles was an attitudinal turning point.

I imagine that we have another couple of generations of aftereffects from that particular sellout to work through. We are, in fact, like members of the house of Atreus in Greek tragedy. First there was Thyestes' adultery, then Atreus' killing of Thyestes' three children, whom he served to Thyestes at a peace-making feast. Then the murder of Atreus' son, Agamemnon, by Thyestes' son, Aegistheus; and finally the murder of Aegistheus and Clytemnestra by Orestes.

It goes on and on. The tragedy of oscillating and self-propagating distrust, hate, and destruction down the generations. I want you to imagine that you come into the middle of one of these sequences of tragedy. How is it for the middle generation of the house of Atreus? They are living in a crazy universe. From the point of view of the people who started the mess, it's not so crazy; they know what happened and how they got there. But the people down the line, who were not there at the beginning, find themselves living in a crazy universe, and find themselves crazy, precisely because they do not know how they got that way.

To take a dose of LSD is all right, and you will have the experience of being more or less crazy, but this will make quite good sense because you *know* you took the dose of LSD. If, on the other hand, you took the LSD by accident, and then find yourself going crazy, not knowing how you got there, this is a terrifying and horrible experience. This is a much more serious and terrible experience, very different from the trip which you can enjoy if you know you took the LSD.

Now consider the difference between my generation and you who are under twenty-five. We all live in the same crazy universe whose hate, distrust, and hypocrisy relates back (especially at the international level) to the Fourteen Points and the Treaty of Versailles.

We older ones know how we got here. I can remember my father reading the Fourteen Points at the breakfast table and saying, "By golly, they're going to give them a decent armistice, a decent peace," or something of the kind. And I can remember, but I will not attempt to verbalize, the sort of thing he said when the Treaty of Versailles came out. It wasn't printable. So I know more or less how we got here. But from your point of view, we are absolutely crazy, and you don't know what sort of historic event led to this craziness. "The fathers have eaten bitter fruit and the children's teeth are set on edge. It's all very well for the fathers, they know what they ate. The children don't know what was eaten. Let us consider what is to be expected of people in the aftermath of a major deception. Previous to World War 1, it was generally assumed that compromise and a little hypocrisy are a very important ingredient in the ordinary comfortableness of life. If you read Samuel Butler's *Erewhon Revisited*, for example, you will see what I mean. All the principal characters in the novel have got themselves into an awful mess: some are due to be executed, and others are due for public scandal, and the religious system of the nation is threatened with collapse. These disasters and tangles are smoothed out by Mrs. Ydgrun (or, as we would say,

"Mrs. Grundy"), the guardian of Erewhonian morals. She carefully reconstructs history, like a jigsaw puzzle, so that nobody is really hurt and nobody is disgraced—still less is anybody executed. This was a very comfortable philosophy. A little hypocrisy and a little compromise oil the wheels of social life.

But after the great deception, this philosophy is untenable. You are perfectly correct that something is wrong; and that the something wrong is of the nature of a deceit and a hypocrisy. You live in the midst of corruption.

Of course, your natural responses are puritanical. Not sexual puritanism, because it is not a sexual deceit that lies in the background. But an extreme puritanism against compromise, a puritanism against hypocrisy, and this ends up as a reduction of life to little pieces. It is the big integrated structures of life that seem to have carried the lunacy, and so you try to focus down on the smallest things. "He who would do good to another must do it in Minute Particulars. General Good is the plea of the scoundrel, hypocrite, and flatterer." The general good smells of hypocrisy to the rising generation.

I don't doubt that if you asked George Creel to justify the Fourteen Points, he would urge the general good. It is possible that that little operation of his saved a few thousand American lives in 1918. I don't know how many it cost in World War II, and since in Korea and Vietnam. I recall that Hiroshima and Nagasaki were justified by the general good and saving American lives. There was a lot of talk about "unconditional surrender," perhaps because we could not trust ourselves to honor a conditional armistice. Was the fate of Hiroshima determined at Versailles?

Now I want to talk about the other significant historical event which has happened in my lifetime, approximately in 1946-47. This was the growing together of a number of ideas which had developed in different places during World War II. We may call the aggregate of these ideas cybernetics, or communication theory, or information theory, or systems theory. The ideas were generated in many places: in Vienna by Bertalanffy, in Harvard by Wiener, in Princeton by von Neumann, in Bell Telephone labs by Shannon, in Cambridge by raik, and so on. All these separate developments in different intellectual centers dealt with communicational problems, especially with the problem of what sort of a thing is an organized system.

You will notice that everything I said about history and about Versailles is a discussion of organized systems and their properties. Now I want to say that we are developing a certain amount of rigorous scientific understanding of these very mysterious organized systems. Our knowledge today is way ahead of anything that George Creel could have said. He was an applied scientist before the science was ripe to be applied.

One of the roots of cybernetics goes back to Whitehead and Russell and what is called the Theory of Logical Types. In principle, the name is not the thing named, and the name of the name is not the name, and so on. In terms of this powerful theory, a

message *about* war is not part *of* the war.

Let me put it this way: the message "Let's play chess" is not a move in the game of chess. It is a message in a more abstract language than the language of the game on the board. The message "Let's make peace on such and such terms" is not within the same ethical system as the deceits and tricks of battle. They say that all is fair in love and war, and that may be true *within* love and war, but outside and about love and war, the ethics are a little different. Men have felt for centuries that treachery in a truce or peace-making is worse than trickery in battle. Today this ethical principle receives rigorous theoretical and scientific support. The ethics can now be looked at with formality, rigor, logic, mathematics, and all that, and stands on a different sort of basis from mere invocational preachments. We do not have to feel our way; we can sometimes *know* right from wrong.

I included cybernetics as the second historic event of importance in my lifetime because I have at least a dim hope that we can bring ourselves to use this new understanding with some honesty. If we understand a little bit of what were doing, maybe it will help us to find our way out of the maze of hallucinations that we have created around our-selves.

Cybernetics is, at any rate, a contribution to change—not simply a change in attitude, but even a change in the understanding of what an attitude is.

The stance that I have taken in choosing what is important in history—saying that the important things are the moments at which attitude is determined, the moments at which the bias of the thermostat is changed—this stance is derived directly from cybernetics. These are thoughts shaped by events from 1946 and after.

But pigs do not go around ready-roasted. We now have a lot of cybernetics, a lot of games theory, and the beginnings of understanding of complex systems. But any understanding can be used in destructive ways.

I think that cybernetics is the biggest bite out of the fruit of the Tree of Knowledge that mankind has taken in the last 2000 years. But most of such bites out of the apple have proved to be rather indigestible—usually for cybernetic reasons. Cybernetics has integrity within itself, to help us to not be seduced by it into more lunacy, but we cannot trust *it* to keep us from sin.

For example, the state departments of several nations are today using games theory, backed up by computers, as a way of deciding international policy. They identify first what seem to be the rules of the game of international interaction; they then consider the distribution of strength, weapons, strategic points, grievances, etc., over the geography and the identified nations. They then ask the computers to compute what should be our next move to minimize the chances of our losing the game. The computer then cranks and heaves and gives an answer, and there is some temptation to obey the computer. After all, if you follow the computer you are a little *less responsible* than if you made up your own mind.

But if you do what the computer advises, you assert by that move that you support the *rules of the game* which you fed into the computer. You have affirmed the rules of that game.

No doubt nations of the other side also have computers and are playing similar games, and are affirming the rules of the game that they are feeding to their computers. The result is a system in which the rules of international interaction become more and more rigid.

I submit to you that what is wrong with the international field is that the *rules* need changing. The question is not that is the best thing to do within the rules as they are at the moment. The question is how can we get away from the rules within which we have been operating for the last ten or twenty years, or since the Treaty of Versailles. The problem is to *change* the rules, and insofar as we let our cybernetic inventions—the computers—lead us into more and more rigid situations, we shall in fact be maltreating and abusing the first hopeful advance since 1918.

And, of course, there are other dangers latent in cybernetics and many of these are still unidentified. We do not know, for example, what effects may follow from the computerization of all government dossiers.

But this much is sure, that there is also latent in cybernetics the means of achieving a new and perhaps more human outlook, a means of changing our philosophy of control and a means of seeing our own follies in wider perspective.

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