The Metaphor of the Tube for Communication

Our discussion has led us to conclude that, biologically, there is no "transmitted information" in communication. Communication takes place each time there is behavioral coordination in a realm of structural coupling.

This conclusion is surprising only if we insist on not questioning the latest metaphor for communication which has become popular with the so-called communication media. According to this metaphor of the tube, communication is something generated at a certain point. It is carried by a conduit (or tube) and is delivered to the receiver at the other end. Hence, there is a *something* that is communicated, and what is communicated is an integral part of that which travels in the tube. Thus, we usually speak of the "information" contained in a picture, an object, or, more evidently, the printed word.

According to our analysis, this metaphor is basically false. It presupposes a unity that is not determined structurally, where interactions are instructive, as though what happens to a system in an interaction is determined by the perturbing agent and not by its structural dynamics. It is evident, however, even in daily life, that such is not the case with communication: each person says what he says or hears what he hears according to his own structural determination; saying does not ensure listening. From the perspective of an observer, there is always ambiguity in a communicative interaction. The phenomenon of communication depends on not what is transmitted, but on what happens to the person who receives it. And this is a very different matter from "transmitting information."

titmice had learned the trick of getting a good breakfast.

Vertebrates have an essential and unique capacity: imitation. Exactly what imitation is in terms of nervous physiology is not easy to say. But in terms of behavior it is obvious. Because of this phenomenon called imitation, what began as a behavior centered on some blue titmice expanded rapidly. Imitation therefore permits a certain mode of interaction to go beyond the ontogeny of one individual; it remains more or less invariant through successive generations. If the chicks of the titmice could not imitate, the habit of eating cream from the bottles would have to be invented anew in each generation.

Altruism and Selfishness

A study of the ontogenic couplings between organisms and an assessment of their great universality and variety point to a peculiar social phenomenon. We can say that when an antelope stays behind and takes a greater risk than the others, it is the group which benefits and not necessarily that antelope. We can also say that when a worker ant does not reproduce but goes about getting food for all the offspring on the anthill, once again it is the group which benefits and not that ant directly.

It is as though there were a balance between individual maintenance and subsistence and the maintenance and subsistence of the group as a greater unity that encompasses the individual. In fact, there is a balance between individual and group in natural drift as long as the organisms through their structural coupling into higher-order unities (which have their own realm of existence) include the maintenance of these unities in the dynamics of their own maintenance.

Ethologists have termed "altruistic" those actions that can be described as beneficial to the group. They have chosen a name that evokes a form of human behavior charged with ethical connotations. This may be so because biologists have long lived with a view of nature as "red in the tooth and in the claw," as a contemporary of Darwin said. We often hear that what Darwin proposed has to do with the law of the jungle because each one looks out for his own interests, selfishly, at the expense of others in unmitigated competition.

This view of animal life as selfish is doubly wrong. It is wrong, first, because natural history tells us, wherever we look, that instances of behavior which can be described as altruistic are almost universal. Second, it is wrong because the mechanisms we put forward to understand animal drift do not presuppose the individualistic view that the benefit of one individual requires the detriment of another.

Indeed, throughout this book we have seen that the existence of living organisms in natural drift (both ontogenic and phylogenic) is not geared to competition but to conservation of adaptation, in an individual encounter with the environment that results in survival of the fittest. Now, we as observers can change our frame of reference in our observation. We can consider also the group unity which individuals are a component of. In doing so, we see that the group necessarily conserves adaptation and organization in its realm of existence. In that group as a unity, individual components are irrelevant, for they can all be replaced by others that fulfill the same relations. For components as living beings, however, their individuality is their very condition for existence. It is important not to confuse these two phenomenal levels, to fully understand social phenomena. The behavior of the antelope that stays behind has to do with conservation of the group; it expresses characteristics proper of antelopes in their group coupling as long as the group exists as a unity. At the same time, this altruistic behavior in the individual antelope as regards group unity results from its structural coupling in an environment that includes the group; it is an expression of conservation of its adaptation as an individual. There is no contradiction, therefore, in the antelope's behavior insofar as it expresses individuality as a member of the group: it is "altruistically" selfish and "selfishly" altruistic, because its expression includes its structural coupling in the group it belongs to.

All these remarks are valid also in the human realm; however, they must be modified according to the features of the language as a mode of human social coupling. We shall see this later on.