Cognitive Pragmatics

The Mental Processes of Communication

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1 Not Just Language: A Taxonomy of Communication

Communication is a social activity that requires more than one participant for it to take place.

The theme of this book is communication in general, not just communication that comes about through spoken language. Viewed in this way, speech is one of the modes of expression we use in order to communicate.

Other channels are writing, drawing, showing emotions, as well as any form of action, provided that the action was carried out in such a fashion as to make it clear to the receiver that ostensive communication was deliberately intended. Obvious examples include buying a ruby for one's beloved, or throwing an object of which she is extremely fond out of the window.

In order to take a unitary approach, we must start from a high level of generalization, at which the modes of expression are not the dominant spheres of discourse. In other words, we must start from a level at which the differences between linguistic and extralinguistic acts (both of which must be intentionally communicative) are of little or no importance. This will enable us to focus on those features that are common to all acts of communication, and leave the analysis of the specific modes in which a given interaction may be realized to later chapters.

Communication is a social activity of a combined effort of a least two participants, who consciously and intentionally cooperate to construct together the meaning of their interaction.

Cognitive pragmatics is the study of the mental states of people who are engaged in communication. Basing the analysis of communicative interactions on mental states means, first and foremost, examining *individual* motivations, beliefs, goals, desires, and intentions. The next step in the analysis is to examine how these states are expressed. The definition of communication as a process implies that communicating linguistically or

extralinguistically will involve two different ways of processing data. The same input may be analyzed from both a linguistic and an extralinguistic standpoint, and except in special cases, it will be processed in two parallel ways. To examine how such mental states are expressed, I will investigate the specific features of the various channels of communication, analyzing both linguistic and extralinguistic communication.

In order to underscore the multiplicity of communicative channels, I will avoid the terms *speaker* and *hearer*, generally preferring, instead, the term *actor* to indicate the participant who takes the active role at the moment of communicating and the term *partner* to refer to the participant who has the passive role at that point in the interaction; in the flow of exchanging roles, both entities will be referred to as *agents*, or *interlocutors*. Conventionally, the actor (abbreviated to A) will be female; her partner (abbreviated to B) will be male; other participants will be abbreviated to C, D, and so on.

If, in the course of any potentially communicative activity—speaking, writing, carrying out an action—there is no partner to receive the message, then the communication remains private, a bridge that will never reach the other side of the river. Thus, if we speak to ourselves, if we write a letter that will never be posted, if we act out a scene in front of the mirror, we cannot classify these events as communication acts, no matter how expressive these activities might appear to us, for they are solipsistic acts, performed in a world in which we exist by ourselves.

The theory I am about to outline does not consider the presence of two people a sufficient condition for there to be communication. A further set of conditions must also be stipulated. The first assumption is that the global meaning of the interaction is *agreed on* by the participants, irrespective of whether they take the role of speaker or of hearer. In other words, a mental representation must be constructed of the event that is taking place which is shared by both interlocutors: I call this structure a *behavior game*. It will be introduced in chapter 3. The game represents what both agents believe they are engaged in, the meaning they are giving to the entire sequence of interactions. The sequence may be extremely short, as when asking the way to the station, or extremely long, as when two lovers are debating whether to leave each other or to get married. In both of these examples, all the participants must be fully aware of what is happening, what social and personal obligations are involved, what one may legitimately expect from the other partner, and what one may not expect.

The linguist François Recanati (2004) goes so far as to claim that the meaning of every single term employed in an interaction must be agreed

on by the participants in that conversation. Lexical bargaining, term by term, might seem a rather extreme argument; however, the objective behind arguments of this type is to underscore the fact that interaction is something that is constructed by those involved, in which each participant takes on full responsibility for what happens. It will help clarify matters if I momentarily draw the reader's attention to the alternative paradigm that will be analyzed shortly. This view holds that the emitter reflects on the message she wishes to convey to the other interactant, plans it syntactically, and finally generates it physically, at which point it becomes the receiver's task to interpret what he has received, and so on turn by turn.

The second assumption is that in order to be able to speak of communication, all the agents must make explicit their own conscious intention to take part in the interaction. The second chapter will justify the need for a fully conscious communicative intention. In sum, my argument is that it is not possible for A to communicate something to B if she has no intention of doing so; if this were to happen, then it is B who has autonomously inferred some information from A's behavior without A's participation. Furthermore, if A intends to communicate something to B, she must be aware of the fact: although unconscious intentions do exist, unconscious communicative intentions do not.

Language is the means of communication par excellence; it is thus obvious that its appearance is connected with the social nature of human beings. The problem of the origin of language will be dealt with organically in chapter 6. However, it would be a totally pointless exercise to attempt to establish whether the language capacity developed because it was the most promising means for the realization of smooth and successful communication, which would thus appear to be its basic function, or whether development ran the opposite course, according to the hypothesis that language emerged as an aid to the formulation of priorly existing thought, and that it was subsequently exploited in a parasitical fashion to satisfy the needs of communication.

Both positions attempt to establish a simple, linear system of causality (of the type "*X* causes *Y*"; for instance, a hammer blow causes the vase to break) in a world that is incommensurably more complex. In a complex causal system, events exert reciprocal influence on each other, each one acting as a means of regulating the other. For example, the endocrine system modulates the release of each individual hormone based on a series of differentiated and interdependent factors, such as one's biorhythm, the concentration of a series of substances in the blood, the presence of release

factors, general physical tone, the mental state of the individual, together with the situation the individual is in at that particular moment. In their turn, the hormones influence all the above-mentioned factors, sparking off a complex system of interactions. In cases such as these, speaking of linear cause and effect is overly simplistic, to say the least.

By the same token, the relationship between communication, thought, and language must be viewed as one in which the three domains press each other on to reciprocal future improvement, rather than as a competition over which domain will determine the ultimate destiny of the human race (thinking, inasmuch as we are intelligent beings, or communicating, insofar as we are social animals?).

Before we proceed, one key feature of communication must be pointed out: only a phenomenon that resists or helps resist the constantly increasing entropy of the world may be considered as constituting a genuine message. In other words, we humans realize that something is to be construed as a meaningful message only if that something produces a change in the world, in a direction that may be classified as *nonnatural*, one that combats the increasing disorder exhibited by the world. We only perceive pronounced variations, not the continuities. Thus, I realize my daughter has been in the kitchen because I see a tennis sock perched on the fridge; or Sherlock Holmes realizes the landlady has come into his flat because despite his precise orders that nothing be touched, everything is in its correct place, and disorder does not reign as it normally does. Violated expectations are densely packed with information; this explains why silence is communicative when one expects words.

Norbert Wiener, the inventor of cybernetics (Wiener 1948), identified one important feature that is common to any form of communication among living beings on our planet: a piece of information defies the entropy that is continuously on the increase in the world, thereby diminishing natural disorder. For any being built to live in a world of increasing entropy—whether he be gifted with natural life as are human beings and sloths, or whether it be equipped with artificial life as are cybernetic robots—to be able to perceive change as information, that entity must perceive that information as resisting entropy. Hypothetical negentropic beings, which have developed in a world with the opposite characteristics of ours, where entropy decreases naturally, would never be able to communicate with an earthly creature: we would interpret their messages as natural events, events that do not express meaning; similarly, such creatures would not even perceive an attempt made on our part to communicate with them.

For instance, if the book the reader is reading were to rise from the table, or if the chair on which the reader is sitting were to start dancing, then the reader might think that something significant was happening; but how could he realize that the *non*motion of a book or of a chair also constituted a message? Perhaps, by means of not tearing this page, an Arthurian knight of the negentropic Vega VII is trying to say something that, unfortunately for us, will never be understood.

Whatever may be classified as change can become a communicative message from one person to another. If a living being cannot classify that phenomenon as change, then that phenomenon cannot become a message.

1.1   Social Interaction

We may speak of social interaction every time that two or more people enter a situation of mutual exchange, that is, a situation that enables one person to influence another and vice versa. Commonality may be spatial and temporal, as is the case with a conversation; it may be spatial but not temporal, as happens when one reads a letter sent by another person; or it may be temporal but not spatial, as in the case of a telephone call.

I will deliberately define the concept of social interaction in a wide manner, so that it may accommodate any type of action that may influence others. It therefore goes well beyond communication proper, because it comprises a mode of interaction I will call *extraction of information*; it is important to recognize the distinctive features of both modes of reciprocal influence. Figure 1.1 introduces a first set of differences that will be progressively analyzed.

1.1.1   Information Extraction

A first and extremely important mode of interacting with others is represented by information extraction: I will begin with this mode since it is the most ancient, phylogenetically speaking, for we share it with all other living creatures. In order to explain it, I will avail myself of a distinction first introduced by the ethologist Marc Hauser in his work on animal communication (Hauser 1996); in this sphere, he distinguishes between a cue, a sign, and a signal.

A *cue* is an attribute exhibited by an individual that is always active, or *on*, thereby enabling other animals to make inferences; a cue costs nothing to that given animal, because it is part of its phenotype: it cannot be abandoned. Examples of cues include the golden plumage of a pheasant
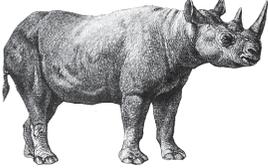
	in animals	in humans
Information extraction Nonintentional, nonsymbolic — *Cue*	plumage, horns	complexion, height
Information extraction Nonintentional, nonsymbolic — *Sign*	nest, footprints	fingerprints
Communication Intentional, nonsymbolic — *Signal*	courting, aggression	genetically based effects (caresses, punches)
Human communication Intentional, symbolic		linguistic or extralinguistic message

Figure 1.1
Social interactions of a communicative type.

or the horns of a deer. The pheasant's plumage and the ramifications of the deer's horns allow other animals to infer a good deal of information: a female searching for a mating partner may comprehend that the animal she has set eyes on is a male and may gauge the degree of suitability of adaptation of that specimen to the environment; she is thus in a position to evaluate his genetic quality; a male rival may estimate how dangerous his adversary would be in combat; a predator would be able to assess its potential as food, and so forth.

In human beings cues refer to physical constitution, even though we are capable of modifying at least a few of these, as, for instance, dying our hair so as to look younger, or using plastic surgery to become more attractive.

A *sign* is a parameter that is separate or distinct from the organism itself and may take on different values: it is produced by the individual itself, sometimes with a precise aim, but without any communicative goal. Examples of signs are the footprints left by an elephant or the nest built by a bird. In going to the river to drink, the elephant has no intention of communicating to anyone that this is the course it has taken, but another animal may obtain this information from its footprints and from the feces it leaves behind. A bird builds a nest to lay her eggs in it and to bring up her little ones, not to convey to other animals that that is the exact spot she has chosen to build her nest; yet, other animals are able to extract a fair amount of information simply by noting the presence of the nest.

In humans, the concept of sign is intrinsically ambiguous, for any trace whatsoever of activity may turn into communication. A crumpled newspaper, an unmade bed, dirty dishes may be signs that a person has looked at a newspaper, slept in a bed, eaten breakfast. But in certain circumstances, all of these signs could be taken as fully communicative, that is to say as symbols deliberately left to inform the observer that the newspaper has been read, that the bed has been slept in, that breakfast has been eaten. In the case of humans, therefore, signs may easily become signals, provided they have been left intentionally. For example, fingerprints left by an incautious burglar at the scene of the crime are signs that a good detective may make note of. It is no difficult matter, however, to imagine a situation in which the criminal was anxious to expiate his guilt and so deliberately left his fingerprints as signals to be discovered.

One of my patients, a fifty-year-old male, an insurance agent with psychosomatic problems, had never cooked anything in his life: if his wife went away for a couple of days, she left a number of coffee pots ready in the fridge, equal to twice the number of days she would be away. After a year's

therapy, the man had decided he wanted to increase his autonomy, starting from morning coffee: each time he managed to prepare the pot of coffee, this also became a message to his wife indicating that he was well enough to look after himself.

Conversely, a twenty-five-year-old female student who, for a year, had been cohabiting with a man who was slightly older than her and whose work kept the couple, was offended every time she found an unwashed coffee cup around the house. She thought it was a precise message which was aimed at reminding her of her state of dependency, underlining the fact that he could allow himself the luxury of not looking after household affairs: his work was more important than her study course.

A *signal* is a communication act that the individual directs to other animals. It may or may not be active (*on/off*), it always has a cost each time it is emitted, and it may either be directly exhibited by the individual, or be temporally and spatially separated from its organism. Examples include the mating dance of two herons, or a rhinoceros staking out his territory by urinating. The herons wish to convey their own sexual availability to each other, while the rhinoceros intends to communicate his presence to fellow rhinoceroses in the area.

The second case of information extraction belongs to the domain of the hard sciences and not to ethology, and is represented by the mathematical theory of communication, developed by Claude Shannon and Warren Weaver (1949). This is the most influential theory in the field of engineering. Its applications range from telephony to robots. Despite its enormous success in the artificial sciences, it cannot be applied to the sciences dealing with human beings for reasons we will now examine.

Shannon had already propounded the theorems on which the theory is based when he worked at the Bell Telephones Laboratory, that is, at the largest U.S. telephone company, which is committed to discovering the laws that govern the transmission of information from one system to another. The first problem consisted in measuring the quantity of information transmitted; the first approximation was obtained thanks to the concept of the maximum quantity of information conveyable along a given channel. It became immediately obvious that the communication channel was affected by a number of forms of interference, as well as by unpredictable accidents that occurred during transmission. This rendered that maximum quantity an imprecise measure.

A cognitive-pragmatic approach to SBUs reveals that in many cases cognitive mechanisms such as metaphor and conventional knowledge are responsible for the unique situational meaning of SBUs. In this respect, SBUs are similar to other formulaic expressions such as idioms and conventional implicatures whose meaning structure can also be better accounted for if the underlying cognitive mecha-nisms are examined.