Two Views of Linguistic Communication

Simplifying somewhat, one can contrast two models of linguistic communication: the classical model of communication, or the “code model”, and the inferential model. According to the code model, the communicator encodes her message by means of a signal that the hearer then decodes. Sentences of a language are just complex signals that encode messages.

Against this model, linguistic pragmatics objects that the same sentence can be used to communicate an indefinite number of different messages that cannot be retrieved by simple decoding. Take, for example, the sentence: “It’s too slow.” This very ordinary sentence does not present any particular linguistic difficulty. Yet, it can be used to convey an indefinite number of meanings, for example: The mouse is too slow in solving the maze; The chemical reaction is too slow compared to what we expected; The decrease in unemployment is too slow to avoid social unrest; Jacques’ car is too slow (and so I’d suggest we take Pierre’s) etc. In order to discover what meaning is transmitted by the uttering of this sentence, one needs contextual information. Contextual information will help one understand what “it” refers to, what kind of slowness is at issue (slowness of movement, of thought, of a process, etc.), and what criteria determine the value of “too”. It will help one recognize the more or less literal, hyperbolic or ironic character of the utterance. Lastly, it will help one retrieve its possible implicatures.

According to the inferential model, of which relevance theory (Sperber & Wilson 1995) offers an explicit and radical version), an utterance is a piece of
evidence of the speaker’s meaning. Decoding the linguistic sentence meaning is seen as just one part of the process of comprehension—a process that relies on both this linguistic meaning and on the context in order to identify the speaker’s meaning. It was the philosopher Paul Grice (1957) who first suggested this point of view. He approached the relationship between sentence meaning and speaker’s meaning in an original way. Speaker’s meaning, in Grice’s analysis, is a complex communicative intention that must be recognized by the hearer in order to be fulfilled. It is an intention to achieve a certain effect upon the mind of the hearer by means of the hearer’s recognition of the very intention to achieve this effect.

Seen this way, communication depends upon the ability of human beings to attribute mental states to others; that is, it depends upon their naïve psychology. This ability has been the subject of considerable work in developmental psychology (Baron-Cohen et al., 2000) and in the study of the evolution of social behavior (Byrne and Whyten, 1988). Humans spontaneously interpret one another’s behavior, not as simple body movements, but as the belief-guided fulfillment of intentions. Living in a world inhabited not only by physical objects and living bodies, but also by mental states, humans may want to act upon these mental states. They may seek to change the desires and beliefs of others. Such action can be carried out unbeknownst to the person one seeks to influence. It can also be performed overtly—one makes it manifest that one is trying to cause one’s audience to believe or desire something—and then it is a communication proper. Communication is achieved by giving the hearer evidence of the meaning one intends to communicate. This evidence can be of any sort—gestures, mimicry, showings; and they can be coded or not, provided that they allow the hearer to infer the speaker’s meaning.

In inferential communication the communicator seeks to fulfill her intention by making it manifest to the hearer. Such a procedure carries a clear risk: the hearer, recognizing that one seeks to influence him, can easily foil this intention. On the other hand, inferential communication, because of the very fact that it is overt, has two advantages that make it generally much more powerful than all the
other ways of acting upon people’s mental states. While a mistrustful hearer may refuse to be influenced, a hearer who trusts the communicator’s competence and honesty will make an effort to understand a message that he’ll be willing to accept. More importantly still, whereas the manipulation of the mental states of others by non-communicational means is relatively cumbersome and always imprecise, overt communication makes it possible to transmit at very little cost contents as rich and precise as one wants.

The role of language in inferential communication is to provide the communicator with evidence, as exact and complex as she wishes, of the content she wants the hearer to accept. For this, it is not necessary that the utterance encode this content in extenso and unambiguously. Quite commonly, a fragmentary, ambiguous and loose coding is sufficient, in the context, for indicating a complete and unequivocal meaning. In this respect, inferential comprehension is not different from any other cognitive process of non-demonstrative inference that draws relatively reliable conclusions from fragmentary evidence open to multiple interpretations by relying upon both empirical regularities and context. The main task of pragmatics is to explain how such a process of inference is carried out in the particular case of linguistic communication: what empirical regularities guide the process? How are the linguistic properties of the utterance, on the one hand, and contextual information on the other, put to use? Although different pragmatic theories (e.g. Ducrot, Grice, Levinson, Sperber & Wilson) give different answers to these questions, they agree on the two basic considerations: comprehension is inferential, and, by drawing on both the sentence meaning and the context, it aims at discovering the meaning intended by the speaker.

Clearly, the classical code model and the inferential model developed by pragmatics assign different functions to language in linguistic communication. To different functions there should correspond, in the species’ history, different selective pressures and hence different hypotheses regarding the biological evolution of language. Yet, whether it is because, in practice, they accept the code model (e.g. Pinker, 1994, ch. 7), or because they consider the evolution of language without worrying about its specifically linguistic properties (e.g. Dunbar
1996), theorists of the evolution of language have not given much of a role to the pragmatic dimension of language (Dessalles 2000 is an exception), and have considered even less the precise role of communicational processes in linguistic communication.

**The Evolution of Language and Two Models of Linguistic Communication**

Coded communication functions best when interlocutors share exactly the same code. Any difference between the communicator’s code and that of the hearer is, on the other hand, a source of possible error in the communication process. Under these conditions, a mutation affecting an individual’s language faculty places her at the risk of internalizing a code that is different from that of her conspecifics on the basis of the same linguistic data. This mismatch of codes would at best neutral, but more probably detrimental to the individual’s ability to communicate. It would be counter-adaptive.

More generally, since a code must be shared by a population in order to be advantageous, evolution cannot easily “experiment” with modifications that not only have a very low chance of being advantageous, but the advantageousness of which, moreover, begins only when the modification is sufficiently widespread. The most plausible modifications are additions of new signals to the code (for example, a signal of alarm for a new species of predators in the environment)—additions that do not modify the structure of the pre-existing code. The very modest size of codes in animal communication suggests that these additions are themselves quite rare. Indeed, animal communication codes which, unlike human languages, really function according to the code model, are typically small and highly stable within a given species. The great majority of them involve no learning, and when learning is involved, as in the case of songbirds, it usually concerns only a single signal that must be learned since it serves to distinguish local populations of the same species.

In the case of inferential communication, the situation is quite different. The success of inferential communication does not require that the communicator and the audience have the same semantic representation of the utterance. It suffices
that the utterance, however they may represent it, be seen as evidence for the same conclusion. Take, for example, the following trivial dialogue:

*Pierre:* I'm beat!

*Maria:* Ok, let's go back home.

It is of little importance whether the meaning that Pierre and Marie associate with the word “beat” is the same. It may be that, for Pierre, “beat” means an extreme fatigue, while for Marie, “beat” is simply a synonym of “tired”. In any event, Pierre says, “I'm beat,” not in order to indicate a degree of fatigue that this term might encode, but in order to indicate contextually both his wish to return home and the reason for it, namely his fatigue. The level of fatigue that may justify one's desire to return home depends on the situation: it is not the same at a party among friends, while taking a stroll, or at work. In Pierre’s utterance, then, “beat” indicates not a level of fatigue encoded by the word, but the level of fatigue which, in the situation of the utterance, is relevant in that it justifies Pierre’s wish. This ad hoc meaning is contextually constructed.

It is not necessary that the codes between interlocutors be identical; nor is it sufficient. Consider the following dialogue:

*Pierre:* Can you fix my watch?

*Watchmaker:* That will take some time.

The semantics of “will take some time” is trivial (or in any case, let us suppose that it is, and in the same manner, for Pierre and the watchmaker): everything that has non-zero duration takes time. Yet, in uttering this truism, the watchmaker sets Pierre along the way to a relevant interpretation. It is indeed a matter of time, and repairing the watch will take a certain amount of time to which it is relevant to draw Pierre’s attention. If Pierre expects that the time for repair will be at least one week, he will understand “It will take some time” as meaning that the repair will take several weeks. If the watchmaker, for his part, thinks that
Pierre expects the repair to be done the same day, he will express himself as he did in order to say that the repair will be a matter of days rather than hours. That the words “to take”, “some” and “time” have the same meaning in their lexicon does not protect them from the possibility of misunderstanding.

According to the inferential model, the near identity of the interlocutors’ codes is not necessary in order for them to best communicate. In these conditions, a mutation affecting the language faculty and causing the mutant’s grammar to diverge from that of her interlocutors is not necessarily detrimental to her ability to communicate. As we will now show, such a mutation may even be advantageous.

In particular, a language faculty leading to the internalization of a grammar that attributes more structure to utterances than they superficially realize (one that, for example, projects onto them unexpressed constituents) could facilitate inferential comprehension.

Imagine a proto-language having only word-size sound-meaning pairs, without any syntactic structure. The word “drink” in this proto-language designates the action of drinking and nothing else (it is not, unlike the word “drink” in English, a two-place predicate); the word “water” designates the substance and nothing else, and so on. With such a limited code, a hearer’s decoding of the meaning associated with the word pronounced by the speaker would not suffice to assure communication between them. The hearer who associates with the utterance “water” the concept of water is not thereby informed of anything whatsoever. Even a concatenation of expressions in such a language, for example, “drink water”, would not be decoded as we spontaneously tend to do on the basis of our comprehension of English. “Drink water” does not denote, in this proto-language, the action of drinking water. One only has two concepts, that of drinking and that of water, which are activated without being semantically linked. The mental activation of one or several concepts having no semantic linkage between them does not denote a state of affairs nor an action associating these two concepts; and it falls even shorter of expressing a belief or desire.
In these conditions, such a proto-language could be of use only to beings capable of inferential communication. For such individuals, activation by decoding, even of only a single concept, could easily provide them with evidence sufficient for reconstructing a full-fledge meaning, the speaker’s meaning. Imagine two speakers of this proto-language, let us call them Pierre and Marie, walking in the desert. Pierre points to the horizon and utters, “water”. Marie correctly infers from this that he means something like, *There is water over there*. Just when they reach the water hole, Pierre, exhausted, collapses and mutters, “water”. Mary correctly infers that he means something like, *give me some water*. With the signals of animal communication—communication that is fully coded—such a range of interpretive constructions in not possible.

Imagine now that Marie was in fact a mutant whose language faculty, more complex than that of her fellow creatures, had allowed her as a child to analyze the words of the proto-language that she was in the process of acquiring, either as arguments or as one- or two-place predicates. She had thus categorized “drink” as a two-place predicate, “water” as an argument, and so on. When Marie the mutant hears parched Pierre mutter, “water,” what is activated in her mind is not only the concept of water, but a syntactic structure with an unexpressed predicate capable of taking water as an argument. Her decoding thus goes beyond what was in fact encoded by Pierre. He is not a mutant and therefore expresses himself in the rudimentary language of their community, without mentally adding to it an underlying syntactic structure. This mismatch between Pierre and Marie’s representation of the utterance is not, however, detrimental to communication. Even if she weren’t a mutant, Marie would have had to mentally (but not linguistically) represent, in order to interpret what Pierre meant, not only water but also the action that had water as an object. Marie the mutant is immediately set along the right path thanks to the syntactic structure she falsely, though usefully, attributes to Pierre’s utterance.

When she speaks, Marie the mutant encodes, by means of signals that are homonymous to those of her community, not only atomic concepts but also predicate-argument structures. When she says, “water”, her utterance also
encodes the unexpressed place-holder of a predicate for which “water” would be the argument. When she says “drink”, her utterance encodes the unexpressed place-holder of the two arguments of “drink”. When she says “drink water”, her utterance encodes not only the two concepts drink and water, but also the complex concept drink some water (plus the unexpressed place-holder of the argument-subject of “drink”). Marie’s interlocutors do not recognize these underlying structures in her utterances, but they arrive at the intended interpretations all the same by a linguistically less prepared inferential path.

Now, if Marie is a second-generation mutant, having among her interlocutors brothers and sisters who are also mutants who therefore speak and comprehend as she does, then she and her co-mutants communicate more effectively than the other members of their community. They communicate, in fact, by means of a language whose utterances, phonologically identical to those of the non-mutants’ language, are syntactically and semantically more complex and hence easier to deal with pragmatically. In the language of these mutants, new linguistic signs may emerge and stabilize by a process of grammaticalization that is inaccessible to non-mutants. For example, pronouns could come to take the place of unspecified arguments.

This imaginary example illustrates the way in which a more advanced language faculty, which leads individuals possessing it to internalize a code that is richer than that of their community, may emerge and evolve. It only occurs this way in a system of inferential communication. In a system of code-based communication, every departure from the common grammar will be disadvantageous or at best neutral, but it will never be advantageous.

These considerations apply to all possible stages of the evolution of the language faculty as well as to its initial emergence. Being disposed to treating uncoded communicational behavior as a coded signal may facilitate inferential comprehension of the communicator’s intentions and lead to the stabilization of this kind of behavior as a signal.

Conclusions
The human mind is characterized by two cognitive abilities having no real equivalent in other species on Earth: language and naïve psychology, that is, the ability to represent the mental states of others. We have suggested here that it is because of the interaction of these two abilities that human communication was able to develop and acquire its incomparable power (cf. Origgi 2001, Origgi & Sperber 2000, Sperber 2000). From a pragmatics perspective, it is quite clear that the language faculty and human languages, with their richness and flaws, are only adaptive in a species that is already capable of naïve psychology and inferential communication. The relatively rapid evolution of languages themselves and their lack of homogeneity within one and the same linguistic community—these two aspects being associated—can only be adequately explained if the function of language in communication is to provide evidence of the speaker’s meaning and not to encode it.

In these conditions, the study of the evolution of language must be closely associated to that of the evolution of naïve psychology. Likewise, the study of the evolution of languages must systematically take into account their pragmatic dimension.

References


