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Altruism, Status, and the Origin of Relevance

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1 Introduction : relevance as a basic property of language

In his 430 page book ‘The language instinct’, S. Pinker (1994) devotes only five pages to issues related to pragmatics and relevance. The minor role played by pragmatics in this natural history of language is quite surprising. Perhaps we are so accustomed to relevance that, like fish unaware of water, we fail to notice how strong a constraint it is. Relevance is indeed not limited to language. In front of a judge, you may be asked to give relevant justifications for your actions. If you see somebody in danger and begin to look for four-leaf clovers, your behaviour will probably be perceived as irrelevant : relevant behaviour would be some direct or indirect attempt to ward off danger. If relevance applies to human behaviour in general, it is of special importance when we deal with language : as we shall see, the structure of conversation is a consequence of the requirement that utterances be relevant. Even if you see casual conversation as a behaviour of secondary importance, the specific form utterances have to meet in order to appear relevant has still to be explained. If you see conversation as the most basic and most natural use of language, as I do, then understanding why conversation is organised to meet the relevance requirement may be of crucial importance to understanding why language, in its argumentative form, emerged.

I shall first present a formal criterion for relevance in conversation. From this, it will follow that relevant information is valuable information, and thus that any relevant utterance is potentially altruistic. This will bring us to a first paradox : if it is altruistic, the communicative behaviour of human beings should not exist, unless we are able to show that some cheating detection device is systematically employed by talking people. The quest for such a device will lead us to a second paradox :

relevant information, how even valuable it may be, has a 'negative value'. People involved in a conversation often have a hard time being heard and having an opportunity to make their point. We will attempt to resolve these paradoxes by proposing that language is an advertising device, and that relevance is the price paid to get some status in return.

2 Linguistic relevance

Like many other systems, human language can be described as a system of rules. There are well-known phonetic, syntactic and semantic rules ; there are also explicit social rules, like politeness, and in-between we find pragmatic rules. If, in the middle of a conversation, you say "31 times 3 is 93", participants will find that your utterance inappropriate and will quite probably answer something like "So what?". Nothing is wrong at the phonetic or at the syntactic level. The meaning of this utterance can be easily understood, so the trouble is not at the semantic level. The problem is not disconnected from language, however : we could hardly say that the confusion comes from an inappropriate social act, from an explicit social rule that has been violated. The trouble actually comes from disregard of a pragmatic rule : in most contexts, an utterance like "31 times 3 is 93" is not *relevant*.

Relevance is a requirement of language, that we only notice when some utterance does not comply with it. We may wonder why language, as we use it during many hours each day, conforms to such a constraint. This question proves to be of crucial importance for the problem of language origin. Relevance is indeed more than an interesting feature of linguistic usage. The content of most utterances is partly motivated by the fact that utterances should be relevant. Hence we may almost invert roles, and see language as an efficient way of being relevant. From such a perspective, the study of relevance should shed light on the question of the *function* of language. In order to deal with such issues, we first have to give a precise description of the constraint of relevance.

It is now generally considered that one of the main purposes of pragmatics is to account for the relevance phenomenon. This has not always been so. The concept of relevance did not appear in the Speech Acts theory developed by Austin and Searle (Searle 1969). The so-called *felicity conditions* specify when an utterance, understood as a social act,

is correctly achieved. A definition of relevance through felicity conditions would not be very interesting for our discussion. It would change with the social context. Relevance in Bridge (*e.g.* announcing “three hearts” when appropriate) would thus be quite different from relevance in a poker game. What we are seeking is a general, formal definition of relevance. Grice’s well-known maxim “be relevant” (Grice 1975) gives us no such formal criterion. It is only one among several maxims that are supposed to guarantee the pragmatic quality of utterances. Recent developments of the Speech Acts theory based on plan recognition (see Airenti et al. 1993) are more promising : any utterance that is not related to a plan is considered irrelevant. Such a definition is however too restrictive for our present purpose.

The honor for having recognised the significance of relevance goes to Sperber and Wilson (1986). In their Relevance Theory, they show that relevance is an automatic feature of any intended communication : the emitter is expected to be relevant as soon as he shows his intention to communicate. Actual relevance is achieved if the hearer is able to draw inferences from what he heard. The more inferences, the greater the relevance. For instance, the statement “Mary bought a new car” is relevant insofar as I am able to draw conclusions, such as “She will be able to come back every week-end”. This criterion is interesting because it draws attention to the fact that relevance requires cognitive computation. However, while drawing inferences is sometimes a necessary condition to perceive relevance, it proves to be insufficient. Relevance in casual conversation is indeed much more restrictive than the Sperber and Wilson criterion leads us to expect. Consider our previous example “31 times 3 is 93”. The fact that we can easily draw inferences from this statement, such as “3 times 31 is also 93”, “93 divided by 3 is 31”, “93 is not prime” and so on, does not *in any way* affect its lack of relevance when it is uttered in the middle of a conversation.

The reader may have the feeling that an utterance like “31 times 3 is 93” is irrelevant simply because, as common sense suggests, it does not bring any new information. As Pinker (1994) remarks, “Dog bites man” is not worth a front page title, but “Man bites dog” could be. Before accepting the amount of information as the ultimate criterion for relevance, remember how often you have felt obliged to say “Sorry, I’m late” when arriving obviously late at an important meeting. Your statement hardly brought any new factual information to other participants, but was nevertheless relevant.

The study of many hours of conversation has led us to another definition of relevance (Dessalles 1985, 1993), or more accurately to three definitions of relevance. We would have preferred a single characterisation, but data cannot be bent to one's desires. Maybe our present discussion of the origin of relevance will afford a unified view of the phenomenon. As illustrated by many conversations, a first way to be relevant is to bring information, in the Shannon sense. If the event you report is perceived as *a priori improbable*, then it will be considered as relevant. This is why "Man bites dog" is newsworthy, while "Dog bites man" is not. A second way to be relevant is to point to an *undesirable* state of affairs, or conversely to a *desirable* state of affairs. When you are able to show that there is something at stake, you are relevant. This explains why you may be relevant when, arriving at your meeting, you declare "I'm late". A third way to be relevant is to describe an amazing situation, a situation that looks *inconsistent*. If you are visiting the Monet exhibition in Chicago and you see a blind man listening to explanations given by the guide, you feel obliged to draw your friend's attention to him, wondering how he can enjoy the visit in any way. These three properties : improbability, (un)desirability and inconsistency exhaust the possibilities for a first utterance to be relevant. The model correctly predicts that "31 times 3 is 93" will not be perceived as relevant in most contexts. Let us sum up these three properties by saying that a first utterance must be about a *problematic* event. If we analyse further utterances, we come upon a slightly broader definition of relevance : *an utterance must either refer to a problematic situation, or attempt to reduce the problematicity of a situation*¹. This definition can be formalised by using probabilities, first order logic, and by extending the Shannon definition of information to integrate the desirability dimension (Dessalles 1993).

Checking the validity of this criterion is quite easy. When quietly talking with friends, try to mention a neutral, obvious fact like "This table is made of wood" or "There's water here". Unless your friends imagine that you need water, you will get replies like "So what ?" or "What does that mean ?", or sarcastic remarks, but no elaboration. Conversely, if one

¹ At this point, readers may try to find an explanation for the blind man story. Maybe the blind man was formerly a painter, lost his sight accidentally, but is still interested in comments about Monet's paintings. Finding such an explanation is an attempt to cancel the inconsistency. It is one of the few means by which one can reduce problematicity.

asks subjects to give contexts in which a statement, like “There’s water here”, may have been uttered, the answers one gets are fully predicted by the criterion. Here are a few examples :

<i>Context produced</i>	<i>modality</i>	<i>comment given</i>
You are in a desert	<i>desirable</i>	(you will not suffer from thirst)
It’s leaking	<i>undesirable</i>	(things get wet, you must fix the problem)
Glass over candle	<i>inconsistent</i>	(water appears on the inner surface of the glass, the child is puzzled)
Old well	<i>improbable</i>	(one did not expect to find water in such an old well)

Interested readers are invited to perform such experiments for themselves. If they are not fully convinced of the generality of the criterion, they may read the remainder of this paper, substitute their own criteria and see if the conclusions still hold. Notice that this criterion is extremely constraining. For instance, when an inconsistent situation is pointed out, you can either echo the speaker’s surprise, or try to provide an explanation that has the logical effect of invalidating the inconsistency. There is no other option. Your liberty in such situations is thus much more limited than one might have anticipated. Conversation is so far guided by the relevance requirement that it is sometimes possible to predict accurately what interlocutors will say, as shown by computer simulations (Dessalles 1990).

3 Relevance is altruistic

At this point, there are several questions to be addressed. First, why do people feel obliged to be relevant ? Second, why is linguistic relevance specifically attached to problematic issues ? Third, if this behaviour has a biological basis, how could it evolve from a situation where this specific form of relevance did not exist ? In order to approach these questions, let us observe first that relevance seems very natural to us, but that it should appear very peculiar to a hypothetical non-human observer. Computers, for instance, are seldom relevant. When I turn my computer on, it

indicates the amount of memory, the current date, then names of hardware and software manufacturers and gives many indications I have no time to read before the screen changes. Humans do not interact this way. “Good morning John. My body temperature is 36.9°C, my heart rate is 66. I have been trained at the University of Paris”. Non relevant human communication can be found in some university lectures : “Chapter one : Generalities. Point 1 : Definitions. Let us call signature an application from a finite set F into $N...$ ”. In these examples, the listener can hardly find anything improbable, (un)desirable or inconsistent. Such utterances are impossible in spontaneous communication.

If relevance is peculiar, why does it have this specific form ? We must explain why people feel obliged to use language this way :

- (a) they draw attention to a problematic situation, or
- (b) they acknowledge the fact that a (present or evoked) situation is problematic, or
- (c) they reduce the problematicity of a (present or evoked) situation.

Admittedly, language is used for many other purposes. By saying “I am late”, you apologise for being late. You are thus performing a social act, but the point is that your utterance, whatever its conscious purpose is, *must* be relevant. “I am late” may be meant as an excuse, but it also acknowledges an undesirable state of affairs, which is one of the few possibilities required by the relevance criterion. The question is then : why are we bound to this relevance constraint ?

To understand the biological origin of this aspect of our linguistic behaviour, we have to make clear what is at stake in a linguistic exchange, at the pragmatic level. As we shall verify, by talking together informally, interlocutors give important information to each other. Sharing information, like sharing food, is altruistic and thus, from a Darwinian perspective, requires an explanation. Let us first stress this altruistic aspect of language use.

Let us suppose that an utterance makes you aware of a problematic situation (case (a) above) :

- (i) The utterance mentions an improbable event. This may be a good occasion for the listener to detect hidden correlations and reassess some probabilities he assigns to events. We should remember that every time we go outside, take our car or walk over a bridge, we trust these probabilities that help us avoid real danger. A correct assessment of probabilities is vital.
- (ii) The utterance mentions an inconsistent situation. The listener, who is able to perceive the paradox, knows that his beliefs are, at least momentarily,

logically inconsistent. Since this may prevent him from correctly predicting events or acts, becoming aware of an inconsistency is very important.

- (iii) The utterance mentions something desirable or undesirable. The listener's attention may be drawn to a situation that is to be avoided, or conversely to be pursued, in the future.

While the cases (i) and (ii) are straightforward, the reader may question whether mentioning an undesirable event (case (iii)) always brings valuable information. For instance, when someone complains about his health, it may seem like a request for help. But even in such cases, problems encountered by others may be an occasion for the listener to acquire knowledge that can be useful for its own sake.

The point here is not that relevant utterances are systematically biologically significant and useful. It is rather that they are much more likely to be significant and useful than irrelevant ones. Important data can be given in a non problematic context : a general lecture about game migration, botany or tool making could be very helpful in a hunter-gatherer life. Unfortunately, there are no formal lectures in hunter-gatherer tribes. Useful knowledge, as far as we can judge from the observation of everyday life, is always presented *in context*, and such contexts are problematic. Irrelevant statements will most probably be mere noise and should not be remembered.

Not only problematic issues, but also tentative solutions (case (c) above) are helpful. Typical attempts to get out of a problematic state of affairs involve : explanations, for cancelling an inconsistency ; mention of similar cases, to diminish improbability ; balancing pros and cons, to diminish (un)desirability. All these contributions are likely to be profitable to the listener. By contrast, situation (b), in which a speaker acknowledges the problematic status of the situation, generally does not bring any new factual information, but simply acknowledges the fact that the interlocutor has made a relevant point.

The previous discussion suggests that spontaneous language is altruistic because its *content* is relevant. This altruistic aspect can also be indirectly inferred from the attitude of speakers towards each other. According to Grice (1975), conversation is basically cooperative, since speakers take care to give necessary, sufficient and reliable information to listeners so that the latter can reconstruct the intended meaning. Since any altruistic behaviour needs an explanation to make it compatible with Darwinian principles, the remainder of this paper is devoted to this issue.

4 Altruistic communication : possible accounts

Altruism is problematic from a Darwinian perspective. When useful information is given by an individual *A* to another individual *B*, it will be at *A*'s expense, either directly or indirectly. For instance, after signalling an improbable source of food, *A* may be obliged to share it. Even if there is no such direct negative consequence on *A*, there are likely indirect negative effects because quite often *A* and *B* are genetic competitors. Any possibility offered to *B* to be more successful will increase *B*'s relative reproductive expectancy. Since the contribution to further generations has to be shared, a consequence of *B*'s increased success is a lower expected reproductive success for *A*, all things being equal. As a consequence, we should expect a strict avoidance of altruistic acts. The observation that altruistic behaviour is in contradiction with Darwinian evolution, except under a few specific conditions, was made by Hamilton (1964). Possible exceptions are altruistic behaviour directed towards children or relatives (Hamilton 1964) and reciprocal cooperation, in which helpful actions are rewarded in the future by similar positive acts performed by the initial recipient (Trivers 1971). Which of these two scenarios is the correct model for language ?

It is easy to rule out the first alternative. Admittedly, one can find some peculiarity in the language between mother and child or between twins, but no qualitative bias is to be found in adult speech that indicates a different pragmatic behaviour according to kinship. The only possibility left seems thus to be reciprocity. Conversation is indeed quite symmetrical : participants speak in turn, bringing each other relevant information. The company of silent people who merely listen or utter trivialities is not actively sought. From this we get a picture of language as a reciprocal game : I give you relevant, useful information, and I get useful information in return. This way of considering human dialogue is widely accepted and seems to solve the problem of altruism in language use (Ulbaek, this volume). However, as we shall see, if we accept that language is an instance of symmetrical cooperation, we might expect some behavioural features that are not, in fact, observed.

Cooperation can only exist when deception is controlled ; otherwise optimistic cooperators will be rapidly exploited by parasites. If language relies on social cooperation, the main prediction, for our concern, is that it must be protected against social 'cheaters' who take relevant information and give nothing in return. Since relevant information is

valuable, speakers will first consider whom they are speaking to in order to decide if the addressee will be cooperative. Axelrod (1984) studied some strategies that were efficient in the presence of parasites. It has been argued that humans have specific cognitive devices for handling social exchanges (Cosmides 1989). However, as we will see in the next section, evidence suggests a different picture for language. Cheating detection is seldom performed by the person who gives the information. It is rather achieved by the listener ! This is in contradiction with the cooperation scenario.

Communication, if it was cooperative, should also be characterised by a specific form of signal. Krebs and Dawkins (1984) showed that signalling evolves among living beings from the joint action of manipulation and mind-reading. Krebs and Dawkins distinguish two cases, depending on the cooperative character of the interaction : “Cooperative communication, in which manipulator and mind-reader roles share a common interest, should lead to cost-minimising, muted signals, while non-cooperative signalling should give rise to conspicuous, repetitive signals.” (Krebs & Dawkins 1984). Human language can be both highly repetitive and remarkable, as in commercial advertisement, and highly discreet as in whispering. However, none of these features is characteristic of casual conversation. Conversations, as we saw, convey potentially valuable information. If they were based on mutual cooperation and reciprocity, care would be taken to avoid that non-participants spy them. However, such precaution is far from being systematic. In certain cultures, private conversations even have to be so aloud that everybody nearby can hear them (Hall 1966).

At this point, we are left with a difficulty : conversation conveys altruistic messages, but it seems to be based neither on kinship nor on reciprocal cooperation. Normally, natural selection should have favoured non-cooperative speakers who listen, but return no relevant information. How can we explain the fact that virtually all normal people, in presumably any culture, display a spontaneous conversational behaviour characterised by relevance ? Perhaps we should consider conversation at the level of the speaking group, and not at the level of a single speaker. If the role of language is to contribute to group efficiency, then it may be altruistic simply because speakers get an advantage from being members of a better functioning group. As Pinker puts it, “There is a fantastic payoff in trading hard-won knowledge with kin and friends, and language is obviously a major means of doing so” (Pinker 1994:367). Other accounts

present the main purpose of language as located not in objective information exchange, but rather in sociality. For Donald (1993), “the natural collective product of language was narrative thought (essentially, storytelling), which evolved for specific social purposes”. Such accounts of language function are not by themselves sufficient, because any behaviour that is beneficial at the collective level must also be beneficial at the individual or genetic level² (Williams 1966 ; Dawkins 1994). Dunbar (1996) suggests that language may have played among proto-humans the role played by grooming among primates, allowing groups of larger size to emerge. However, even if social bonding is among the language functions, it cannot be the only determinant that shaped our language ability. After all, mere synchronised growls could do as well. Why should language show all the particular complex features that can be observed, especially the relevance requirement ? A further hypothesis, suggested by Dunbar, is that language allows the acquisition of information about social relationships. According to Dunbar, we spend a significant part of our time gossiping. From this observation, we may be tempted to see in language a device devoted to the preservation of social cooperation : non-cooperative individuals are denounced during conversation. Gossiping, however, is as problematic as relevance : if we consider that social knowledge is critical for survival and reproductive success in intricate social contexts, any information concerning a third party’s unwillingness to cooperate is highly valuable, and thus gossiping is altruistic. As such, and insofar as gossiping can be shown to be a systematic feature of language use, it requires exactly the kind of explanation we are seeking for relevance.

If none of the usual accounts for altruistic behaviour holds, then we are left with the necessity of finding another justification for the existence of the language faculty. For this, we may get some insight from an analogy.

5 The negative value of relevant information

The emergence of language as an altruistic behaviour is not the only puzzle to be solved. Since relevant information is valuable, it should be

² Any behaviour which is beneficial at the group level (*i.e.*, members benefit collectively from the action of a few of them) without being beneficial at the individual level is genetically neutral. Mutants lacking this behaviour will take the benefits as well, and they will have on average the same success as their contributing fellows. In the long run, such a behaviour will disappear as do the eyes of species living in the dark.

highly appreciated and much sought after. What we observe in casual conversation, however, is the reverse. Participants do not wait for questions, but rather take advantage of the first opportunity to make an original, relevant point in the flow of conversation. When such attempts to attract others' attention fail, most people, in most conversational situations, become frustrated. In the 'valuable information' scenario, this is unexpected, since people should be happy not to give away relevant information. It looks as if relevant information has in fact a negative value. To understand this second paradox, we may consider an audacious analogy.

We may compare casual conversation with a process that readers may know well, the scientific publication system. We can observe that scientists make great efforts to give their best ideas to their most direct competitors (in this case competition is not genetic !). What do they get in return ? Before answering, let us consider the validity of the analogy. Information given in scientific papers is often valuable. Most information used by scientists is obtained from other scientists' publications. The parallel holds with everyday life : a good part of the knowledge you need to behave in your physical and social environment was given to you through conversation. In both cases, people are prone to give this valuable information to others. In the case of the scientist, communicating knowledge to others is, as often acknowledged, more time consuming than research itself. In both situations, the information given is not only valuable, it is relevant. The relevance of a scientific paper is formally assessed by reviewers who check whether the paper addresses an important problem and brings admissible solutions. Scientific and technical problems are most often presented as paradoxes or undesirable states of affairs, and admissible theoretical or technical solutions have to cancel such problematic situations. This is, as we suggest, what also happens in casual conversation. As we can see, the parallel between scientific communication and conversation is quite close, as far as information exchange is concerned. Why not bring the analogy further, by considering actual effects of communication in both cases ?

An obvious answer to our previous question about scientific communication is that scientists get *status* by publishing useful results. The effect of publishing good papers, even if it is not consciously pursued, is that the author is accepted and recognised as a good scientist and gets a higher status in the scientific community. The hypothesis suggested

here is that the same is true for conversation : by making relevant points during conversation, you are likely to get a bit of social status. If we temporarily accept that the analogy holds, then it is no wonder that people make every effort to make relevant points. If the communication of information is part of a kind of unconscious trade in which status is the payment, then one can understand why information is willingly given and still has a positive value.

6 Language as an advertising device

The hypothesis of an exchange between information and status is attractive because it solves our two paradoxes : relevant information is not given for altruistic purposes, and it has a positive value. This idea is also a first step towards an answer to the question of the origin of relevance in communication. It is widely accepted that status hierarchies exist in hunter-gatherer societies and that high status is correlated with a higher reproductive success³ (Eibl-Eibesfeldt 1967 ; Mellen 1981). The ability to engage in relevant discourse would have been retained by natural selection because it indirectly provided a higher reproductive expectancy. As Pinker (1994:369) puts it, “anthropologists have noted that tribal chiefs are often both gifted orators and highly polygynous”.

An immediate question arises in this scenario : Why is there a correlation between status and communicative ability ? Status could be connected with physical strength, eye colour or ear shape. A possible answer could be that the status-relevance correlation was initially fortuitous. Then, through a process similar to the evolution of the peacock tail (Dawkins 1982), a positive feedback produced our complex linguistic ability. Another conjecture would compare communication of information with food sharing, perhaps a necessary condition for the hunter to have access to females (Knight 1991). A more specific hypothesis, to justify the assignment of status according to the ability to be relevant,

³ In such scenarios, status is correlated with reproductive success for both sexes. Our ancestors, both females and males, were those who had a high status in their society and who mated partly for this reason, as generally suggested. Male ancestors attracted many females and left many descendants. High status females attracted high status males and, as far as predisposition to obtain status has a genetic basis, their sons also left many descendants. Status and alliance are also crucial for child protection among primates, and this holds for both sexes [de Waal 1982 ; Hrdy 1988].

suggests that the human status system evolved from coalition formation among higher primates. The main difference between a coalition and the whole group is that roles must be distributed among members for the coalition to function (de Waal 1982). As a consequence, even if competition among members still exists, status is willingly attributed by each individual to others. By contrast, in the whole group, status is extorted through coercion. Within chimpanzee coalitions, status seems also to be granted according to physical strength, but this is done voluntarily and subordinate members in the coalition benefit from being protected by their champion (Goodall 1971 ; de Waal 1982). A possible assumption is that among hominids, status was accorded to a member of the coalition depending on the utility of the information he or she was able to bring.

The purpose of the previous discussion was not to determine the right scenario through which relevant communication appeared in the human lineage, but rather to make this emergence less implausible. Scenarios that claim to explain the evolutionary origin of some behaviour or organ have sometimes been called ‘just-so stories’, as if they were was easy to coin. In fact, consistent ‘stories’ are quite hard to design. In the next section, we shall examine some evidence that supports this relevance-status association.

The model of status-relevance coupling proposed here is close to Zahavi’s model of cooperation among birds : “Individuals invest in their collaboration in order to increase their social prestige. They do so by advertising their qualities and their motivation to collaborate. The benefit to the group is a consequence of, rather than the factor that selects for, the investment” (Zahavi 1995). If relevance is a way to obtain status from others, we expect that individuals will compete with each other in eloquence to draw attention to themselves and to obtain status from the audience. If we see in language a tool for bringing out information and highlighting its relevance, then language may be considered in this context as an advertising device, in Zahavi’s sense. Linguistic complexity and refinement, the combinatorial power of phonetics and syntax, the ability to formulate sound analogies, clear proofs, and so on, would thus be motivated by the necessity for enhancing perceived relevance of a speaker’s utterances. This explains the fact, well pointed out by Sperber and Wilson (1986), that the burden of making communication possible and easy lies with the speaker, not with the listener, contrary to what would be expected if communication was altruistic.

7 Evidence for the status-relevance association

Evidence to support the close association between relevance and status may come from disciplines like ethnology, psychology and sociology. It has been

observed that in a group, individuals most often prefer to speak to the 'leader' and make any effort to obtain his/her approbation. This accords well with the idea that status given by a high ranking individual is of greater value than status given by a person who is not highly regarded. Similarly, information is more influential when it comes from a high status source (Doise et al. 1978). In what follows, we will restrict ourselves to evidence from conversational pragmatics.

A banal fact, like a dispute between husband and wife, cannot constitute a relevant story, except of course if the two are your best friends or... if they are king and queen. People feel especially concerned by anything connected with individuals they regard as high-ranking. This makes the coupling between status and relevance symmetrical : by being relevant, one gets status in return, and conversely one is more likely to be relevant if one has high status or is talking about high-ranking people. The analogy with the scientific communication system still holds : famous authors are more likely to be read, and quoting them sometimes helps the writer to put up a good performance.

A prediction of the status-relevance association model is that the value of the information will be checked and negotiated by listeners. In the following excerpt, an improbable fact, a whole family speaking very loud, is thought to be relevant by A. The reaction in B2 shows however that this event looks not so improbable to B.

(from (Tannen 1984:101))

A1- *Speaking of which they had the Loud Family. Remember the Loud Family? On Saturday Night Live? (TV program)*

B1- *What was the Loud Family?*

A2- *Dju hear about that? THEY TALK LIKE THIS.*

B2- *I know lots of people in New York who talk like that.*

This reaction, which consists in lowering the actual amount of information given, is quite typical of conversations about improbable events. On the other hand, when an event is rightfully improbable, the first one who brings the news becomes an important personage at least during a few seconds, unless others already hold the information, as illustrated by the following excerpt.

(conversation between two boys, 8 and 10, translated from French)

C1- *Did you see ? There are again hot air balloons again this morning !*

D1- *Yes, I know*

C2- *Shut up, I'm not talking to you, I'm talking to the others. (turning towards E, the father) Did you see that there are hot air balloons this morning ?*

The effect of reactions like *B2* or *D1* recalls the attitude of a customer appraising of the quality of merchandise. This behaviour of addressees who evaluate utterances is not predicted by mutual cooperation models of conversation. However, it is fully compatible with a model in which making a relevant point deserves consideration, since it is a way of publicly bringing out the true relevance of what others say to its true value.

Whenever utterances are rightfully relevant, addressees may acknowledge the fact by echoing the problematic modality or by agreeing on a solution. Notice also that when an observation is considered genuinely relevant, its authorship is generally well acknowledged by listeners retelling it. This is consistent in the context of a trade : second-hand information should not be too much rewarded, and forgetting to mention the source would be interpreted as usurpation. Mention of the source is not predicted by a model of conversation based on altruism.

Conversation provides us with another phenomenon of great importance in the present context : individuals are always ready to point out logical inconsistencies. Consider the following excerpt :

(translated from French)

F1- I remember, I was relatively old, about 10. (...) A nice guy came to our house with a tape recorder. I'd never seen one before.

G1- A tape recorder ? Even your mother did not have one ?

G finds it surprising that *F*'s mother, who was a language teacher, did not have any tape recorder at that time. Interlocutors make use of their knowledge to put what is said to them into question. We can observe the same behaviour in scientific lectures, where most interventions from the audience aim at confronting elements of the talk with background knowledge and at checking logical consistency. The role of this ability to assess the validity of information fits well with the scenario of status-relevance exchange. The scenario is indeed non-altruistic, but may be nevertheless corrupted by deception. If status can be obtained just by telling improbable stories or by pointing out undesirable contingencies, why not recount false events ? A possible conjecture is that our ability to check logical consistency evolved from the necessity to protect oneself against lies. An altruistic model of conversation, based on reciprocity,

would predict that cheating detection is the task of the speaker, who verifies that the addressee is trustworthy and will reciprocate. In the status-relevance association model, it is the listener who checks the speaker's reliability. Reactions like *GI* support the latter model.

Interpreting spontaneous communication as a trade allows us to solve another problem. As Knight, Power & Watts (1995) point out, typical human conversation consists neither of high-cost, repetitive signals, nor of 'conspiratorial whispering', contrary to what Krebs and Dawkins (1984) lead us to expect. Let us borrow an analogy from economics. When supply is greater than demand, we may expect conspicuous signals like commercial advertising. When demand is greater than supply, we may observe confidential signals and repeated requests. None of these descriptions is appropriate for describing spontaneous language use. Conversation lies in-between, involving well-designed signals and attentive listeners. In our analogy, conversation is like a balanced exchange in which supply matches demand. This type of balanced communication seems to be characteristic of our species.

The consequence of the listener's behaviour who repeatedly evaluates information is the emergence of conversation. The rules of the conversational game, from the perspective adopted in this paper, may be formulated this way :

Give information that is directly valuable, by pointing at improbable, desirable or undesirable states of affairs.

Try to lower the informational value of previous utterances.

Point out any logical inconsistency in the state of affairs described or observed.

Attribute status to speakers who are successful in the above.

This description of the mechanism of conversation is well supported by observation (Dessalles 1993). The last point about status is hypothetical and has been added to put the description in a phylogenetic perspective.

8 Conclusion

If we fail to notice that information given in conversation is valuable, then the existence of the language faculty, with its complex structure, remains highly mysterious, as would the existence of a complex organ with no apparent function. The phenomenon of relevance makes us realise that utterances are profitable to the listener. Language thus

seems to be an altruistic behaviour. In this paper, I have tried to show that the predictions of an altruistic model are not verified : conversational information is indeed valuable, but instead of being requested by listeners, as expected, it is generally put forward by speakers. To resolve this paradox, I proposed that linguistic behaviour is not altruistic, but rather is a form of trade : relevant information is given in exchange for status. I have tried to make this status-relevance association plausible from a phylogenetic point of view, by showing that it is consistent with what we know of the pragmatics of conversation.

The hypotheses presented here can be checked in several ways. We are currently working at computer simulations aiming to show that a communication system can evolve and reach stability, when coupled with a system of status allowance. Also, while status has been studied from psychological and sociological perspectives, it has not been sufficiently studied in connection with relevance. Further studies may reveal how each aspect of relevance is related to status change within the group. Highly regarded people around us are not only those who have performed heroic acts or who have been appointed to official positions. A person who merely makes sound remarks, expresses articulate thoughts and can hold the interest of an audience is likely to deserve esteem. The main point of this paper is that our instinctive respect for eloquent people may partly explain the origin of relevance.

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