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Evolution, cognition and argumentation

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ABSTRACT: Sperber and Mercier (2009, 2010) maintain that argumentation is a meta-representational module. In their evolutionary view of argumentation, the function of this module would be to regulate the flow of information between interlocutors through persuasiveness on the side of the communicator and epistemic vigilance on the side of the audience. The aim of this paper is to discuss this definition of argumentation by analyzing what they mean by "communicator's persuasiveness" and "audience epistemic vigilance"

KEYWORDS: argumentation, cognition, confirmation bias, Dan Sperber, evolution, psychology, reasoning, relevance.

1. INTRODUCTION

Why do humans reason?, is not a question scholars usually address or ask themselves very often in the study of argumentation. *Why do humans reason?*, is, nonetheless, the title of one of the main articles in which Dan Sperber and Hugo Mercier propose a new theory of argumentation. The authors claim that while the question of *how* humans reason has been investigated thoroughly in many areas (from philosophy to rhetoric), not much has been said about *why* humans have this faculty, capacity or behaviour.[1] The question of *how* has been answered from an evolutionary, cognitive and psychological perspective. By using some evidence—results of experiments of the last 40 years, principally in decision making and reasoning research—, they describe the psychological mechanisms that underlay the actual practices of individuals engaged in argumentative scenarios (confirmation bias, polarization, motivated reasoning, among other mechanisms). As will be discussed later, Sperber and Mercier propose a definition of argumentation and offer a set of core terms by which, in their opinion, this faculty could be understood better.

The authors reverse the common approach to the phenomenon by entitling their theory "The argumentative theory of reasoning". For Sperber et al (2010: 383), argumentation is a product of reasoning, whereas reasoning (seen as reflective inferences) is a mental module whose function is to produce and evaluate arguments. Sperber and Mercier point out:

[1] From the perspective of evolution theory, Desalles (2007) is perhaps one of the exceptions to this generalization.

Zenker, F. (ed.). *Argumentation: Cognition and Community. Proceedings of the 9th International Conference of the Ontario Society for the Study of Argumentation* (OSSA), May 18-21, 2011. Windsor, ON (CD ROM), p. 1-12.

> Reasoning can be defined as the ability to produce and evaluate reasons. It is a costly ability: it involves special metarepresentational capacities found only among humans, it needs practice to reach proficiency, and exerting it is relatively slow and effortful. Reasoning, we argue, evolved because of its contribution to the effectiveness of human communication, enhancing content-based epistemic vigilance and one's ability to persuade a vigilant audience. The reasons reasoning is primarily about are not solipsistic, they are not for private appreciation, they are arguments used, or at least rehearsed, for persuading others. Sperber and Mercier (in press: 19)[2]

In this "evolutionary-narrative" fashion, Mercier and Landemore (in press, 6) add that "Contrary to classical cognitive theories, which only provide one level of explanation, that of mechanistic, or proximal (*sensu* Tinbergen 1963) explanations, the theory delineated... is an evolutionary theory of reasoning. It argues that reasoning evolved for a specific function—argumentation—that provides a deeper explanation of reasoning's observed features and pattern of performance." In other words, argumentation would be an outcome of reasoning only if it is socially localized.

What is interesting from a standard approach to argumentation is that this new theory overlaps, for example, with the pragma-dialectician definition of argumentation as a social activity (van Eemeren and Grootendorst 2004: 1), and also with Toulmin, Rieke and Janik's (1979: 13) general definition of argumentation as an activity of making claims, "challenging them, backing them up by producing reasons". But, apart from this preliminary and basic coincidence, Sperber and Mercier's angle demystifies many of our assumptions or definitions and it directly challenges our politically correct positions—such as Johnson's (2000: 26-7) list of benefits of practicing argumentation. Certainly, this approach does not take into account many important basic features of argumentation, such as that argumentation is a commitment-based activity (Walton and Krabbe 1995; Walton, 2007: 50).

Given the novelty of this angle (the core publications are still in press!), and especially because OSSA is devoted to the relationship between cognition and argumentation this year, in what follows I will discuss Sperber and Mercier's cognitive theory in order to see in which ways this new approach could improve our current vision of argumentation or, otherwise, make us aware of the misunderstandings.

2. ARGUMENTATION *IN TWO MINDS*

In his earliest writings on this issue, Sperber (2001: 410) claimed that the function of argumentation

> ... is linked to communication rather than to individual cognition. It is to help audiences decide what messages to accept, and to help communicators produce messages that will be accepted. It is an evaluation and persuasion mechanism, not, or at least not directly, a knowledge production mechanism".

In his last co-authored publications (Mercier and Sperber, in press; Mercier and Sperber, forthcoming; Mercier and Landemore, in press), argumentation is incessantly presented as a dimension that does not improve cognitive skills and only as a side-effect provides some gains for individuals. The explanation begins by claiming that human thinking is

[2] Unless stated to the contrary, all the quotes come from manuscripts of the authors available on their website. For example: http://sites.google.com/site/hugomercier/. Although the authors explicitly point out that these versions are not to be quoted, here the original number pagination is used.

not a homogeneous process governed by intelligence and limited by passions (see also Berthoz, 2009). As empirical research in cognitive psychology has shown—Sperber and Mercier (in press: 2) go on and on about it—, human thinking is a weak mechanism through which humans have conscious access to thought-processes. Reason and intelligence can not refer to any unified process in the mind and, in fact, reason and intelligence are reflected in the coordination or co-function of many modules (see Sperber and Hirschfeld (2007) for a defence of a modularity view of mind).[3] Some of these modules can even pertain to one of the two systems of the mind, a division that cognitive psychologists have proposed (see Evans and Frankish (2009) for an update compilation on the issue).

Under the hypothesis of the mind being composed of two systems, the ability of argumentation (reflective inferences or reasoning proper) is, at first glance, a manifestation of system 2. Mercier (forthcoming, d: 3) points out that "'reasoning' will be used to refer only to what is usually called system 2, analytic or rule-based reasoning". The literature on the topic (Frankish and Evans 2009: 15) has agreed that system 1 is evolutionarily old, unconscious or preconscious, shared with animals, managing implicit knowledge, automatic, fast, parallel, with high capacity, intuitive, contextualized, pragmatic, associative, and independent of general intelligence; system 2 is characterized as evolutionarily recent, conscious, distinctive of humans, managing explicit knowledge, controlled, slow, sequential, low capacity, reflective, abstract, logical, rule-based, and linked to general intelligence.

One consequence of placing argumentation under this umbrella (mind as a dual system-modularity architecture) is that this ability is seen as a meta-representational mechanism that, ultimately, is the result of an intuitive multi-unaware mental process. Mercier and Sperber (forthcoming) try to explain the steps from intuitive inference to reasoning/argumentation proper by combining many concepts and theories in the fields of cognition and evolution:

> A process of inference is a process the representational output of which necessarily or probabilistically follows from its representational input. The function of an inferential process is to augment and correct the information available to the cognitive system. An evolutionary approach suggests that inferential processes, rather than being based on a single inferential mechanism or constituting a single integrated 'system', are much more likely to be performed by a variety of domain-specific mechanisms, each attuned to the specific demands and affordances of its domain (see, e.g., Barkow, Cosmides, & Tooby, 1992). The inferential processes carried out by these mechanisms are unconscious: they are not mental acts that individuals decide to perform, but processes that take place inside their brain, at a "subpersonal" level (in the sense of Dennett, 1969). People may be aware of having reached a certain conclusion, be aware, that is, of the output of an inferential process, but we claim that they are never aware of the process itself. All inferences carried out by inferential mechanisms are in this sense 'intuitive'. They generate 'intuitive beliefs' that is beliefs held without awareness of reasons to hold them. (Mercier and Sperber forthcoming: 5-6)

[3] Sperber and Hirschfeld (2007: 157) boldly maintain that "According to the massive modularity hypothesis (see Carruthers 2003; Cosmides & Tooby 1994; Samuels 1998, 2000; Sperber 1996, 2001), the mind is to a large extent made up of a variety of domain- or task-specific cognitive mechanisms or "modules". It might seem that massive modularity would imply a level of cognitive rigidity hardly compatible with cultural diversity. We want to argue, on the contrary, that massive modularity properly understood is a crucial component in the explanation of this diversity". For a more balanced account of the role of the modularity hypothesis in mind and language, see Carey (2009).

They continue by adding that the difference between inference and argument relies on the explicitness of the reasons that support a given conclusion in the case of argument:

> Arguments should be sharply distinguished from inferences. An inference is a *process* the output of which is a representation. An argument is a complex *representation*. Both an inference and an argument have what can be called a conclusion, but in the case of an inference, the conclusion is the output of the inference; in the case of an argument, the conclusion is a part—typically the last part—of the representation. The output of an inference can be called a 'conclusion' because what characterizes an inferential process is that its output is justified by its input; the way however in which the input justifies the output is not represented in the output of an intuitive inference. What makes the conclusion of an argument a 'conclusion' (rather than simply a proposition) is the fact that the reasons for drawing this conclusion on the basis of the premises are (at least partially) spelled out. As Gilbert Harman has justly argued (Harman, 1986), it is a common but costly mistake to confuse the causally and temporally related steps of an inference with the logically related steps of an argument.
> (Mercier and Sperber forthcoming: 7).

The authors sympathize with various frameworks, and this usually leaves the promoters at the edge of a cliff, for instance, when they go back to system 1 of the mind—perhaps to maintain the evolutionary mainstream narrative. One gets the idea that this is done like this in order to explain the elaboration of a reflective mechanism: arguments are intuitions about the relationship between reasons and conclusions. They assert:

> … all arguments must ultimately be grounded in *intuitive* judgments that given conclusions follow from given premises. In other words, we are suggesting that arguments are not the output of a 'system 2' mechanism for explicit reasoning, that would be standing apart from, and in symmetrical contrast to, a 'system 1' mechanism for intuitive inference. Rather, arguments are the output of one mechanism of intuitive inference among many that delivers intuitions about premise-conclusion relationships. Intuitions about arguments have an evaluative component: Some arguments are seen as strong, others as weak. Moreover there may be competing arguments for opposite conclusions and we may intuitively prefer one to another. These evaluation and preferences are ultimately grounded in intuition.
> (Mercier and Sperber forthcoming: 8)

What is salient from these quotes is that by framing argumentation in this way, they prepare the ground for the introduction of the core explanation: arguments are complex-reflective inferences only if, at least partially, the representations (reasons) are spelled out, this is to say, when the environment—the audience—requires some kind of refinement of the information presented. They explain:

> Here we want to explore the idea that the emergence of reasoning is best understood within the framework of the evolution of human communication. Reasoning allows people to exchange arguments that, on the whole, make communication more reliable and hence more advantageous. The main function of reasoning, we claim, is *argumentative* (Sperber, 2000a, 2001, see also Billig, 1996; Dessalles, 2007; Kuhn, 1992; Perelman & Olbrechts-Tyteca, 1969; Haidt, 2001, and Gibbard, 1990, offer a very similar take on the special case of moral reasoning). (Mercier and Sperber forthcoming: 11)

By argumentative they mean that reasoning is situated in a dialogue, in a social context, in which individuals—and only because of this public condition—ponder on reasons, even anticipate scenarios, to affect someone's thoughts or actions (from the point of view of the communicators) and to filter information that could derail us (from the point of

view of the audience). The hart of the proposal, once the basic evolutionary intersection between the mind and the social is explained, would be that the principal argumentative profile of reasoning serves human communication purposes. This practice improves or increases "both in quantity and in epistemic quality the information humans are able to share" (Mercier and Sperber forthcoming: 50).

Humans are good in arguing, although rarely, according to the authors—quoting empirical research—engage in high-order reasoning, this is, pondering reasons about reasons. In fact, what this theory challenges is that humans take good decisions, maintaining that they prefer to take decisions they can justify more easily in front others.[4] The empirical research quoted by the authors—which is constantly repeated—allows them to say that reasoning is not a higher form of individual cognition, but is better used in collaborative behaviour, because there it produces better outcomes.[5] Collaboration in this context means no constriction on weighing reasons.

In "Reasoning as a Social Competence", Sperber and Mercier summarize many of the aspects commented on:

> Reasoning, we have argued, is a specialized metarepresentational competence with a primarily social cognitive function. It is both structurally and functionally quite different from intuitive inferential mechanisms that have a primarily individual cognitive function. Collective cognitive performance may be based on the aggregation of individual intuitions or on argumentative interaction, with quite different outcomes...When argumentation and hence reasoning are at work, they shape the outcomes of group processes. In many cases, this is for the best—more information is shared, superior arguments are granted more weight. Sometimes, however, reasoning creates a polarization of the group (Sunstein 2002). This mostly happens when people are forced to debate an issue on which they already agree.
>
> (Sperber and Mercier in press: 22-3)

Thus, this approach emphasizes that reasoning is a mental act of constructing or evaluating an argument, which is in contrast with ordinary intuitive inference—a process that yields a conclusion without articulating the reason to accept it. The authors argue that the main function of reasoning is social, but it serves the social interests of individuals rather than the collective interests of the group. This is shown by the fact that people produce arguments within a "high degree of mere satisficing", this is to say—and academic and intellectual contexts aside –, people do not look for the best formulation of the best argument possible, instead people use the first minimally decent argument, and if the argument does not work then a rebuttal or another argument is put forward.

As soon as the paper *Why do human reason?* circulated, scholars critically assessed it by putting forward important objections. Mercier and Sperber (forthcoming) mention that the most irritating objection that they really want to correct is that their theory of reasoning has only rhetorical goals: accordingly, that reasoning is only designed to find arguments to persuade others. On the contrary, Mercier and Sperber think that rea-

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[4] Mercier and Sperber (forthcoming: 42-3) point out: "According to this theory, people often make decisions because they can find reasons to support them. These reasons will not favour the best decisions, or decisions that satisfy some criterion of rationality, but decisions that can be easily justified and are less at risk of being criticized."

[5] Nevertheless, the authors rapidly point out that "… it should be stressed that the argumentative theory does not predict that groups will always make better decisions, but merely that reasoning should work better in the context of a genuine debate" (Mercier and Sperber, forthcoming: 14)

soning evolved in part to make people change their mind by presenting them good reasons to do so. But then the question is: what kind of theoretical explanation could balance the idea that reasoning evolved also with epistemic goals—the inclination to give good reasons—and, at the same time, that people make a minimal effort to put forward good arguments and that audiences, more time than less, accept these decent arguments instead of only the best ones?

3. EPISTEMIC VIGILANCE: THE WARRIOR METAPHOR

The authors believe that the misinterpretation of their theory is due to the wrongly overemphasised role of communicators by the critics—the role of the communicators being to produce arguments to persuade—, instead of seeing the role of the audience, which is to evaluate arguments to choose those that yield useful information.

If reasoning as an argumentative practice is performed by individuals by means of minimal cognitive efforts because it is a high-cost mental activity with a relatively high failure rate, then why does reasoning as an argumentative practice exist at all? The answer of the authors is:

> Humans are immersed in a flow of socially transmitted information and are highly dependent on it. For communication to have evolved, it had to be advantageous to both communicators and receivers... What makes communications advantageous to receivers is that it provides them with rich information that they could not, or not easily, have obtained on their own. For this, the information they receive has to be genuine information, that is, close enough to the truth. What makes communication adventurous to communicators is that it allows them to achieve some desirable effect in the receivers. For this, the information they emit has to be conducive to this effect, whether it is true or false (Mercier and Sperber, forthcoming: 5)

Because receivers have to be alert in order to avoid misleading information, they must exercise what Sperber et al (2010) call "epistemic vigilance". This is not a slogan of the "War on Terror", but the concept by which the authors stress the active role of the audience in the practice of argumentation. Specifically, epistemic vigilance, apparently, is a cognitive skill to filter the information carried out by three heuristic mechanisms or strategies: assessing the trustworthiness of the communicators, checking the coherence of the message—considered here as the encyclopaedic knowledge of the audience–, and assessing the relevance of the message (although relevance seems to be, for Sperber et al (2010: 376), only a step in the checking-coherence process).

By assessing the trustworthiness of the communicators, the authors simply mean that receivers automatically calibrate the level of trust of the source of the message (Didn't Cicero say something very important about this two thousand years ago?) By checking coherence, they mean the degree of believability of the information received, the higher degree is, in turn, obtained by the audience through pressure on the communicators by asking them to display more adequate arguments for the discussion or arguments at hand. In the Sperber's (2001) evolutionary terms, the idea is clarified in the following narrative:

> My first suggestion is this: coherence checking—which involves metarepresentational attention to logical and evidential relationships between representations—evolved as a means of reaping the benefits of communication while limiting its costs. It originated as a defense against the risks of deception. This, however, was just the first step in an evolutionary arms race between communicators and audiences (who are of course the same people, but playing—and relying more or less on—two different roles). (Sperber 2001:409)

Obviously, when trust is in doubt, communicators lay more stress on the contents of the messages—they commit themselves to utter more coherence-based reasons for the acceptance of a given message; at the same time, smart audiences should balance the reliability of the source with the believability of the content.

Relevance (Sperber and Wilson 1995) is an omnipresent mechanism through which certain deductive protocols are activated to interpret the message in a more productive way. This does not mean that hearers tend to search for a charitable interpretation; relevance is more or less an asymmetrically proportional measure: when the costs of searching for the right interpretation are too high, then the cognitive effects tend to go down and, for this reason, hearers could abort the mission of searching. In argumentative scenarios, when a piece of information has little relevance or is directly irrelevant, and thus the presumption of relevance is interrupted, then hearers are pushed towards a sharper epistemic vigilance stance. In other words, in contrast to the basic assumption among argumentation scholars, this idea goes against the principle of charity (for a comprehensive account of this principle in argumentation theory, see Govier 1987)[6]. The principle of charity states that it would be unfair or unkind to arguers to give their discourse anything less than a maximally sympathetic interpretation, because we are, in one way or another, morally obligated to be charitable. For Sperber et al. (2010), this behaviour is unnatural: unless we are in very specific settings—teaching kids, critical moments, or extreme situations –, people tend to avoid high-cost interpretative reconstructions.

Reasoning is a tool for epistemic vigilance. It is the "verbalization" (with special constructions such as "if... then...", "therefore", etc.) of a sophisticated defence that filters unclear, incomplete, tricky, misleading, or even abusive discursive communication and information. Because plain cooperation, for Sperber et al. (2010), is not necessarily the norm among members of groups, individuals had to develop, from an evolutionary point of view, a kind of epistemic protection.

If we follow the metaphoric-semantic consistence, one could ask: to which extent is this protection or vigilance manifested in "preventive attacks"? The authors do not say. In other words: in argumentative scenarios, asking for clarification, to counter-argue, or to put forward doubts are more than passive mechanisms which the simple idea of vigilance seems to convey. For this precise reason, normative argumentation theories have developed standards for a reasonable discussion, critical discussion, and so on; and for this very basic reason, rhetoric has shown the ways in which persuasion takes place in important social affairs, when power, interests, games of predominance, and a long list of human inclinations, are part of extremely calculated exchanges. Audiences are not only in a vigilant stance when they hear a discourse; they are already in the discourse itself, due to the way the message is composed. In many occasions, audiences are co-responsible for what the communicators express.

[6] In this account, Govier (1987: 148) defends, nevertheless, a moderate version of charity.

3. CONFIRMATION BIAS

The premise for the authors of the argumentative theory of reasoning is that reasoning evolved in such a way that we can argue with others to determine the weight of information for our daily tasks. This activity, in return, makes us good at doing just that: arguing. According to Mercier and Sperber, in real and truly argumentative scenarios, people are good at finding and evaluating arguments, and bad at artificial settings in which we ask for the resolution of reasoning problems. At the same, if reasoning is indeed a mechanism to argue collectively, then group performance is better than individual performances. Groups argue even better than the best individual of the group. Finally, this theory maintains, if reasoning evolved so we can argue *with others*, then we should be biased in our search for arguments: in a discussion, we tend not to use the arguments that rebut our claims. As the literature in the areas of judgment and decision making in psychology calls it, we proudly stand in this world showing our confirmation bias.

As the authors have repeated incessantly (Mercier, a; b; c; d; in press; Mercier and Landemore, in press; Mercier and Sperber, in press; forthcoming; Sperber and Mercier, forthcoming), the confirmation bias's heuristic disposition is the most robust and prevalent in reasoning. Confirmation bias is usually indicated as being responsible for much of our mischief. What is biased, nonetheless, is the production of arguments, not the evaluation. Surprisingly, for Sperber and Mercier, confirmation bias can be seen also as a sort of "division of cognitive labour" in the activity of arguing, because by using this bias it would not be necessary for all those involved in the discussion to laboriously assess the pros and cons of each option under scrutiny. Again, does the emphasis on confirmation bias in this theory not challenge basic assumptions in standard approaches to argumentation? It is not possible to claim that OSSA and ISSA's scholars are not aware of this line of research, but simply that it has not yet been considered.[7]

In short, in natural settings, when people reason they do not try to produce the best answer to a given rebuttal, but try to find confirmatory arguments that maintain their beliefs. Because confirmation bias does not stem from the ability of grasping falsification, as part of the evaluation process, then this bias is, more or less, in perfect balance with the need for openness to cons. When we are in the position of evaluating arguments, we are guided, or incented, by the urge to keep valuable information and, for this reason, we even accept those arguments that force us to revise our beliefs. In genuine deliberations, the confirmation bias of each individual is checked, "compensated by the confirmation bias of individuals who defend another position. When no other opinion is present (or expressed, or listened to), people will be disinclined to use reasoning to critically examine the arguments put forward by other discussants, since they share their opinion." (Mercier and Landemore, in press: 22). Sperber and Mercier (in press) add:

[7] As a matter of fact, unless my review is incomplete, in the proceedings of both of the last conferences it is difficult to find a paper in which all these topics are addressed from a cognitive or an evolutionary point of view.

> Is the confirmation bias therefore an aspect of reasoning that may be effective from a practical point of view but that makes reasoning epistemically defective? Not really. People are quite able to falsify ideas or hypotheses… w*hen they disagree with them*. When a hypothesis is presented by someone else, participants are much more likely to look for falsifying evidence (Cowley & Byrne, 2005). When, for instance, people disagree with the conditional statement to be tested in the Wason selection task, a majority is able to pick the cards that can effectively falsify the statement, thereby successfully solving the task (Dawson, Gilovich, & Regan, 2002). Similarly, when people believe that the conclusion of a syllogism is false—if it conflicts with their beliefs for instance—they look for counterexamples, something they fail to do otherwise (Klauer, Musch, & Naumer, 2000). (Sperber and Mercier, in press: 22)

Confirmation bias, unfortunately, is something that people can not suppress just like that. Reasoning, in this sense, has evolved in a way that makes its containers solipsistic machines, unless we are in group. Only this setting would make epistemic benefits possible. Interestingly, Mercier (a: 1) remembers that "If argument quality is not sufficiently high in a domain, the confirmation bias will make experts tap into their vast knowledge to defend whatever opinion they hold, with polarization and overconfidence as expected results." Everyone, perhaps, has experienced discussions with very knowledgeable people who generate more arguments but, at the same time, generate less contrary arguments.

4. CONCLUSION

So far, I have only examined how challenging this theory could be to standard approaches to argumentation, but not many specific questions have been proposed. In what follows, I will, unfortunately, not add much, only a few proto-critiques will be discussed.

As always is the case when summarizing and discussing—new—theories in short essays, it is easy to be unfair to the creators. Many interesting insights are left aside. One of these insights in the development of "the argumentative theory of reasoning" is that the authors problematize the idea of constructing categories of arguments. The simple question is: Is it possible to have the category "good argument" as, for example, the category "good restaurant"?

In a way, this reflection of the authors goes against classic rhetoricians. They agree that rhetoric has developed useful classifications in order to undress strategies (a very classic and old idea of rhetoric!), but for them it is not clear in which ways this could help people to look for arguments in daily life. When people want to find a good restaurant, then the categories "Japanese restaurant", "Italian restaurant" or "French restaurant", are rather irrelevant. Depending on the topic, context and interlocutors, any representation could be a good or bad argument (or even not an argument at all). In the case of a restaurant, many things come to your help, for example the architecture of the city in which you are looking for the restaurant (knowing that in some areas there are plenty of good restaurants), which could make your search easier, but are our minds organized in the same helpful way?

Another point of critique, as was discussed earlier, is the notion of "epistemic vigilance". According to the definition, it is a cognitive "filter" that automatically protects hearers. Reasoning (as reflective inferences) was defined as a social device, whose main function is argumentative, this is to say, a mechanism that is "turned on" as soon as we open our mouth, but contrarily "epistemic vigilance" is at work all the time, as a heuristic—fast—device that allows individuals to distinguish between valuable and poor in-

formation, thus, is "epistemic vigilance" part of system 1 or system 2? Does "epistemic vigilance" promote individual epistemic benefits instead of collective interests? When we are in mediation or negotiations we often put our, say, local epistemic vigilance on "stand-by" to obtain a broader goal, this is to say, the vigilance is perhaps a matter of degree and strategy. After all, epistemic vigilance does not need to be verbalized, we can stay silent forever in a very "sharp vigilant position."

In my view, another problematic point is the notion of information. Because the angle of the authors is cognitive and psychological about the nature of human communication, information is a core concept. But when we argue, are we really sharing information? All depends, finally, on the notion of information that we have at hand. When discussing whether to walk or take the bus to the cinema, someone says: it is a beautiful day today!, implying that they should walk, is this information—in Eco's sense as something that adds a fact that the other party did not know—or does the exclamation only convey the communicative intention of the communicator and nothing of the external world? The authors could reply that this is precisely the information sent: the communicative intention. But again, then we go into the game of second or higher order informational processes.

When the authors discuss the idea that "better outcomes" are reached in "normal deliberative conditions", neither of these notions are clear. If they reject the very concept of a "good argument", what kind of standards can be referred to, to decide whether a good final argument has been posed? They just emphasize that deliberating in groups allows people to reach "epistemically superior outcomes and improve their epistemic status". Mercier (a: 6) boldly points out: "Here I will have recourse to a more rudimentary yardstick: a good argument is one that is accepted by many people who can understand it and make the effort of evaluating it. Obviously, an argument can be accepted by many people, at a given time, and still be wrong. However, this outcome becomes less likely as the diversity of people who accept it increases". Because I really do not want to forget my poor critical potential, I could ask: what do you mean by "diversity of people"?

The mere idea of abandoning individuality appears counter-intuitive, we either preserve the dimension or not. They point out that "... A distinctive feature of our approach, relevant to the discussion of 'collective wisdom', is the claim that the main function of reflective inference is to produce and evaluate arguments occurring in interpersonal communication (rather than to help individual ratiocination)." (Sperber and Mercier, in press: 5). Certainly, in a collective situation all the participants receive the benefits of putting in balance pros and cons of a given argumentation, but did not Robinson Crusoe entertain his brain by imagining worlds until Friday showed up? If we insist that the most important for our very nature is the social condition, which I believe following Tomasello (2008; Tomasello et al 2010), then even intuitive inferences are the product of the same social condition.

They say "Reasoning is specifically human. It is clearly linked to language" (Sperber and Mercier in press: 12). "Clearly linked to language" is not enough, because as far as we know, language is also specifically human, and evolved to make communication more efficient (see Macneilage 2008). Do reasoning and language then have the same function? Because we can represent and verbalize we can argue? Certainly, my young daughter, who does not talk properly yet, can manifest her disagreement with my orders, but I can not say that she is having a discussion with me.

In the same vein, Mercier (a: 4) points out that "Cooperation is made more efficient by communication, which in turn is facilitated by the exchange of arguments. Reasoning would have evolved to enable this exchange of arguments". There is no space here to detail my concern, but I think it is totally the other way round (see Tomasello 2008: 105; Tomasello et al, 2010), cooperation is a superstructure that made possible many of our cognitive skills and, certainly, the linguistic recursive faculty as much as the shared human intentionality.

A final epistemological remark is that they assume a very classic critical and rationalistic Popperian way of building a theory: "Our definition of reasoning may be debatable, but the argumentative approach to reasoning is about reasoning as we defined it. To object to this definition, it is not enough to offer another definition that may be reasonable and useful. What would have to be shown is that ours fails to identify a phenomenon with enough autonomy and integrity to be a proper object of study and insight" (Mercier and Sperber, forthcoming: 4), this is to say, they want to be falsified. But, how to find and accept a—good—argument if this is mostly achieved by a few and not very diverse people?

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Commentary on "EVOLUTION, COGNITION AND ARGUMENTATION" by Cristián Santibañez

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The following passage appeared in the Toronto Globe & Mail on 8 May 2011.

> In their new paper, 'Why Do Humans Reason? Arguments for an Argumentative Theory' (just published in the journal Behavioral and Brain Sciences), cognitive scientists Dan Sperber and Hugo Mercier propose a new account of the origins of reasoning," The Boston Globe reports. "Reasoning, they argue, actually didn't evolve to help us find the truth; it evolved to help us make, win and evaluate arguments. … 'The emergence of reasoning,' they argue, 'is best understood within the framework of the evolution of human communication.' We don't need reasons to think, but to explain our thoughts to other people, especially to people who have no particular reason to trust us. In fact, even when we reason quietly, in our own heads, we do so 'anticipating a dialogic context.' (Kesterton)

The column in which it appeared is a collection of "facts," oddities, and bits of social information. Since this is an indication of potential interest in this view, it is timely that Cristián Santibañez undertakes a review of this theory in his paper "Evolution, Cognition and Argumentation." Santibañez explains that his goal in this essay is to, "discuss Sperber and Mercier's cognitive theory in order to see in which ways this new approach could improve our current vision of argumentation or, otherwise, make us aware of the misunderstandings" (1). The view in question is an evolutionary approach which distinguishes, first, between internal inferential thinking, and, secondly, public argumentation. The former is intuitive and proceeds out of awareness, while the latter is essentially a product of disagreement which calls for defence, critique and attack.

The vast majority of beliefs and values we hold are never questioned or openly defended. For the great majority of people, i.e., virtually all non-philosophers, there is no reason to reflect on a belief unless it is questioned or attacked. While on the one hand we always believe people have reasons for their beliefs, those reasons are almost never brought forward unless that belief is under fire or question (Gilbert 2008, 27). In that case, argument enters the picture, and argument for that reason is always, at least in its natural state, public. This is the so-called system 2, as opposed to system 1, which is much more primitive. Santibañez explains it as follows.

> …system 1 is evolutionarily old, unconscious or preconscious, shared with animals, managing implicit knowledge, automatic, fast, parallel, with high capacity, intuitive, contextualized, pragmatic, associative, and independent of general intelligence; system 2 is characterized as evolutionarily recent, conscious, distinctive of humans, managing explicit knowledge, controlled, slow, sequential, low capacity, reflective, abstract, logical, rule-based, and linked to general intelligence. (p. 3)

Zenker, F. (ed.). *Argumentation: Cognition and Community. Proceedings of the 9th International Conference of the Ontario Society for the Study of Argumentation* (OSSA), May 18-21, 2011. Windsor, ON (CD ROM), pp. 1-4.

So the lizard brain keeps us chugging along, prevents us from trying to walk on water or tackle mastodons one on one. Mind you, much of that is communicated via learning from others of our species, and even from observing other species. There was never (or rarely), after all, a single isolated non-social human being, so how can we separate with such confidence that which is private and intuitive from that which is public and reasoned. I suspect that there is much more interaction between these levels than might be thought.

Santibañez quotes M&S as saying, "Reasoning allows people to exchange arguments that, on the whole, make communication more reliable and hence more advantageous" (in press, pp. 22 f.). This strikes me as presumptuous. Just the morning of this writing, I was listening to CBC-One while a gentleman explained that the world is going to end on 21 May. Apparently, he is not alone in this belief, and there are some serious number of adherents to this prophecy. While being interviewed he made arguments, all with full biblical references, that he used to shore up his case. Clearly, he is a total cuckoo-bird, and if, indeed, I am standing here in Windsor addressing an audience, then he was wrong. (As, indeed, we discovered.) Yet the arguments going back and forth were certainly not making communication "more reliable." Instead, the *façade* of argument, the veneer or argumentative language lent support to his conviction and his ability to persuade others. Santibañez also raises this question, and wonders how, if they are right, we do not always insist on good arguments rather than less than perfect ones.

Santibañez quote M&S again, "For communication to have evolved, it had to be advantageous to both communicators and receivers" (Mercier and Sperber, forthcoming: 5). Yet the skill level of individuals who communicate is widely diverse, as is their understanding of the purpose and function of communication and argument (O'Keefe 1995). Communication, and most certainly argumentation, is not a homogeneous ability, but a skill that can be learned and trained. Consequently, if it is "advantageous to both communicators and receivers" then it is not equally so.

Santibañez raises the issue of "epistemic vigilance," which he describes as the cognitive skill used to filter information according to what looks a bit like the RSA combination of Johnson & Blair (1993). As described by M&S, this appears to be a more or less passive "watching" activity, but Santibañez doubts it is such a thing. The audience, he points out, is "already in the discourse itself," and this means they are involved in creating the message[s], at the very least, in a Gricean way. Moreover, we can go further: even when addressing in "real argumentative situations," the speaker is not addressing one coherent, homogeneous whole. Rather, it is an audience composed of individuals who *may* share a set of values, beliefs, etc., but will also vary from individual to individual. Ultimately, each audience consists of an individual.

Santibañez also points out that the proposed view fails to recognize different kinds of argumentation. He specifically mentions negotiation, but there are other contexts as well where we deviate or vary from the sort of model they propose. Inquiry, for example, may violate the essential idea that argument is based on an agreement/disagreement dichotomy in a way similar to negotiation. We may be working together to form the best opinion or construct the best plan, without having much idea in advance of where we are going.

This adds weight to Santibañez's criticism that the notion of "normal deliberative conditions" is unclear (p. 6). Mercier is quoted by Santibañez as holding that a "good argument" is one that is widely accepted, and says, "Obviously, an argument can be accepted by many people, at a given time, and still be wrong" (Mercier a: 6). What is not at

all clear is just what is wrong – is it the argument itself, or the claim that results from the argument. If the former, what does that mean? What standard is being used? "Wrong" is not a normal predicate for an argument as is, say, "valid" or "strong." Mercier mirrors Perelman in saying that the more diverse the audience that accepts an argument the more right it is likely to be, but as Santibañez points out, this isn't really explained.

Santibañez questions whether the public and community centred communication they believe is central to argumentation, can apply solely to that, and not to intuitive inferences as well. This is a key point, and I anticipated it above. I certainly agree that argumentation and communication must happen in public contexts in order to be learned and practiced. We know more and more that group-think, when properly conducted has the potential to open up ideas, expose flaws, and encourage new thinking. Yes, we have a more than slight tendency to adhere to our existing views, but the context can often lead us to be more open (as for example, in this meeting.) However, what might allow us to assume that intuitional inference exists independently from externalized arguments? In other words, while some primitive reasoning or inferential patterns certainly exist (avoid pain and danger, satisfy basic needs,) the sophistication of this activity must surely come from the interaction of public/private reasoning.

I now want to turn to a different point, and one that underlies the premise of the evolutionary approach. Saying that something is evolutionary is to say that it has come about because it has helped the species grow and thrive. Santibañez quotes Mercier (in press: 19): "Reasoning, we argue, evolved because of its contribution to the effectiveness of human communication." I would like to briefly consider this.

First of all, I admit to having a tendency to think of evolutionary explanations as inherently post hoc. We look at something and want to explain it, so we figure out how it helps and/or protects the species. We have two eyes rather than one because it is helpful to be able to judge distances. Indeed, this may explain why we have two eyes rather than one, but it does not explain why we don't have one eye capable of judging distance or a third eye to make it all even better. Why not five eyes so that if something happened to one, then the other would be able to fill in? The problem, in short, is the supposition that what occurs can be explained through an evolutionary story based on the fact that it exists. Argument exists, so it must serve some important purpose. What is it?

The supposition behind this relies heavily on the term "effectiveness," which I do not find very clear at all. What does it mean, after all, to be effective? Reasoning evolved, we are told because it really, really helped human communication. Well, I like reasoning as much as the next person, and it is quite helpful, but we must remember, and Mercier and Sperber would, I believe, concur, that it occurs first and foremost in situations where there is disagreement and doubt. This leads me to raise the question of whether or not humans, in a primitive state, benefit from disagreement. Disagreement and its ensuing conflict leads, as history clearly demonstrates, to dire results ranging from the Peloponnesian wars to 9/11. Wouldn't we be better off without disagreement? Yes, we might not have as much technical advantage as we do, but who can be sure? Perhaps Popper was wrong, and agreement could be a driving force of its own with only apparent failure as a modifier. We've never, after all, really given agreement a chance.

Consider the movie, *The Invention of Lying* (Gervais and Robinson 2009). In this fantasy society no one speaks anything but the truth. Not because they are incapable of it, but because communication just did not evolve that way. Therefore anything anyone says is

taken as true. Mark, played by Ricky Gervais, discovers that he is capable of speaking something that is not true, and mayhem ensues. When, for example, he says to a friend, by way of a test, "I'm a one armed Polish astronaut," the friend asks what date is the blast off. The society is portrayed as bland and uncreative, but there is no real conflict because there is no disagreement. So one can question the evolutionary value of reasoning that arises primarily as a function of disagreement. We might have been better off without it.

Santibañez does a very good job of presenting a new and intriguing theory that still, somehow, manages to miss a great number of points generally accepted in Argumentation Theory. I find myself in agreement with his approach to evolutionary argument, and, so, have no disagreements. I agree with him that the evolutionary theory wants inspection, but also agree that there are serious issues that need to explored.

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