

---

# Sharing cognitive dissonance as a way to reach social harmony

Social Science Information

50(1) 116–127

© The Author(s) 2011

Reprints and permission:

sagepub.co.uk/journalsPermissions.nav

DOI: 10.1177/0539018410388835

ssi.sagepub.com



**Jean-Louis Dessalles**

Telecom ParisTech, France

## Abstract

Commonsense wisdom dictates that mutual understanding grows with cognitive harmony. Communication seems impossible between people who do not share values, beliefs and concerns. If carried to the extreme, however, this statement neglects the fact that the formation of social bonds crucially depends on the expression of cognitive dissonance.

## Keywords

argumentation, cognitive dissonance, conversation, narratives

## Résumé

Le sens commun suggère que la compréhension mutuelle croît en fonction de l'harmonie cognitive. La communication entre des personnes qui ne partagent pas valeurs, croyances et préoccupations, semble impossible. Ce constat, poussé à l'extrême, néglige le fait que l'établissement des liens sociaux repose fondamentalement sur l'expression de la dissonance cognitive.

## Mots-clés

argumentation, conversation, dissonance cognitive, narrations

## The paradox of human spontaneous communication

Human beings, like most other primates, are social animals. Our species distinguishes itself, however, by using language to form social bonds. In most primate species, individuals seem to establish social bonds based on the amount of time spent grooming each other. In a famous book, Robin Dunbar compares what people do with language with what other primates do with grooming. Dunbar highlights the importance of conversation for the cohesion of groups (Dunbar, 1996). The analogy is illuminating, but it has its limits. During grooming, the groomer takes thorough care of the groomee's fur and skin, while the latter

---

### Corresponding author:

Jean-Louis Dessalles, Dep. InfRes-Telecom Paris Tech, 46 rue Barrault, 75013 Paris, France.

Email: [dessalles@telecom-paristech.fr](mailto:dessalles@telecom-paristech.fr)

abandons herself or himself to the treatment. Grooming is often symmetrical, but it may be also used asymmetrically, as a calming procedure after a quarrel. Though it is often experienced as a pleasurable activity, human conversation offers a contrast with primate grooming. To elicit interest in listeners, talkers must create cognitive dissonance in their minds. In other words, human individuals must cognitively disturb each other to form and maintain social relationships.

The observation of spontaneous conversation reveals that human individuals devote much time and effort (1) to sharing unexpected emotional events and (2) to discussing issues. Both behaviours are based not on cognitive harmony but on cognitive dissonance. Though there may be considerable differences in the way of expressing it depending on the local culture, cognitive dissonance seems to be a necessary ingredient of mutual understanding.

In what follows, we illustrate the fact that human conversation is based on two major behaviours: event sharing and argumentative discussion. Shared events may be emotional but they must be unexpected, which means that the observer's expectations are contradicted. Argumentation relies on contradiction between beliefs and/or desires. Both behaviours thus depend on the ability of all participants to understand that there is something 'wrong' in the situation they are talking about. When human individuals are unable to elicit cognitive dissonance in each other's minds, they remain silent.

This somewhat paradoxical observation leads us to suggest that social harmony is an emergent phenomenon. It cannot be imposed through some moral policy or convention. It results from spontaneous communication. During conversation, human beings naturally seek out any situation that contradicts their expectations. Shared values are not the condition but the result of this process.

In what follows, I give examples of spontaneous conversation, first in the narrative mode and then in the argumentative mode. Both examples are taken from a corpus in Japanese, as a reminder of the fact that the issues we are dealing with in this paper do not depend on any specific culture but are rather a property of our human endowment. I show how dissonance is at work in each of the two conversational modes. I then consider possible reasons why human beings communicate by eliciting dissonance in others, before examining some implications for mutual understanding not only between individuals but also between groups of individuals having different social, professional or cultural backgrounds.

## **Dissonance in conversational narratives**

Human spontaneous verbal communication is based on two basic forms of interactions, *storytelling* and *discussion* (Bruner, 1986). These two communication modes, though often intertwined in conversation, correspond to two 'modes of thought'. We are not speaking here of marginal aspects of human behaviour. Language activity occupies one-third of our waking time (Mehl & Pennebaker, 2003), and individuals may speak some 15,000 words each day on average (Mehl et al., 2007).

A good deal of spontaneous human conversation is devoted to sharing current or past events. Storytelling may occupy from 25 percent (Dessalles, 2008b) up to 40 percent (Eggins & Slade, 1997: 265) of conversation time. This narrative activity is so important

in our lives that we extend it into activities such as reading books, watching films or attending theatre plays. Conversational narratives are, however, characterized by the fact that virtually all reported events are presented as having really happened. Before wondering why human beings engage in this strange activity, which is perhaps unique in the animal kingdom, let us study how reported events are selected among all our experiences.

The conversation presented in Table 1 has been recorded in a Japanese family. The story told in this excerpt deals with a railway accident, involving a young girl who was initially believed to be known to M. Tsuda, the narrator. By the time of the reported episode, M. Tsuda had every reason to believe that his daughter's friend had got run over by the train just after she had left his house. The intensity of this highly emotional episode is due not only to the gravity of the factual situation – the death of a young person – but also to the unexpected character of the event.

Unexpectedness is a key ingredient of interest in narratives. It is controlled by two terms (Dessalles, 2008b): the *complexity* of *generating* the event, and the *simplicity* of *describing* it (see [www.simplicitytheory.org](http://www.simplicitytheory.org)). In the present story, on the generation-complexity side, we find the fact that railway-crossing accidents are rare, and the fact that the girl knows the way to her home and has been warned against the danger of railway crossings. The conditions leading to the accident are thus quite hard to imagine.

On the description-simplicity side, we have the fact that the putative victim is the daughter's best friend and the fact that the accident is supposed to have occurred in the vicinity of M. Tsuda's house. The story would indeed be less interesting if the girl involved had been a distant acquaintance, or if the station had been located far away. We performed an experiment based on various stories including this one (Dessalles, 2010). Participants were asked to choose options so as to make the story mostly emotional. M. Tsuda's daughter might have invited either two friends, or four friends or all the girls in her class: 71 percent of the participants selected the first option, thus making the girl's description (one among two) simplest. When offered the possibility of locating the railway crossing at 200m, 500m or 900m from M. Tsuda's house, a majority (55%) of participants chose the closest location, again showing a tendency to make the description of the event simple.

This story is interesting because the emotional fact is a counterfactual: the daughter's friend could have been the victim, but it turned out that she was not. An essential ingredient of the story is the *simplicity* of the *transition* from the actual situation to the counterfactual one (Dessalles, 2010). Two elements are mentioned just to make the transition simple: the timing (the accident had just happened) and the fact that the victim was a young girl as well.

Lastly, we can observe that the utterance (7) about the driver's face echoes the initial remark (1), which concludes a preceding story about a similar accident. The analogy between the two stories (someone getting run over + the driver's white face) adds up to the description simplicity of the new story. This reuse of previously mentioned elements to increase unexpectedness provides an explanation for the existence of *story rounds* (Tannen, 1984). Most conversational narratives are indeed told within rounds, where analogous stories follow each other. The thematic link between two stories makes the common elements appear simpler in the second story, since they are already available in

**Table 1.** Japanese family conversation about a death in a railway accident

M.Tsuda	でもあの轢いた、轢いた中央線 の人間ちゆうのはやっぱり顔が 真っ白くなってるよ	But the guy who ran over a man, his face was totally white.	(1)
Tatsuyoshi	そらそうですね	Of course I know.	(2)
M.Tsuda	子供が小学校の時いっかい来 とったんよ遊びに りさの友 達が。 ああ、ゆうきか、どっちか忘れ たけども 来てたんよ ほいで、中央線のむこうなん よ。帰って、一時間前に帰っ て、でも帰って来ないんよ。 で電話かかってきたんよ。でい まだに帰ってこないからおかし い言うて、電話かかってきて、 そりやおかしいってなって、見 に行ったんよ。たら、もうそこ の中央線が轢いてるわけよ。	Once, when Risa was little, her friend came here. I don't remember whether she was Yuji's friend but anyway she came to see us. And there, just over the railroad crossing. She had left one hour before but she hadn't arrived at her home. And then I got the phone call [from her family] saying that she hadn't arrived yet so something wrong was going on. I began to worry about her so I went to the station. And right there, a girl had just got run over.	(3) (4) (5)
Akio	えーその子を？	Ohh was that the girl?	(6)
M.Tsuda	いやいやそのこじゃ無かったん けども。結果的にはなかった んやけども、見に行ってたん よ。したら、運転手の顔が見え るやん。 とまってる運転手の顔が、そし たら、もう、真っ白けやった	No no that was not that girl. And I went to look closer, then I found that the face of the train driver was bluish white.	(7)
Tatsuyoshi	そりゃそうやろな	Oh yeah..	(8)
Tamao	うわーこわ	Ahh that's horrible.	(9)
M.Tsuda	もうかたまっとるわけよ	He was frozen there.	(10)
M.tsuda	でもうその前で作業しとる	And some were working just in front of him.	(11)
Shoji	うわあ	Oh my!	(12)
	ほんでもうその作業が見える わけよ	And he could see clearly what they were doing.	(13)
Tamao	うわーうわうわ	Ahhh....	(14)
Shoji	うわーきつつ	Ohh too harsh.	(15)
M.Tsuda	いやーもうひいとるからな んでそれが向こうの踏み切り や。まじで	Yeah, and the railroad crossing is just over there.	(16)
Shoji	「その左足取って」	'Hey, take the left leg man.'	(17)
M.Tsuda	ほんまその顔がもうあったんよ んでもうその顔が見えて、ほ んとに完全に真っ白やった。	I really saw his face. That was, you know, just white, perfectly.	(18)
Yuji	うわー	Ahh...	(19)
Tamao	いややんなー	Disgusting..	(20)
M.Tsuda	んで一、そのあと、なんちゆう ん、電話かかってきてた子やと 思うやんか。	And you know, [when I got the phone call] I should have thought that it was the girl who had got run over, right?	(21)
Erika	うーん	Yeah.	(22)

(continued)

Table 1. (Continued)

M.Tsuda	それでいろいろ野次馬おるからさーなにに言うて。小っちゃい子供が轢かれたとかいうから、もう、うええ思うやん。びっくりしたわ、ほんまに できそこにおった警察に聞いたら、わかりませんて。	There were a lot of onlookers so I asked them what was going on. And then they said that a girl had been run over and I was like 'Oh my !', you know, I was scared. Then I asked the policeman [whether she was the girl] and then he said he wasn't sure.	(23)
Yuji	あー	Ah huh.	(24)
M.Tsuda	えでもーそこにおった警察に聞いたらわかりませんいうから、もうじーっと見てて、もしかしたらーと思ひながら、帰ってきたら、その子は、事故があったからぐるーと回って帰ってきおったんて。だからその子やなかったんやけど、そこで死んだ子は、中学生やったんやて	I asked the policeman but they weren't sure so I was afraid it was her. But after that, it turned out to be that she took a detour because there was the train accident. But the girl who got run over at that time, a junior high school student.	(25)
Rina	えー だって常に花おいてあるもんあそこ。	Ah huh. You know I always see the flowers [the floral tribute] there.	(26) (27)
Shoji	あそこの踏み切り？	You mean the railroad crossing there?	(28)
Fumi	あー見たことある	Ah I have seen it before.	(29)
Shoji	えー俺通ってるよそこ毎日 毎日学校行ってねーけどさー	Ohhh I always pass right there everyday ... I don't go to school everyday though.	(30)
M.Tsuda	いやーでもあれほんとにね、次、こう、行くやん。小金井に入っていたんよ。動いていくやろ。あの人は全部、この後運転するんかなー思っ	But you know, I wonder whether he drove the train after the accident.	(31)
Tatsunori	あーそうですよね、その精神状態で	That's right. [How could he do that] in that kind of mental condition.	(32)
M.Tsuda	そうそうそうそう 自分が轢いてるっていうのはわかかってるわけやろ？	Yeah. He did know that it was him, who ran over [the girl], right?	(33) (34)
Shoji	それ自殺なんすか	Was that a suicide?	(35)
M.Tsuda	いやあ、やっぱり、轢いたんやろな。 中学生やから、わかんないよな。まあ自殺かもしれんけどーでも亡くなった人は中学生よ。	Ummm I guess she just got run over.  Since she was merely a junior high school student so I'm not sure. Even if she committed suicide, anyway, she was just a junior high girl.	(36)  (37)
Shoji	中学生で自殺するっていったら相当な、相当なイジメか薬やってたかだな	For a student in junior high school to commit suicide, I guess it means that he or she suffered terrible bullying or was highly addicted to drugs or something.	(38)
M.Tsuda	自殺か、轢いたかそれはわかんないけども 次の日の新聞見たら書いとったから	We don't know whether she committed suicide or she got run over, but I found the journal about the accident in the next morning newspaper.	(39)
Yuji	大変やなあそれは	It's tough.	(40)
Tamnao	かわいそうやわ、ほんまに	She is really poor..	(41)

the current context (Sacks, 1992: 15). Therefore, the contrast with the generation complexity of the event is larger and the interest of the second story is further increased.

Human beings do not report events that lack the unexpectedness component. I can't tell my friends that I woke up this morning, had breakfast, took a shower, brushed my teeth, got dressed and went out. Since I do this every morning, the reported situation is complex to discriminate from other similar situations. Telling such a 'story' would be considered pathological. Now suppose that my story had a different ending. I opened the front door to go out and saw that my house was surrounded by water. If the situation is unique in my experience, it makes a really good story. That morning is easy to single out from all other mornings in my life. Its minimal description (in the technical sense, as defined in simplicity theory) is thus small. That morning is therefore unexpected, and the situation is worth reporting, by human standards.

Conversational narratives rely on unexpectedness, which is a form of cognitive dissonance (Festinger, 1957). Listeners expect the unexpected, and speakers make every effort to contrast the situation they report with the ordinary. Even in emotion sharing, unexpectedness remains the key ingredient.

Sharing emotional episodes is systematic. Some 60 percent of our emotional experiences are socially shared the very day of their occurrence (Rimé, 2005: 89). If human communication were a pure comforting activity, such as grooming in primates, we would share only positive and unsurprising emotions, such as the repetitive 'I love you's' exchanged between loving couples. Human emotion sharing during conversation departs radically from this schema. We don't hesitate to share negative emotions, as long as they are unexpected. This behaviour is highly paradoxical (Rimé, 2005: 109). It can be shown that when they are evoked during conversation, negative emotions are re-experienced. Moreover, listeners declare that they too experience those emotions, through empathy. We would expect both narrators and listeners to avoid such painful experiences. On the contrary! It seems that both parties enjoy the social sharing of emotions, even painful ones, including distress or shame (Rimé, 2005; Rimé et al., 1998). The unexpected component of the shared episodes does seemingly more than compensate for the recall of negative feelings.

Before discussing the reasons why human beings systematically share cognitive dissonance by reporting unexpected and emotional episodes, let us consider the other main component of human language: argumentation.

## **Dissonance in conversational argumentation**

Conversational argumentation represents the major portion of most conversations. During argumentative discussion, individuals discuss the reality of facts or the desirability of outcomes. One could be tempted to separate the former from the latter by distinguishing discussions about *epistemic* vs. *epithymic* issues. This piece of text constitutes an example of epistemic discussion. Discussing the opportunity of buying a new house would be an example of epithymic discussion. The epistemic/epithymic distinction is not essential for our purpose here, as the underlying cognitive mechanisms do not differ (Dessalles, 2008b).

Like narration, argumentation relies on a form of cognitive dissonance, albeit different in kind. Any discussion starts with a *contradiction* (which may sometimes remain unspoken). Then participants either attempt to resolve it or signal a new contradiction. In epistemic discussions, individuals deal with contradictions affecting their beliefs, whereas in epithymic discussions, the terms of the contradictions include their wishes.

The conversation reproduced in Table 2 has been recorded in a Japanese family. It starts in the narrative mode, as P announces his niece's wedding. The argumentative part about the wedding starts with utterance (27), when F considers attending the wedding.

The information given in utterance (28) (cousins not invited) contradicts F's wish. In (31), F attempts to resolve an unspoken contradiction: close family normally takes part in weddings, contrary to (28). Utterance (31) suggests that F is not so close to the bride after all. Utterance (35) is another attempt to resolve contradiction (28), using a *reductio ad absurdum*: if (28) is negated, the consequences are undesirable (too many people invited). The remainder of the conversation consists in evaluating the closeness with Keiko, with the aim of showing that it is loose enough to be consistent with the fact that F is not invited.

Note that utterances (5) and (7) are argumentative too. The initial exclamations about the lacquered bowl in (3) and (4) serve emotion-sharing purposes. In (5) and (7), however, the lacquered bowl has the virtue of solving a problem. People easily switch from the narrative to the argumentative mode, as this excerpt illustrates.

The mechanism of argumentation is simple enough: participants either signal a contradiction or attempt to resolve it. The driving force of argumentation thus relies on the pre-existence of some cognitive dissonance that participants enjoy dealing with. Why is this?

## Why do humans share cognitive dissonance?

We spend hours each day talking with acquaintances. We are so used to it that we fail to recognize how strange this behaviour is. One side of this behaviour consists in mentioning unexpected, possibly emotional, events. The other side consists in sharing contradictions and collectively attempting to resolve them. Both unexpectedness and contradictions are forms of cognitive dissonance. Why do we share them, and do so repeatedly? No similar behaviour has been described in the animal kingdom. What can be the biological function of this universal human habit?

Some common attempts to dismiss the problem consist of saying that it is 'useful' for the group, because it pools knowledge (Ritt, 2004), or for listeners, who are spared the burden of acquiring knowledge for themselves (Pinker, 1994). There are two major problems with these kinds of explanation. First, they would apply to most animal species, and thus they fail to explain why the behaviour is unique to humans. Second, they are irrelevant. According to Darwinian laws, any behaviour must benefit the performer (or its close kin). In the case of language, we must explain how sharing dissonance through narratives or argumentation can benefit not only listeners but also *speakers*.

There are some indications that language evolved more to the benefit of speakers than of listeners. As Milan Kundera puts it, 'the entire life of human beings among their kind is no more than a fight to get hold of other people's ear' (Kundera, 1978: 137). And

**Table 2.** Japanese family conversation about a niece's wedding

P	あれマサコ知ってるかなあ、うちの弟のねーヤス・・・	[P talks to his daughter F] Masako, you remember my young brother, Yasu ... [Yasuyuki is F's uncle; they have not seen each other for several years.]	(1)
M	これさー	[M is F's mother. She brings a laque (bowl) for the rice.] This ...	(2)
F	あらいいことこれ、いいねー	[about the laque] Oh, this is nice.	(3)
M	そういいよ	Yes, it's nice.	(4)
F	いいねー この季節いいねー	It's nice. For this time of the year.	(5)
aP	ねえ	Er ...	(6)
F	いいねー	It's nice.	(7)
M	寒くなるとこの漆器が	When the weather gets colder, this laque ... [is preferable].	(8)
F	それも取ろうか	[about the dish] I take this one too.	(9)
P	弟のねー	My brother's daughter, ...	(10)
M	うん	Yes.	(11)
P	ヤスユキ娘さんでケイコちゃんてのいるんだけど	...Yasuyuki's daughter, her name is Keiko.	(12)
F	うん、結婚すんの？	Yes, will she get married?	(13)
P	昨日ねー	Yesterday,	(14)
F	うん	Yes.	(15)
P	電話きてねー	We've got a phone call.	(16)
F	うん	Yes.	(17)
P	なに、籍はもう入れたん	Well, they already registered at the office,	(18)
F	あららら	Oh dear.	(19)
P	それで来年の2月	And in February next year,	(20)
F	あららら	Oh dear.	(21)
P	21日だったかな？	On the 21st, I think.	(22)
F	ふーん	Mm-Hm	(23)
P	出てくれますかっつうから。	He asked whether we could attend, so ...	(24)
F	あらー	Oh my.	(25)
P	二人で。	The two of us [P and M].	(26)
F	私も行きたい。	I'd like to go as well.	(27)
P	いやいとこは呼ばないんだって。	But they said they wouldn't invite the cousins.	(28)
F	呼ばないの？	No?	(29)
P	呼ばないんだ	No.	(30)
F	ま、あんまりね、付き合いなかったからね。	Well, we didn't see a great deal of each other [with her].	(31)
M	あんまりね	Not that much.	(32)
P	お互い、お互いに、	We didn't either [F has two brothers, and Keiko wasn't invited when they got married].	(33)
F	うん	Yes.	(34)
P	いとこまでやると、ユキオくんのだ	If they invite all the cousins, such as Yukio [cousin from another family],	(35)

(continued)



Table 2. (Continued)

F	うん	Yes.	(36)
P	タカシ、ヒロシだのね	Takashi and Hiroshi [F's brothers],	(37)
F	そうだね、うん	Yes, I understand,	(38)
P	大変だから、どこまでやんのか聞かなかったけど、昨日電話だから。	That would be too much, and so, I didn't ask up to what point they invite, since yesterday, on the phone,	(39)
M	ケイコちゃんねー、だっておばあちゃんの告別式のときに	Keiko did come to the grandmother funeral [P's mother, some ten years ago],	(40)
P	来たよ	She came.	(41)
M	会ったつきりだよ	We did not see her again since.	
P	うん	Yes.	
F	うん、わたし何回かしか会ってないね、子供のころから。	Yes, I only saw a couple of times since my childhood.	
M	子供の、あーあれはフクオカで。	In your childhood, ah, in Fukuoka.	
P	うん	Yes.	
F	わりとき、おっきくなってからさー、うちに来てくれたよね、一回。なんか、一回、中学生かそんな	As she grew up, she came once to see us, once, as schoolgirl or so.	
P	うん、なんかそんな	Yes, something like that.	
M	ここに？	Here?	
F	うん。わたし何かそれ覚えてる。	Yes. I remember.	
M	おばあちゃんいたとき？	When the grandmother was still there?	
F	どうだったかな。	I'm not sure.	
P	んー、だったと思ったけどね。	Mm, yes, maybe.	

it is a fact that, while our ear is no different from a chimpanzee's ear, our vocal tract has dramatically altered. How can information be so important for the one who *gives* it? Why did we evolve not so much to exploit information but to provide information? The Darwinian puzzle about language reads: 'Why give away valuable information to competitors for free?'

A consistent answer to this puzzle can be found within the framework of the Costly Signal Theory (CST) (Gintis, Smith & Bowles, 2001; Zahavi & Zahavi, 1997). The basic idea of CST is that signals can be sent, even if they are costly, if they advertise a quality and if showing off that quality makes a difference for the signaller. In the social version of CST (Dessalles, 1999; Gintis, Smith & Bowles, 2001), any quality that is sought after in the establishment of social bonds will be advertised.

If we apply CST to language, the question is: What kind of social quality is advertised by those who share dissonance with their conspecifics? And how is this quality unique to humans? I have proposed a hypothesis that answers these two questions (Dessalles, 2008a). It is a fact that, at some point in our phylogeny, individuals started to use stones, sticks or weapons to kill at no risk (something chimpanzees do not do). This new behaviour

dramatically transformed hominin politics (Bingham, 2001; Boehm, 2000: 177; Woodburn, 1982). If anyone can kill anyone at no risk, e.g. during sleep, to be on one's guard is not enough. Individuals must rely on friends' alertness. In this context, ideal friends are those who are best able to anticipate danger. Therefore, individuals prefer to join those who are able to signal unexpected situations. Sharing unexpectedness would have emerged as a way to advertise alertness. Individuals take any opportunity to produce unexpectedness in others' minds, just to demonstrate this ability. In this game, the losers are those who fail to mention unexpected situations. They are more likely to end up alone, an unenviable fate in a hominin context.

The emergence of the argumentative behaviour obeys a slightly different logic and is likely to have occurred in the latest stages of our phylogeny (Dessalles, 2009). Our sensitivity to contradictions and our unique propensity to make them public make perfect sense as an anti-liar device. By noticing incompatibilities, our ancestors could deter exaggeration and falsity in event reports. Argumentation subsequently emerged as an oscillation between the expression of inconsistency and attempts to restore consistency. In the particular context of hominin politics, consistency processing became an asset. Rational individuals were attractive as friends, not only to avoid being fooled by liars but also to explain away irrelevant abnormalities in the social or physical environment. As a consequence, human beings take every opportunity to advertise their ability to spot inconsistency or, conversely, to restore consistency.

This scenario (see Dessalles, 2009 for details) has two important advantages: it is Darwin-compatible and it explains why human beings have this unique habit of sharing dissonance, be it unexpectedness or contradiction.

## Conclusion

Human beings, by sharing dissonance, send a *signal* to demonstrate a quality that is sought after in the formation of social networks. By sharing unexpectedness, as in conversational narratives, they demonstrate their alertness. During conversational discussions, they share contradictions between beliefs, observations and desires. In both cases, cognitive dissonance between two states of the mind is what makes conversation interesting and, beyond that, acceptable to both parties. In other words, individuals must disrupt each other's cognitive state to be able to establish and maintain communication.

Indeed, sharing cognitive dissonance is only possible if participants develop an accurate model of each other's beliefs and values. This condition creates a bifurcation point between two diverging paths. Below a certain threshold, mutual understanding is insufficient for cognitive dissonance to be shared; communication collapses; and aggressiveness grows. Above that threshold, a positive feedback is possible between dissonance sharing and mutual understanding. It is thus crucial to promote conditions in which people from different cultures or who belong to different segments of society can interact the way individuals interact in casual conversation. In friendly interactions, individuals spontaneously make every attempt to surprise others by showing that their cognitive expectations are contradicted. This is how human beings establish and maintain social bonds. Natural human conversation may constitute one of the main sources of inspiration for anyone who wants to promote harmony within the human species.

## Funding

This research has been supported by the Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA, TUFS, Tokyo).

## Acknowledgements

I am grateful to the Institute for the Study of Languages and Cultures of Asia and Africa (ILCAA), at the Tokyo University of Foreign Studies, for offering me the possibility to investigate cultural universals and differences. I am especially grateful to Professor Hideaki Nakatani for offering me the opportunity to join his efforts in constituting a generalized science of humanity. My study of Japanese conversation was made possible thanks to a most fruitful collaboration with Junko Tsunekawa and Erina Saita.

## References

- Bingham PM (2001) Human evolution and human history: A complete theory. *Evolutionary Anthropology* 9(6): 248–257.
- Boehm CH (2000) *Hierarchy in the Forest: The Evolution of Egalitarian Behavior*. Cambridge, MA: Harvard University Press.
- Bruner J (1986) *Actual Minds, Possible Worlds*. Cambridge, MA: Harvard University Press.
- Dessalles J-L (1999) Coalition factor in the evolution of non-kin altruism. In: *Advances in Complex Systems* 2(2): 143–72. Available at: [http://www.dessalles.fr/papiers/pap.evol/Dessalles\\_99091402.pdf](http://www.dessalles.fr/papiers/pap.evol/Dessalles_99091402.pdf).
- Dessalles J-L (2008a) *La Pertinence et Ses Origines Cognitives – Nouvelles théories*. Paris: Hermes-Science Publications. Available at: <http://pertinence.dessalles.fr>.
- Dessalles J-L (2008b) Spontaneous narrative behaviour in Homo Sapiens: How does it benefit speakers? In: Smith ADM, Smith K, and Ferrer i Cancho R (eds) *The Evolution of Language – Proceedings of the 7th International Conference (Evolang7 – Barcelona)*. Singapore: World Scientific, 91–98. Available at: [http://www.dessalles.fr/papiers/pap.evol/Dessalles\\_07091501.pdf](http://www.dessalles.fr/papiers/pap.evol/Dessalles_07091501.pdf).
- Dessalles J-L (2009) *Why We Talk – The Evolutionary Origins of Language*. Oxford: Oxford University Press. (2<sup>nd</sup> edn) Available at: <http://www.dessalles.fr/WWT/>.
- Dessalles J-L (2010) Emotion in good luck and bad luck: Predictions from simplicity theory. In: Ohlsson S, Catrambone R (eds) *Proceedings of the 32nd Annual Conference of the Cognitive Science Society*, 1928–1933. Austin, TX: Cognitive Science Society.
- Dunbar RIM (1996) *Grooming, Gossip, and the Evolution of Language*. Cambridge, MA: Harvard University Press.
- Eggs S, Slade D (1997) *Analysing Casual Conversation*. London: Equinox.
- Festinger L (1957) *A Theory of Cognitive Dissonance*. Stanford, CA: Stanford University Press.
- Gintis H, Smith EA, and Bowles S (2001) Costly signaling and cooperation. *Journal of Theoretical Biology* 213: 103–119. Available at: <http://faculty.washington.edu/easmith/JTB2001.pdf>.
- Kundera M (1999 [1978]) *Le Livre du Rire et de l'Oubli*. Paris: Gallimard.
- Mehl MR, Pennebaker JW (2003) The sounds of social life: A psychometric analysis of students' daily social environments and natural conversations. *Journal of Personality and Social Psychology* 84(4): 857–870.
- Mehl MR, Vazire S, Ramírez-Esparza N, Slatcher RB, and Pennebaker JW (2007) Are women really more talkative than men? *Science* 317: 82.
- Pinker S (1994 [1995]) *The Language Instinct*. New York: Harper Perennial.
- Rimé B (2005) *Le Partage Social des Emotions*. Paris: Presses Universitaires de France.
- Rimé B, Finkenauer C, Luminet O, Zech E, and Philippot P (1998) Social sharing of emotions – new evidence and new questions. *European Review of Social Psychology* 9: 145–189.

- Ritt N (2004) *Selfish Sounds and Linguistic Evolution – A Darwinian Approach to Language Change*. Cambridge: Cambridge University Press.
- Sacks H (1992) *Lectures on Conversation*, vol. 2. Oxford: Blackwell.
- Tannen D (1984) *Conversational Style – Analyzing Talk among Friends*. Norwood, MA: Ablex Publishing Corporation.
- Woodburn J (1982) Egalitarian societies. *Man* 17: 431–451.
- Zahavi A, Zahavi A (1997) *The Handicap Principle*. New York: Oxford University Press.

### **Author biography**

Jean-louis Dessalles teaches and does research in Cognitive Sciences at Telecom ParisTech. His present work involves modeling relevance in spontaneous communication and the *raison d'être* for requiring argumentative relevance.