The evolutionary social psychology of off-record indirect speech acts

STEVEN PINKER

Abstract

This paper proposes a new analysis of indirect speech in the framework of game theory, social psychology, and evolutionary psychology. It builds on the theory of Grice, which tries to ground indirect speech in pure rationality (the demands of efficient communication between two cooperating agents) and on the Politeness Theory of Brown and Levinson, who proposed that people cooperate not just in exchanging data but in saving face (both the speaker's and the hearer's). I suggest that these theories need to be supplemented because they assume that people in conversation always cooperate. A reflection on how a pair of talkers may have goals that conflict *as well as coincide requires an examination of the game-theoretic logic of plausible denial, both in legal contexts, where people's words may be held against them, and in everyday life, where the sanctions are social rather than judicial. This in turn requires a theory of the distinct kinds of relationships that make up human social life, a consideration of a new role for common knowledge in the use of indirect speech, and ultimately the paradox of rational ignorance, where we choose not to know something relevant to our interests.*

1. The evolutionary social psychology of off-record indirect speech acts

Indirect speech is the phenomenon in which a speaker says something he doesn't literally mean, knowing that the hearer will interpret it as he intended:

> Would you like to come up and see my etchings? [a sexual come-on].
> If you could pass the salt, that would be great [a polite request].
> Nice house you got there. Would be a real shame if something happened to it [a threat].

> We're counting on you to show leadership in our Campaign for the Future [a solicitation of a donation].
> Gee, officer, I was wondering whether there might be some way we could take care of the ticket here [a bribe].

These ''off-record indirect speech acts'' have long been a major topic in pragmatics, and they have considerable practical importance as well, including an understanding rhetoric, negotiation and diplomacy, and the prosecution of extortion, bribery, and sexual harassment. They also pose important questions about our nature as social beings. This paper, adapted from a book which uses semantics and pragmatics as a window into human nature (Pinker 2007), uses indirect speech as a window into human social relationships. In doing so it seeks to augments the current understanding of indirect speech with ideas from game theory, evolutionary psychology, and social psychology.

Intuitively, the explanation for indirect speech seems obvious: we use it to escape embarrassment, avoid awkwardness, save face, or reduce social tension. But as with many aspects of the mind, the danger with common-sense explanations is that we are trying to explain a puzzle by appealing to intuitions that themselves need an explanation. In this case, we need to know what ''face'' is, and why we have emotions like embarrassment, tension, and shame that trade in it. Ideally, those enigmas will be explained in terms of the inherent problems faced by social agents who exchange information.

2.   Background: Conversational maxims and the theory of politeness

Any analysis of indirect speech must begin with Grice's Cooperative Principle and the theory of conversational maxims and conversational implicature that flows from it (Grice 1975). Grice proposed that conversation has a rationality of its own, rooted in the needs of partners to cooperate to get their messages across. Speakers tacitly adhere to a Cooperative Principle, tailoring their utterances to the momentary purpose and direction of the conversation. That requires monitoring the knowledge and expectations of one's interlocutor and anticipating her reaction to one's words. (Keeping with convention, I will refer to the generic speaker as a ''he'' and the generic hearer as a ''she.'') Grice famously fleshed out the principle in his four conversational ''maxims,'' quantity (say no more or less than is required), quality (be truthful), manner (be clear and orderly), and relevance (be relevant), which are commandments that people tacitly follow to further the conversation efficiently. Indirect speech may be

explained by the way the maxims are observed in the breach. Speakers often flout them, counting on their listeners to interpret their intent in a way that would make it consistent with the Cooperative Principle after all. That's why, Grice noted, we would interpret a review that described a singer as "producing a series of notes" as negative rather than factual. The reviewer intentionally violated the maxim of Manner (he was not succinct); readers assume he was providing the kind of information they seek in a review; the readers conclude that the reviewer was implicating that the performance was substandard. Grice called this line of reasoning a conversational implicature.

Grice came to conversation from the bloodless world of logic and said little about *why* people bother to implicate their meanings rather than just blurting them out. We discover the answer when we remember that people are not just in the business of downloading information into each other's heads but are social animals concerned with the impressions they make. An implicature involves two meanings: the literal content (sometimes called the sentence meaning) and the intended message (sometimes called the speaker meaning). The literal sentence meaning must be doing some work or the speaker would not bother to use it in the first place. In many implicatures involved in off-record indirect speech acts, the intended message is negative but the literal content is positive or neutral. Perhaps speakers are trying to eat their cake and have it too—they want to impugn something they dislike while staving off the impression that they are whiners or malcontents. Dews, Kaplan, and Winner (1995) showed that people have a better impression of speakers who express a criticism with sarcasm ("What a great game you just played!") than with direct language ("What a lousy game you just played!"). The sarcastic speakers, compared with the blunt ones, are seen as less angry, less critical, and more in control.

The double message conveyed with an implicature is nowhere put to greater use than in the commonest kind of indirect speech, politeness. In their seminal work *Politeness: Some Universals in Language Use*, Brown and Levinson (1987b) extended Grice's theory by showing how people in many (perhaps all) cultures use politeness to lubricate their social interactions.

Politeness Theory begins with Goffman's (1967) observation that when people interact they constantly worry about maintaining a commodity called "face" (from the idiom "to save face"). Goffman defined face as a positive social value that a person claims for himself. Brown and Levinson divide it into positive face, the desire to be approved (specifically, that other people want for you what you want for yourself), and negative face, the desire to be unimpeded or autonomous. The terminology

points to a fundamental duality in social life which goes by many names: solidarity and status, connection and autonomy, communion and agency, intimacy and power, communal sharing and authority ranking (Fiske 1992, 2004; Haslam 2004; Holtgraves 2002). Later we will see how these wants come from two of the three major social relations in human life.

Brown and Levinson argue that Grice's Cooperative Principle applies to the maintenance of face as well as to the communication of data. Conversationalists work together, each trying to maintain his own face and the face of his partner. The challenge is that most kinds of speech pose at least some threat to the face of the hearer. The mere act of initiating a conversation imposes a demand on the hearer's time and attention. Issuing an imperative challenges her status and autonomy. Making a request puts her in the position where she might have to refuse, earning her a reputation as stingy or selfish. Telling something to someone implies that she was ignorant of the fact in the first place. And then there are criticisms, boasts, interruptions, outbursts, the telling of bad news, and the broaching of divisive topics, all of which can injure the hearer's face directly.

At the same time, people have to get on with the business of life, and in doing so they have to convey requests and news and complaints. The solution is to make amends with politeness: the speaker sugarcoats his utterances with niceties that reaffirm his concern for the hearer or that acknowledge her autonomy. Brown and Levinson call the stratagems positive and negative politeness, though better terms are sympathy and deference.

The essence of politeness-as-sympathy is to simulate a degree of closeness by pretending to want what the hearer wants for herself. Two familiar examples are the impotent bidding of good fortune (*Be well*, *Have a nice day*) and the feigned inquiry into the person's well-being (*How are you?*, *How's it going?*). One step beyond the ''fictitious benevolence'' of politeness is fictitious solidarity. Speakers may address their hearers with bogus terms of endearment like *my friend*, *mate*, *buddy*, *pal*, *honey*, *dear*, *brother*, and *fellas*; use slang connected to an in-group, as in *Lend me two bucks*; or may include the listener in their plans, as in *Let's have another beer*.

Politeness-as-deference (negative politeness) is invoked most of all with commands and requests, which are among the most face-threatening speech acts because they challenge the hearer's autonomy by assuming her readiness to comply. The speaker is ordering the hearer around, or at least putting her out, something you don't do to a stranger or a superior and might even think twice about doing with an intimate. So requests

are often accompanied by various forms of groveling, such as questioning rather than commanding (e.g., *Will you lend me your car?*), expressing pessimism (*I don't suppose you might close the window*), and acknowledging a debt (*I'd be eternally grateful if you would . . .*).

Politeness, according to Brown and Levinson, is calibrated to the level of the threat to the hearer's face. The threat level in turn depends on the size of the imposition, the social distance from the hearer (the lack of intimacy or solidarity), and the power gap between them. People kiss up more obsequiously when they are asking for a bigger favor, when the hearer is a stranger, and when the hearer has more status or power. A fully loaded request like "I'm terribly sorry to trouble you, and I wouldn't ask unless I were desperate, but I'd be eternally grateful if you think you could possibly . . ." would sound smarmy if it were used to ask a stranger for a small favor like the time, or if it were used to ask a bigger favor (like the use of a computer) of a spouse or an assistant.

Indirect speech acts, according to the theory, are even higher up the politeness scale than deferential (negative) politeness. In these speech acts, a request is not stated baldly but conveyed with the help of an implicature. The result is a "whimperative" like *Can you pass the salt?* or *If you could pass the salt, that would be great*. Taken literally, the first example violates the maxim of Relevance, because the answer to the question is already known. The second one violates the maxim of Quality, because the consequent of the conditional is an overstatement. So the hearer interprets them as requests, while noting from the literal wording that the speaker was seeking to avoid the appearance of treating her like a flunky.

Because a clichéd indirect request is recognized *as* a request by any competent English speaker, it is effectively "on the record." A speaker who says *Can you pass the salt?* in ordinary dinnertime circumstances cannot plausibly deny that he has asked for something. But according to Brown and Levinson, if an indirect speech act is freshly minted rather than pulled off the shelf, its effect on the hearer is different. The request is now "off the record." When a speaker thinks up a novel indirect request, like *The chowder is pretty bland* or *They never seem to have enough salt shakers at this restaurant*, the hearer can ignore the comment without publicly rebuffing the request. For this reason, Brown and Levinson argue that off-record indirect speech acts coined for the occasion—hints, understatements, idle generalizations, and rhetorical questions—are the politest forms of all. A speaker can say *It's too dark to read* as a way to ask a hearer to turn on the lights, or *The lawn has got to be mowed* instead of "Mow the lawn." According to politeness theory, then, with off-record indirect speech the hearer is implicitly given the opportunity to ignore the request without a public refusal, which also means that if she *complies*

with the request, it's not because she's taking orders. According to Brown and Levinson, this saves face for both of them, especially the hearer with her desire for autonomy.

3.   Beyond cooperation

Politeness Theory has been tested in many experiments (see Brown & Levinson 1987a; Clark & Schunk 1980; Fraser 1990; Holtgraves 2002), and many of its claims have been confirmed. The use of the proposed politeness strategies indeed makes a request sound more polite; indirect requests sound more polite than direct ones; and the degree of imposition matters, as does the relative power of the speaker and the hearer.

But according to several literature reviews, one claim has not come out as well. Brown and Levinson claimed that face threat was a single scale, the result of adding up the power disparity, the social distance, and the degree of imposition. They claimed that the three kinds of politeness were arranged along a scale, too. Sympathy expresses a little bit of politeness, and is suitable for smaller face threats. Deference expresses more, and is suitable for bigger ones. And off-record indirect speech acts (ones coined for the occasion) express the most politeness, and are suitable for the biggest threats.

In both cases, Brown and Levinson may have collapsed qualitatively different dimensions onto a single scale. Rather than having a single face-threat meter in their heads, and a single politeness meter that tracks it, people tend to target certain *kinds* of face threat with certain *kinds* of politeness (Holtgraves 2002). For instance, to criticize a friend (which threatens solidarity), people tend to emphasize sympathetic politeness (''Hey, let's go over this paper and see if we can bring it up to your usual standards''). But to ask a big favor (which threatens power), people tend to emphasize deferential politeness, as in the cringing request to borrow someone's computer (''I'm terribly sorry to bother you ...'').

Also, off-record indirect speech—the topic of this paper—didn't fit into the scale at all. Politeness Theory deemed it the politest strategy of all, but people said it was far *less* polite than deferential politeness (Holtgraves, 2002). In fact, in some cases it can be downright rude, like *Didn't I tell you yesterday to pick up your room?* or *Shouldn't you tell me who is coming to the party?* One reason is that if the hearer's competence and willingness are questioned too blatantly, it suggests that she is inept or uncooperative. Another is that an indirect request can make the speaker sound devious and manipulative, and force the listener to do a lot of mental spadework to figure out what he was trying to say.

The fact that indirect speech acts are not so considerate to the hearer after all brings up another problem. The examples with which we began—veiled threats, oblique bribes, sexual come-ons—are hardly examples of a speaker being *polite*. A merchant listening to an advisory from the local racketeer on the many accidents that can befall a store surely doesn't see it that way. And the cop with his ticket book, or the woman at the elevator door, sensing the indecent proposal in the innocent question, could be forgiven for thinking that the propositioner was looking out for his interests, not theirs (though as we shall see, there can be complicity in those cases as well).

A final problem for Politeness Theory is the built-in dilemma in its treatment of off-record requests. If an implicature is too much of a treasure hunt, the speaker will have missed an opportunity. The hearer might have been perfectly happy to comply with his request, if only she knew he was making one! (In an episode of *Seinfeld*, George Costanza turned down his date's invitation to come up to her apartment for coffee, realizing too late that, in his words, " 'Coffee' doesn't mean coffee . . . . 'Coffee' means *sex*!"). On the other hand, if the implicature is so easy that the hearer can figure it out without fail, then it should be obvious enough for any other intelligent person to figure out, too, so it's not clear why the request should be perceived as being "off the record." Who could claim to be fooled by the line about the etchings, or about settling the ticket right then and there?

The Cooperative Principle and Politeness Theory are a good start, but they are incomplete. Like many good-of-the-group theories in social science, they assume that the speaker and the hearer are working in perfect harmony (Pinker 2002). We need to understand what happens when the interests of a speaker and a hearer are partly in conflict, as they so often are in real life. And we need to distinguish the *kinds* of relationships people have, and how each is negotiated and maintained, rather than stringing all forms of face threat into a single scale, and doing the same with all forms of face saving. Finally, we need a deeper analysis of the enigmatic commodity called "face," and how it depends on the equally elusive "record" such that requests can be "on" it or "off" it.

4.   Plausible deniability as a strategy of conflict

To get some purchase on nebulous concepts like "providing an out," "plausible deniability," and "on the record," let's begin with a scenario in which their meanings are clear-cut. Consider a perfect Gricean speaker who says exactly what he means when he says anything at all. Maxim

Man is pulled over for running a red light and is pondering whether to bribe the officer. Since he obeys the maxims of conversation more assiduously than he obeys the laws of traffic or the laws of bribery, the only way he can bribe the officer is by saying, "If you let me go without a ticket, I'll pay you fifty dollars."

Unfortunately, he doesn't know whether the officer is dishonest and will accept the bribe or is honest and will arrest him for attempting to bribe an officer. Any scenario like this in which the best course of action depends on the choices of another actor is in the province of game theory. In game theory, the conundrum where one actor does not know the values of the other has been explored by Thomas Schelling (1960: 139–142), who calls it the Identification Problem. The payoffs can be summarized like this, where the rows represent the driver's choices, the columns represent the different kinds of officer he might be facing, and the contents of the squares represent what will happen to the driver:

	Dishonest officer	Honest officer
Don't bribe	Traffic ticket	Traffic ticket
Bribe	Go free	Arrest for bribery

The allure of each choice (row) is determined by the sum of the payoffs of the two cells in that row weighted by their probabilities. If the driver doesn't try to bribe the officer (first row), then it doesn't matter how honest the officer is; either way the driver gets a ticket. But if he does offer the bribe (second row), the stakes are much higher either way. If Maxim Man is lucky and is facing a dishonest cop, the cop will accept the bribe and send him on his way without a ticket. But if he is unlucky and is facing an honest cop, he will be handcuffed, read his rights, and arrested for bribery. The rational choice between bribing and not bribing will depend on the size of the traffic fine, the proportion of bad and good cops on the roads, and the penalties for bribery, but neither choice is appealing.

But now consider a different driver, Implicature Man, who knows how to implicate an ambiguous bribe, as in "So maybe the best thing would be to take care of it here." Suppose he knows that the officer can work through the implicature and recognize it as an intended bribe, and he also knows that the officer knows that he couldn't make a bribery charge stick in court because the ambiguous wording would prevent a prosecutor from proving his guilt beyond a reasonable doubt. Implicature Man now has a third option:

	Dishonest officer	Honest officer
Don't bribe	Traffic ticket	Traffic ticket
Bribe	Go free	Arrest for bribery
Implicated bribe	Go free	Traffic ticket

The payoffs in this new, third row combine the very big advantage of bribing a dishonest cop with the relatively small penalty of failing to bribe an honest one. We have explained the evolution of Implicature Man.

Well, almost. We also have to take the point of view of an honest officer and the legal system he serves. Why wouldn't an honest officer arrest anyone who offered a veiled bribe? If it's obvious to him, it might be obvious to a jury, so he has a chance of putting a bad guy behind bars. To explain why the officer wouldn't arrest people at the hint of a bribe, making implicature as dangerous as naked bribery, we must assume two things, both reasonable. One is that even if all dishonest drivers offer remarks that can be interpreted (correctly) as implicated bribes, some honest drivers make those remarks too, as innocent observations. So any arrest might be a false arrest. The second assumption is that an unsuccessful arrest is costly, exposing the officer to a charge of false arrest and the police department to punitive damages. Then the *officer's* decision matrix would look like this:

	Dishonest driver	Honest driver
Don't arrest	Traffic ticket	Traffic ticket
Arrest	Successful Conviction	False arrest

(Of course from his point of view a traffic ticket is a good thing, not a bad thing.) The appeal of arresting the driver will depend on the values of the outcomes in the four cells and on their probabilities. And those probabilities will depend on the proportion of dishonest and honest drivers who utter the ambiguous remark, that is, on the ratio of the numbers of events in the left and right columns. If the remark sounds close enough to an innocuous remark that plenty of honest drivers might make it (or, at least, enough of them so that a jury could not convict the speaker for those words beyond a reasonable doubt), then the odds of a successful

conviction go down, the odds of a false arrest go up, and the appeal of the "Arrest" row would be lowered. And that is how Implicature Man can force the officer's hand. He can craft his remark so that a dishonest officer will detect it as an implicated bribe, but an honest officer can't be sure (or at least can't take the chance) that it is one.

A crucial aspect of this analysis is that indirect speech is not an example of pure cooperation. Implicature Man is manipulating an honest officer's choices to his own advantage and to the officer's disadvantage. Though not fully consistent with the Cooperative Principle, it *is* consistent with the theory by biologists such as Dawkins and Krebs (1978) that communication in the animal kingdom can often be a form of manipulation, not just information-sharing.

5.   Plausible deniability in non-legal contexts

A veiled bribe to a police officer is an example in which a person's words are on the record and the stakes are tangible, such as traffic ticket or an arrest for bribery. What about everyday life, where offers and requests can be tendered without fear of legal penalties? In the give-and-take of ordinary conversation one might think that we are free to speak our minds, without worrying that the way a hearer parses our words could land us in jail. But in fact when it comes to everyday bribes, threats, and offers, our own emotions make us watch our words as carefully as if we were in legal jeopardy, and we all turn into Implicature Man.

When would a law-abiding citizen be tempted to offer a bribe? Here is a real-life example. You want to go to the hottest restaurant in town. You have no reservation. Why not offer fifty dollars to the maitre d' if he will seat you immediately? This was the assignment given to the writer Bruce Feiler by *Gourmet* magazine (Feiler 2000). The results are eye-opening for any linguist or psychologist interested in the social psychology of indirect speech.

The first result is predictable to most people who imagine themselves in Feiler's shoes: the assignment is terrifying. Though no one has ever been arrested for bribing a maitre d', Feiler felt like a grievous sinner:

I am nervous, truly nervous. As the taxi bounces southward through he trendier neighborhoods of Manhattan—Flatiron, the Village, SoHo—I keep imagining the possible retorts of some incensed maitre d'.
    "What kind of establishment do you think this is?"
    "How dare you insult me?"
    "You think you can get in with *that*?"

The second result is that when Feiler did screw up the courage to bribe a maitre d', he thought up an indirect speech act on the spot. He looked the maitre d' in the eye, handed him a folded twenty-dollar bill, and mumbled, "I hope you can fit us in." On subsequent assignments he implicated the bribes with similar indirectness:

I was wondering if you might have a cancellation.
Is there any way you could speed up my wait?
We were wondering if you had a table for two.
This is a really important night for me.

Note that the payoff matrix is identical in structure to the one for bribing a police officer:

	Dishonest maitre d'	Honest maitre d'
Don't bribe	Long wait	Long wait
Bribe	Instant seating	Public humiliation
Implicated bribe	Instant seating	Long wait

The third lesson is that the stratagem worked every time: Feiler was seated within two to four minutes. The restaurants were systematically hypocritical. When he called anonymously and asked about their policy on accepting money for a table, the responses ranged from "It's disgusting" to "The maitre d' will be fired if he is caught doing that." Yet in every case their palms could be greased. The logic of plausible deniability is part of the answer. The indirectness of the speech act solved the game-theoretic Identification Problem by allowing Feiler to tender a bribe without risking a social penalty. But it must have done something more, since *all* the restaurants were in fact bribable. Somehow the implicated nature of the bribe allowed *both* sides to pretend that they could deny that they had transacted a bribe, as if they thought a hidden tape recorder might be running and they could be indicted by a prosecutor in a court of restaurant etiquette.

This makes the problem particularly acute. Why would the prospect of being turned down for a bribe—or some other offer, like a sexual advance or a request for a donation—be so terrifying? And if the transaction does occur, why should keeping it "off the record" (what record?) make it easier on both parties? To answer these questions we need to leave linguistics and game theory for evolutionary social psychology, where we can seek out the roots of embarrassment and taboo.

6.   The evolutionary social psychology of relationship negotiation

What's so scary about bribing a maitre d'? The worst he can do is say no. It seems somehow unethical, but why? We pay for expedited service in parcel delivery, first-class travel, and other commercial transactions, and we tip all kinds of personnel, such as cab drivers and tour guides, for better service after the fact. But somehow we feel that a maitre d' claims a different *kind* of relationship with us, one that excludes the quid pro quo exchanges that are unexceptionable elsewhere. To attempt to transgress that boundary feels embarrassing, even immoral.

Alan Fiske (Fiske 1992, 2004) has developed a sweeping theory of human sociality which lays out the major kinds of relationships we have with one another and the thoughts, emotions, and social practices that maintain them. As in Brown and Levinson's Politeness Theory, one of the relationship types centers on solidarity and the other on power. But Fiske argues that the two have very different logics, rather than being two sides of a coin called "face." And Fiske adds a third relationship type centered on social exchange. The three relationship types are rooted in our evolutionary history, and each applies instinctively to certain kinds of human dyads. But with the use of certain channels of communication, including language, we can try to force the mindset of a given relationship type onto other dyads. These negotiations drive many cultural practices, and as we shall see, they seem to motivate the "acceptable hypocrisy" of indirect speech.

Fiske's first relationship type is called Communal Sharing, communality for short. Its underlying logic is "What's mine is thine; what's thine is mine." This is the relationship measured out as "social distance" in Politeness Theory, and it is the one safeguarded by the emotion called "positive face," the desire that other people want for you what you want for yourself. Communality arises naturally among blood relatives, for reasons that are obvious to an evolutionary biologist. In our evolutionary history, any gene that predisposed a person to be nice to a relative would have had some chance of helping a copy of *itself* inside that relative (since relatives share genes), and it and its copies would have been favored by natural selection and entrenched in the genome (Dawkins [1976] 1989). But a shared genetic inheritance is not the only tie that binds. A lifelong monogamous couple have their genetic fates merged in a single package, their children, so what is good for one is good for the other (at least if they downplay the competing ties of their blood relatives). Also, shared tastes or shared enemies can bind friends in a compact of common interest. If two roommates have similar tastes in music, one roommate will benefit the other every time she brings home a CD, so each ought to value

the other's well-being, a social analogue to the relationship that ecologists call mutualism and economists call positive externalities (Tooby & Cosmides 1996).

Communal sharing is never perfect, even among close kin and friends, and it is even harder to maintain among casual acquaintances and loose affiliates. The reason is that when there is an ethos for everyone to take what they want without encumbrance or accounting, people with looser genetic or mutualist ties to their fellows are tempted to take more than their fair share. Communality is vulnerable to greed. This is a tragedy for the group and especially for its leaders, since a one-for-all-and-all-for-one mentality would lead to a more powerful and prosperous community, if only it could be made instinctive. So people have devised mind-control techniques to implant and nurture communal thoughts in others. They include bodily contact, commensal meals, synchronized movements, communal experiences (such as hunger, fear, or drug-induced states), origin myths, and kinship metaphors (*brotherhood, fraternity, the fatherland, the mother country, the family of man*) (see Salmon 1998). Recall that one of the tools of sympathetic politeness is the use of terms of endearment, as in *Brother, can you spare a dime?* Now we see that sympathetic politeness is not so much a cooperative effort to save face as a ploy to trigger communal feelings in strangers or to reinforce them in friends and allies.

Conspicuous by its absence is the one mechanism that social and political theorists treat as the foundation of society: a social contract. Friends, families, couples, and clans don't sit down and verbally articulate the rights and responsibilities that bind them together. If they use language at all, it's to avow their solidarity in unison or close succession, as in *I love you*, *I pledge allegiance*, and *I believe with a perfect faith*. What they don't like to do is negotiate the terms of their communality (Fiske 2004: 88). The very act of delineating perquisites and obligations in words undermines the nature of the emotional fusion that allows them to share instinctively, without concern for who takes what and who gets what. Of course, when people get into conflicts they often do resort to verbal negotiation, from couples' therapy to courts of law. But it isn't the core of a communal relationship and often feels awkward and out of place.

The second relationship type is called Authority Ranking, also known as power, status, autonomy, and dominance. The logic of Authority is "Don't mess with me." Its biological roots are in the dominance hierarchies that are widespread in the animal kingdom. One organism claims the right to a contested resource based on its size, strength, seniority, or allies, and another animal cedes it to him when the outcome of a fight can be predicted in advance and both parties have a stake in not getting

bloodied in a battle whose outcome would be a foregone conclusion (Dawkins [1976] 1989; Maynard Smith 1988). In this way they sort themselves into a linear hierarchy.

Authority Ranking, like Communal Sharing, is signaled in humans not primarily through words but by co-opting perceptual faculties tailored to another domain of life. The ranking of people in a dominance hierarchy is usually symbolized as an ordering in time, space, size, or strength. Dominant individuals strut ahead of their subordinates, enter and exit first, stand taller (often on platforms and balconies), look bigger (with the help of hats, helmets, and headdresses), *are* bigger (leaders, including American presidents, tend to be taller than the runners-up), are depicted as bigger (in outsize images and statues), and have bigger offices, palaces, and monuments.

Though visible signs of the ability to prevail in a fight are the most salient advertisements of authority, they are not necessarily the qualifications that earned the authority in the first place. Dominance in humans is tied up with status: the possession of assets like talent, beauty, intelligence, skill, and wisdom. And in the end, dominance and status are social constructions that depend crucially on the perception of others and of oneself. How much authority one possesses depends on how much authority one is prepared to claim, and on how much authority others are willing to cede to you. This, I believe, is the real nature of the concept of "face" that was invoked by Brown and Levinson without a satisfying theory (though it was broached now and again by Goffman). Their "negative face," the desire not to be impeded, is a claim of dominance; their "positive face," which they sometimes defined as a desire for approval or esteem, is a claim of status. (At other times they define it as a desire for sympathy, but I suspect that's a different emotion, more closely tied to communality.)

When thought of in terms of Authority, face is not just the warm bath of self-esteem but a kind of social currency with real value. In many arenas of life, what we get depends on what we feel entitled to demand. When a buyer and a seller engage in bargaining, there is always a range of prices in which both would prefer to consummate the transaction than to walk away. For instance, a car that costs a dealer $20,000 may be worth up to $30,000 to a customer, and any price within that range leaves them both better off than if the deal falls through. Which price they settle on within that range depends on each one's resolve. The dealer will relent with a lower price if the buyer convinces him that he won't budge from it; the buyer will muster a higher price if he is convinced the seller won't budge from it (Schelling 1960). Similarly, when two people stand off over a taxi or a parking space, the victor will be the one who appears most

prepared to stand his ground, verbally or physically. In both cases, appearances matter. Each claimant will back off to the extent that he thinks the other will stand his ground, and will stand his ground to the extent that he thinks the other will back off. Of course, either can test the other's mettle through brinkmanship, but the costs to both sides—walking away from the deal, coming to blows—can be high. Bluster and self-confidence, backed up by the deference and esteem of third parties, can be a decisive weapon. This respect can be won by possessing assets that others value or by having prevailed in previous battles of will or of force. To be disarmed of these weapons through a public defeat or disrespect that all can see— to "lose face"—is painful. People naturally protect their face, and those with no desire to challenge it—such as tablemates who would like them to pass the salt but don't want to cause a scene—will use techniques of deferential politeness, including indirect speech.

The third relationship type is called Equality Matching, though more familiar terms are reciprocity, exchange, and fairness. Its logic is "If you scratch my back, I'll scratch yours," and its evolutionary basis is reciprocal altruism (Cosmides & Tooby 1992; Trivers 1971). In an Exchange relationship people divvy up resources equally, or take turns, or barter goods and services for equivalent goods and services, or trade favors in a tit-for-tat exchange. When it is used to divide up a resource among people who can't share it communally but who each have a claim on Equality Matching can avert a contest of authority and the costs to everyone of a violent scrum. It also allows people to enjoy gains in trade, in which two parties with more of some commodity than they can enjoy at one time can barter their surpluses to each other, benefiting them both.

Fiske suggests that the psychological implementation of Exchange is a concrete operation: a behavioral algorithm that ensures that the players put in an equal effort and take out an equal benefit. They flip a coin, draw straws, line things up in rows, or weigh them in balances. But Exchange is a realm in which literal language comes into its own. "If you do this, then I'll do that" is a convenient way of trading intangible goods and services, or tangible ones that are given and taken at different times. Language is also the channel with which we spread information about a person's trustworthiness, through the phenomenon called gossip.[1]

Though Communality, Authority, and Exchange are universal modes in which people conceive of their relationships, cultures differ in which relationship type may be applied to which resource for which kind of dyad in which context. In Western cultures we buy, sell, and trade our land (Exchange), but don't do so with women betrothed as brides; in other cultures it's the other way around. A boss in a corporation can control an employee's salary and office space (Authority), but may not help himself

to his possessions or his wife, though these *droits de seigneur* were the perquisites of many kings and despots in other times and places. A guest at an American dinner party (Communality) should not pull out his wallet at the end of the evening to pay his hosts for the meal, nor should he reciprocate with a conspicuous invitation for dinner the very next night. But in many cultures such reciprocity is calculated openly.

When a person in a particular culture misjudges which relationship type applies to a given situation, emotions can run high. We are, after all, dealing with the culture's approved way of distributing resources and power. Helping yourself to a goody can be a prerogative in the context of one relationship type but grand larceny in another. Ordering someone around can be a requirement of your job in one setting but a case of extortion in another.

Sometimes the mismatch is a one-time event, the result of a misunderstanding, the testing of a new relationship, or a unique exigency. This triggers the emotion we call "awkwardness" and the events called "gaffes" or "faux pas." The awkward person is now self-conscious, acutely attentive to the details of the situation (especially other people's reactions to his demeanor and actions), and paralyzed in word and deed until a repair strategy is hatched. Just about any relationship mismatch can trigger a sense of awkwardness. It's widely appreciated that good friends (Communality) should not undertake a large financial transaction between them (Exchange), like selling a car or a house; it can endanger the friendship. There can be touchy moments when a supervisor (Authority) eases into friendship with an employee or a student (Communality). When the Authority relationship threatens to morph into a sexual one, the result can be not just awkwardness but a sexual harassment suit. Sexuality, for its part, is a special kind of communal relationship, which may clash with other kinds of communality such as friendship, creating another trigger for social tension.

And now we can return to off-record indirect speech acts in everyday life. Take the food writer, sweating and trembling as he proffers the maitre d' a bribe. If he was facing an honest maitre d', he'd have been creating a mismatch between Authority (the usual relationship over customers claimed by a maitre d') and Exchange (the terms Feiler was trying to offer). No wonder Feiler felt awkward, if not immoral; his trepidation is directly predicted by Fiske's Relational Models theory. Feiler was saved by an implicature. The literal content (*I was wondering if you had a cancellation*) was consistent with the Authority relationship, but the implicated content ("I'll give you fifty dollars for a quick table") conveyed the desired exchange. An honest maitre d' could not be offended, and a dishonest one could accept the bribe.

7.   The logic of not-so-plausible denial

One problem remains unsolved: the psychological import of whether an overture is "on" or "off" the record in everyday conversation. The puzzle arises in cases in which two things are true. First, the Identification Problem has been solved and each party knows the other's intentions. Second, the implicature is so obvious as to leave no doubt in the hearer's mind as to what was intended. The etchings, the restaurant cancellation, the leadership, the possibility of accidents, and so on, are transparent ruses, so any "plausible deniability" is not, in reality, plausible. In a courtroom, the standard of proving guilt beyond a reasonable doubt can explain why even a scintilla of deniability can get someone off the hook. But why should we act like defense lawyers in everyday life? Why would it have been worse for the maitre d' who has accepted a bribe if the customer had stated the bargain in so many words? Why is a rebuffed sexual overture more uncomfortable when it was put forth as a bald proposition than if it had been conveyed by unmistakable innuendo or body language? To take a concrete example from fiction, consider the scene from the eponymous movie in which Harry, having met Sally just hours before, has miscalibrated the optimal level of indirectness in a remark about her looks, and Sally accuses him of coming on to her.

> HARRY: What? Can't a man say a woman is attractive without it being a come-on? All right, all right. Let's just say, just for the sake of argument, that it was a come-on. What do you want me to do about it? I take it back, OK? I take it back.
> SALLY: You can't take it back.
> HARRY: Why not?
> SALLY: Because it's already out there.
> HARRY: Oh jeez. What are we supposed to do? Call the cops? It's already out there!

What exactly is this concept of a proposition being "out there," such that you "can't take it back"? As Harry points out, it's not as if you can call the cops.

Though many features of implicature may recruit general processes of rational inference, at the end of the day we are faced with something in the minds of people that is specific to language itself. Expressing a sentiment in a sentence—baldly, on record, in so many words—makes a difference. Why do people feel that indirect speech lets them get away with a relationship-threatening proposition in a way that plain speech would not? Here are some hypotheses.

The token bow. By couching a proposition as an indirect speech act, the speaker signals to the hearer that he is making an effort to spare her

dignity, feelings, or face (Brown & Levinson 1987b; Clark 1996; Isaacs & Clark 1990). The mere perception that the speaker has gone to this effort makes the hearer appreciative of his considerateness, and feelings are eased all around. A bald proposition, by its very efficiency, signals that the speaker has put no effort into soothing the hearer's feelings.

Don't talk; show me. A relationship of communality is not negotiated with language but is consecrated by physical signs of communion such as rituals, feasts, and bodily contact (Fiske 2004). The very act of trying to articulate a relationship in words is a signal that it cannot be a communal one, because communal relationships are felt in the marrow, not decided upon rationally. The same is true for authority relationships, which are projected nonverbally by signs of size, strength, and priority.

The virtual audience. The speaker and the hearer may have no doubt about the intent of an indirect speech act because they know the backstory and can witness each other's bearing and mannerisms. But an eavesdropper or a third party, learning about the event from a distance, lacks this information, and has only the actual words to go on. Of course, overhearers are also capable of reading implicatures, but their level of certainty is far less than that of the speaker and the hearer, and the deniability may be plausible to them, even if it isn't to the participants. Compare the effects of a bald proposition. Not only is it more transparent to an earwitness, but it can be conveyed more accurately in a chain of gossip. That is because language is a digital medium and digital messages can be transmitted without loss. Of course language, even at its most precise, is rife with vagueness, and people's memory for the wording of a sentence is very far from perfect. Still, the content of a sentence is more reproducible than the analogue information in a speaker's tone of voice or how close two people were sitting. According to this line of thought, we always play to an imagined audience (Goffman 1959, 1967), if only to manage any information that might leak out to an eavesdropper or a gossip.

Certainty as a focal point. The legal policy of convicting a person only if the evidence establishes his guilt beyond a reasonable doubt may have a counterpart in everyday life. Relationship types are discrete and very different modes of interaction, and for a dyad to switch from one to another is no small matter. Since it takes two to maintain a relationship type, people must jointly recognize a policy about when to switch. The threshold can't be openly negotiated any more than the relationship itself can be negotiated, and so it has to evolve as an unstated compact. Exactly how close can a man sit to a woman, how lavishly can he compliment her, how slim a pretext for inviting her to his apartment can he offer, before she concludes that his intentions are sexual? Her private wariness can

track the cues in an analogue fashion, but her relationship with him must be fish or fowl. She might have to tolerate a considerable amount of suggestiveness before calling things to a halt, because there are costs to switching the relationship and it's hard to know where to draw the line. A bald proposition certainly falls on the other side, and the difference between it and the continuum of innuendo may be the only clear place to draw that line. The plausibility of the denial may be very small—one percent, or one tenth of one percent—but as long as it isn't absolutely zero (as it would be for a bald proposition), she may not be able to call him on it.

This is an example of the Coordination Game, another scenario explored by Schelling (1960). A couple gets separated in a department store, and each has to guess where to meet the other. Or two paratroopers are dropped into a foreign territory, equipped only with maps, and have to rendezvous without communicating. Each has to anticipate where the other will anticipate that he will anticipate that the other will anticipate that he will turn up, ad infinitum. In a Coordination Game any focal point that stands out to the two players can emerge as a solution, even if nothing makes it intrinsically suitable for the job other than standing out to them. The couple may meet at the Information Desk, and the paratroopers might meet at the only tree in a desert, or the intersection between two rivers, even if that focal point was a long hike from where either one was dropped, simply because it is the only place that can be singled out in the featureless landscape. Schelling (1960: 67) notes that this is why two negotiators often split the difference between their opening positions, or settle on a round number: "The salesman who works out the arithmetic for his 'rock-bottom' price on the automobile at \$2,507.63 is fairly pleading to be relieved of \$7.63."

Mutual knowledge. Say a woman has just declined a man's invitation to see his etchings. She knows—or at least is highly confident—that she has turned down an invitation for sex. And he knows that she has turned down the invitation. But does he know that she knows that he knows? And does she know that he knows that she knows? A small uncertainly within one's own mind can translate into a much bigger uncertainty when someone else is trying to read it. After all, the woman may privately base her confidence that he made a sexual overture on her social astuteness, her knowledge of the opposite sex, and her due diligence on this man's behavior from gossip with women who have dated him in the past. But all *he* has to go on is what a generic person might infer in the circumstances he has created. Similarly, while he is wise enough to know that her *no* means "no," she can't be sure that he isn't a naïf who is hoping that maybe she didn't get the point. A denial of the sexual intent may

not be plausible, but a denial that the *other party* knew about the sexual intent may be. Compare this with what happens when the man makes an overt proposition and the woman rebuffs it. The lid is blown off this higher-order uncertainty. Not only does each party know that she has turned him down, but each one knows that the other knows.

This is the state of affairs variously known in linguistics, philosophy, and economics as mutual knowledge, joint knowledge, common knowledge, and common ground (Clark & Brennan 1991; Clark & Marshall 1991; Lewis 1969; Schelling 1960; Schiffer 1972; Smith 1982). Beginning with Grice, many theorists have assumed that mutual knowledge of the rules of a language, of the background beliefs in a culture, and of human rationality is necessary for successful communication to take place, especially via implicature. But mutual knowledge may play another role in language as well. It's possible that mutual knowledge of a specific request or offer is a prerequisite to two people being forced to change their relationship type, and mere individual knowledge (two people knowing the same thing, but neither knowing whether the other knows it) is not. If you know that I've asked you for sex and have been turned down, and I know that I've asked you for sex and have been turned down, we can pretend that it never happened and continue to be (or at least pretend to be) friends. But if I know that you know, and you know that I know that you know, and so on, then the charade can no longer be maintained.

The ability of language to explode individual knowledge into mutual knowledge is the basis of many of the examples and thought experiments used to illustrate the concept, perhaps most famously in the story of the emperor's new clothes. Every onlooker knew that the king was naked, but none of them could be sure that the others knew, and so they were all intimidated into silence. All it took was for one boy to say "The emperor has no clothes!" and the crowd could burst into laughter. Crucially, the boy was not telling a single person anything he or she didn't already know. But his words still conveyed information—the information that all the *other* people now knew the same thing that each one of them did.

Though it's easiest to explain mutual knowledge by saying that A knows *x*, and B knows *x*, and A knows that B knows *x*, and B knows that A knows *x,* ad infinitum, clearly no finite head can hold an infinite set of propositions. And aside from problems thought up by logicians, people generally don't *need* to think themselves dizzy with layers upon layers of "A-knows-B-knows" propositions. As in other cases in linguistics in which a person is said to "know" an infinite set of expressions (words, sentences, propositions), the knowledge in mutual knowledge is *implicit*. All the person really needs to have in her head is a formula that is recursive, that is, a formula that contains an example of itself. What

people would share in their minds is the following statement, which we can call *y*: "Everyone knows *x*, and everyone knows *y*" (Clark 1996). If necessary, people can reel out however many levels of propositions they need for a given problem, as long as they can keep track of them in memory. But they can grasp that they *have* mutual knowledge simply by noticing the recursive nature of that piece of information in their minds. Even more easily, they can infer the commonality of their knowledge by noticing the public circumstances in which they and other people gained it, such as someone referring to some fact in earshot of the speaker, the hearer, and overhearers.

Mutual knowledge may explain much of the face-saving and face-losing we see in everyday life, because "face" is inherently a phenomenon of mutual knowledge. You feel emboldened to press for a favorable bargaining position because you know that others know that you know that others know you know that you are esteemed or powerful enough to stand your ground. Expressions of disrespect are damaging when they are public because they can nip this cycle in the bud. Every mature person knows that other people, even their close friends, may gossip about them behind their back. You might even overhear an unflattering remark about you in a phone conversation, or catch a glimpse of one in an e-mail message. Yet as long as no one knows that you know, the barb can pass without incident. If, in contrast, an unkind remark gets back to you from a third party, or you overhear it as you join a cluster of people who suddenly discover that you were in earshot the whole time, or if it is inadvertently disseminated in an e-mail by someone who doesn't know the difference between "Reply" and "Reply to All," the hurt is deeper and the desire to confront it greater. The difference is that now everyone knows that you know that they know and so on, threatening your face if you accept it without seeking redress.

Though I suspect that mutual knowledge is the deepest explanation for why people play along with indirect speech even when they can see through it, the other explanations are not incompatible with it. Perhaps there is a conspiracy of reasons why a bald proposition is so much more damaging to a relationship than a veiled one. Not only can the bald proposition not be ignored if it's mutual knowledge, but it's the only clear line in the sand, and it would be too easily recognized by a virtual audience. This is especially damaging to communal relationships, which are corroded by the very act of openly negotiating their terms. And perhaps a considerate speaker takes steps to avoid this hazard and implicates his intention in indirect speech instead, earning points for his bow to the speaker's face. For all these reasons we have the feeling that a bald proposition is "out there," and that the speaker cannot "take it back."

8.   The paradox of rational ignorance

If the avoidance of plain speaking is not just a consequence of the de-
mands of efficient communication, nor of a cooperative effort to save
face, does that mean it is an arbitrary quirk in the design of human be-
havior, or might it have a deeper rationale—a rationale that would pre-
dict that *any* social communicator would engage in indirect speech? At
first glance, a rationale might seem unlikely. The whole reason to *have* a
language is to convey information, and since knowledge is power, it
stands to reason that the more information it conveys, the better. One
might naïvely think that it's always better to know something than not
to know it because if you know something, you can always choose to
ignore it.

   Of course, cognitive scientists have long emphasized the limitations of
the brain in processing information, and some have argued that Grice's
cooperative maxims are a way to manage the flow of information in a
conversation, maximizing the rate of transmission of usable knowledge
(see, e.g., Sperber & Wilson 1986). But the ultimate reason our speech is
so indirect may lie in a different danger of information—not that we
might be overwhelmed by how much there is, but that we might be poi-
soned by what it says. The paradox of rational ignorance is that even if
we could accommodate as much information as we wanted, and could
always separate the wheat from the chaff, there are certain messages a
rational mind may not want to receive (Gigerenzer 2004; Schelling 1960).

   Sometimes we choose not to know things because we can anticipate
that they would have an uncontrollable effect on our emotions. In sup-
port of his "Law of Indispensable Ignorance," Gigerenzer lists some ex-
amples. People who haven't seen a movie or read a book will shun a re-
view that gives away the ending. A basketball fan who videotapes a game
will sequester himself from media outlets so as not to learn the outcome
before he watches it. Many expectant parents choose not to learn the sex
of their unborn child, and the considerable number of families in which a
child is unrelated to the nominal father would probably be happier if
none of them took a DNA test. The children of parents with Hunting-
ton's disease usually refuse to take the test that would tell them whether
they carry the gene for it. And most of us would rather not know the day
on which we will die.

   Another reason a rational system might choose to be ignorant is that if
it is designed to come to an unbiased decision, the slightest bit of extrane-
ous information can tip it one way or another. So juries are prevented
from knowing the criminal record of the accused, or information that
the police obtained by illegal means. Scientists test drugs in double-blind

studies, scholarly manuscripts are refereed anonymously, and government contracts are awarded through sealed bids.

But the kind of rational ignorance that leads us to veil our speech comes from the dilemmas in which our own rationality can be turned against us and a unilateral disarmament of knowledge is the only counter-measure (another set of paradoxes first explored by Schelling). People are better off if they can't receive a threat. Hence misbehaving children avoid their parents' glances, state's witnesses may be held incommunicado, and I know a colleague who kept a nice jacket and perhaps his life because he couldn't understand some muggers who were threatening him in a heavy accent. Being in possession of a secret makes one vulnerable to extortion by those who want to know it and to silencing by those who don't want it known. Hence kidnap victims are better off if they don't see the kidnap-per's face, envoys are kept ignorant of sensitive information for their own safety, and we have the spy-movie cliché, "I could tell you, but then I would have to kill you." In a Coordination Game, the person with the least information is in the better position: if two friends are negotiating over where to have dinner, the one who suggests a restaurant convenient to her just before her cell phone goes dead will have the shorter walk.

Merely being asked certain questions can put a person at a disadvantage, since one answer might be damaging, the other would be a lie, and a refusal to answer would be a de facto confession that those are the respondent's two options. Witnesses who exercise their Fifth Amendment right against self-incrimination by refusing to answer a question often *do* incriminate themselves in the court of public opinion. When a prestigious position is open and the headhunting begins, candidates can't admit to wanting it, because if it goes to someone else they would be humbled; nor can they say they don't want it, because that might take them out of the running. They can't even say "No comment," for why would they have to if they had no interest in the position? And of course we have seen many examples in which mutual knowledge can transform negative information into a damaging loss of face. Many authors refuse to read their unfavorable reviews so they can honestly say they have no reply to them. Some authors won't read *any* of their reviews, lest acquaintances conclude the worst about the ones they avoided.

Knowledge, then, can be dangerous because a rational mind may be compelled to use it in rational ways, allowing malevolent or careless speakers to commandeer our faculties against us. This makes the expressive power of language a mixed blessing: it lets us learn what we want to know, but it also lets us learn what we don't want to know. It's not surprising that we expect people to sheathe their words in politeness and innuendo and other forms of indirect speech.

Note

This paper has been adapted from Pinker, S. (2007) *The Stuff of Thought: Language as a Window into Human Nature.* Author's address: Dept. of Psychology, William James Hall, Harvard University, 33 Kirkland St., Cambridge MA 02138 USA. pinker@wjh.harvard.edu

1. Fiske's taxonomy also accommodates a fourth relationship type, which he calls Market Pricing, embracing the apparatus of modern market economies, such as currency, prices, salaries, rents, interest, and credit. The medium of communication is symbolic numerals, mathematical operations, digital accounting and transfers, and the language of formal contracts. Unlike the other three relationship types, Market Pricing is nowhere near universal, and there seem to be no naturally developing thoughts or emotions tailored to it.

References

Brown, Penelope, and Stephen C. Levinson. 1987a. Introduction to the reissue: A review of recent work. In *Politeness: Some universals in language use.* New York: Cambridge University Press.

—1987b. *Politeness: Some universals in language usage.* New York: Cambridge University Press.

Clark, Herbert H. 1996. *Using language.* New York: Cambridge University Press.

Clark, Herbert H., and Susan E. Brennan. 1991. Grounding in communication. In L. B. Resnick, J. M. Levine & S. D. Teasley (eds.), *Perspectives on socially shared cognition.* Washington: American Psychological Association. 127–149.

Clark, Herbert H., and Catherine R. Marshall. 1991. Definite reference and mutual knowledge. In A. K. Joshi, B. L. Webber & I. A. Sag (eds.), *Elements of discourse understanding.* New York: Cambridge University Press. 10–63.

Clark, Herbert H., and Dale H. Schunk. 1980. Polite responses to polite requests. *Cognition* 8: 111–143.

Cosmides, Leda., and John Tooby. 1992. Cognitive adaptations for social exchange. In J. H. Barkow, L. Cosmides & J. Tooby (eds.), *The adapted mind: Evolutionary psychology and the generation of culture.* New York: Oxford University Press.

Dawkins, Richard. 1989 (1976). *The selfish gene.* New York: Oxford University Press.

Dawkins, Richard, and John R. Krebs. 1978. Animal signals: Information or manipulation? In J. R. Krebs & N. B. Davies (eds.), Behavioral *ecology.* Oxford: Blackwell. 282–309.

Dews, Shelly, Joan Kaplan, and Ellen Winner. 1995. Why not say it directly? The social functions of irony. *Discourse Processes* 19: 347–367.

Feiler, Bruce. 2000. Pocketful of dough. *Gourmet.* October.

Fiske, Alan P. 1992. The four elementary forms of sociality: Framework for a unified theory of social relations. *Psychological Review*, 99: 689–723.

—2004. Four modes of constituting relationships: Consubstantial assimilation; space, magnitude, time, and force; Concrete procedures; Abstract symbolism. In N. Haslam (ed.), *Relational models theory: A contemporary overview*. Mahwah: Erlbaum Associates.

Fraser, Bruce. 1990. Perspectives on politeness. *Journal of Pragmatics* 14: 219–236.

Gigerenzer, Gerd. 2004. Gigerenzer's Law of indispensable ignorance [Electronic Version]. *Edge* from http://www.edge.org/q2004/page2.html#gigerenzer.

Goffman, Erving. 1959. *The presentation of self in everyday life.* New York: Doubleday.

—1967. On face-work: An analysis of ritual elements in social interaction. In *Interaction ritual: Essays on face-to-face behavior.* New York: Random House.

Grice, Herbert P. 1975. Logic and conversation. In P. Cole & J. L. Morgan (eds.), *Syntax & Semantics* Vol. 3: Speech acts. New York: Academic Press.

Haslam, Nick. (ed.). 2004. *Relational models theory: A contemporary overview*. Mahwah: Erlbaum Associates.

Holtgraves, Tom M. 2002. *Language as social action*. Mahwah: Erlbaum Associates.

Isaacs, Ellen A., and Herbert H. Clark. 1990. Ostensible invitations. *Language in Society* 19: 493–509.

Lewis, David K. 1969. *Convention: A philosophical study*. Cambridge, Mass.: Harvard University Press.

Maynard Smith, John. 1988. *Games, sex, and evolution.* New York: Harvester Wheatsheaf.

Pinker, Steven. 2002. *The blank slate: The modern denial of human nature*. New York: Viking.

—2007. *The stuff of thought: Language as a window into human nature*. New York: Viking.

Salmon, Catherine. A. 1998. The evocative nature of kin terminology in political rhetoric. *Politics and the Life Sciences* 17: 51–57.

Schelling, Thomas. C. 1960. *The strategy of conflict.* Cambridge, Mass.: Harvard University Press.

Schiffer, Stephen R. 1972. *Meaning.* New York: Oxford University Press.

Smith, Neil V. (ed.). 1982. *Mutual knowledge.* New York: Academic Press.

Sperber, Dan., and Deirdre Wilson. 1986. *Relevance: Communication and cognition.* Cambridge, Mass.: Harvard University Press.

Tooby, John, and Leda Cosmides. 1996. Friendship and the Banker's Paradox: Other pathways to the evolution of adaptations for altruism. *Proceedings of the British Academy* 88: 119–143.

Trivers, Robert. 1971. The evolution of reciprocal altruism. *Quarterly Review of Biology* 46: 35–57.