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Emotions, norms, and the genealogy of fairness

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abstract

In *The Grammar of Society*, Bicchieri maintains that behavior in the Ultimatum game (and related economic games) depends on people's allegiance to 'social norms'. In this article, I follow Bicchieri in maintaining that an adequate account of people's behavior in such games must make appeal to norms, including a norm of equal division; I depart from Bicchieri in maintaining that at least part of the population desires to follow such norms even when they do not expect others to follow them. This generates a puzzle, however: why do norms of equal division have such cultural resilience? One possibility is that our natural emotional propensity for envy makes norms of equal division emotionally appealing. An alternative (but complementary) possibility is that deviations from a norm of equal division would naturally be interpreted as threats to status, which would facilitate the moralization of such norms.

keywords

Bicchieri, envy, moralization, Rozin, Sperber, status, Ultimatum game

Naturalistic approaches to ethics have flourished recently. One prominent line of research has focused on norms prohibiting harming others. The goal of this research has been to discern why people think it is wrong to harm someone without provocation or that it is wrong to kill one innocent to save five. The consensus in the field is that emotions play a critical role in people's judgments about the wrongness of harming others.¹ Cristina Bicchieri's wonderful book, *The Grammar of Society*, develops an account of another important set of norms – norms concerning fairness. Her rich and distinctive account suggests that fairness norms operate quite differently in our psychology than harm norms. I will begin by setting out Bicchieri's central claim about the role of norms in fairness behavior. Since I heartily agree with this part of her view, I will then move on to take issue with the psychological details of the model she offers. In particular,

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I will challenge the idea that people's desire for fair division is conditional on expectations about others' behavior. Rather, I will suggest that at least part of the population has an unconditional desire for equal division. But this alternative faces the problem of explaining why such norms of equal division are culturally widespread. As a result, I will devote the last part of the article to trying to address this issue.

1. Fairness judgments

The phenomenon of giving people a fair share is familiar in everyday life. In the experimental realm, the practice of fair division has been explored most extensively with the Ultimatum game. In simple versions of the Ultimatum game, two anonymous players are randomly assigned either to the role of 'Proposer' or to that of 'Responder'. The Proposer is then given some money and told that he needs to offer a split with the Responder. If the Responder accepts the offer, then the money is dispensed accordingly; if the Responder rejects the offer, then neither player gets any money. From the earliest studies on this, the common findings are that (1) Proposers tend to offer roughly an equal division and (2) when Proposers offer a small proportion of the money, Responders tend to reject the offer.² In a grand cross-cultural experiment, researchers had people from a wide range of small-scale societies play the Ultimatum game, and they found that in most of the societies people tended to offer roughly equal splits and low offers were often rejected.³

One of the most important and compelling parts of Bicchieri's book is her argument that rules play a critical and underappreciated role in behavior in such economic games. As Bicchieri explains, prominent economic models explain fairness behavior by appealing to an aversion to unequal outcomes.⁴ According to such models, the reason people reject offers in the Ultimatum game is that they find unequal distributions aversive. While this is a powerful and influential approach in economics, Bicchieri argues quite convincingly that such theories fail to provide a natural explanation for the context sensitivity of behavior in economic games.⁵ For instance, people's behavior in Ultimatum games changes significantly when the Proposer has 'earned the right' to be the Proposer. If people simply dislike inequality of distribution, then much more needs to be said about why subjects' behavior would change under such circumstances. Bicchieri's norm-based account provides a natural and plausible explanation for the kinds of context sensitivity we see. Her explanation is that (1) people's behavior is guided by their knowledge of norms and (2) which norms (if any) get triggered depends on which cues are salient in a context. So, for instance, if the Proposer has earned the right to be the Proposer, this might not trigger the same norm that gets triggered in the standard Ultimatum game. More generally, how people behave in economic games, as in life, depends on which norms get triggered, and this depends on how people interpret the situation. People will behave differently

depending on whether an economic game is interpreted as a power game, a gift-giving game, or a sharing game.⁶

On this major point, I am in complete agreement with Bicchieri. To reach a juncture of productive disagreement, I need to turn to a narrower point – the psychological character of the rules governing fair division. Following Bicchieri, I will focus on the Ultimatum game and related phenomena. Like Bicchieri, I think that behavior in the Ultimatum game is guided by norms of *fairness*. However, the notion of fairness is vague and culturally variable – what counts as ‘fair’ differs widely across cultures. In addition, the notion of fairness carries moral connotations on which we want to remain neutral. As a result, I will adopt a less vague and more bland label for the norm of interest: the ‘equal-division norm’. This norm might be put roughly in the following way:

Ceteris paribus, when Person A gives Person B a good and tells B to divide it with another (or among others), B should divide the good (roughly) equally.⁷

This is the norm that is presumably implicated in the Ultimatum game as well as in many natural cases of sharing. Bicchieri has made a powerful case that norms like the equal-division norm play a critical, but largely neglected role in our judgments and behaviors concerning economic games, as well as their real world analogues. This is a major contribution to the issue, one that will shape discussion in the area for years to come. I want to focus on what I find less convincing – Bicchieri’s view that we have only a *conditional* commitment to the equal-division norm.

2. Social norms and personal norms

Bicchieri’s account in *The Grammar of Society* hinges on her notion of a *social norm*. In order for a norm to be a social norm, several conditions must hold.

1. A sufficient number of people must know about the norm.
2. The people must have a *conditional desire* to conform to the norm: conform to the norm *if* you expect others to conform.⁸
3. They must expect others to conform to the norm.

Most importantly for our purposes, according to Bicchieri the conditionality of this desire for conformity distinguishes social norms from *personal* norms.⁹ When a norm is a *personal* norm for an individual, then that individual desires to conform to the norm even if she does not expect others to conform. Personal norms include moral norms as well as habits such as brushing one’s teeth at night. To borrow Bicchieri’s example, my desire to follow the rule ‘Brush teeth at night’ persists even if I learn that very few people actually do it.¹⁰ My desire to conform to the teeth-brushing norm does not *depend* on my expectations about others’ behavior. By contrast, in the case of social norms, if you take away the expectations, you take away my reason for conforming with the norm. I have no

reason, no motivation (*independent* of my expectations) for following the norm. My desire for conformity with social norms ‘*depends on* the expectation that others conform’.¹¹ That is, for social norms, if I do not expect others to conform, I do not have any desire to conform. An uncontroversial example of a social norm is the norm among drinking buddies of alternating who pays for the drinks. This norm is familiar to those of us who frequent bars. However, the desire to follow it is only conditional – I want to follow it only when I expect others to follow it. If I find myself in a drinking relationship with someone who does not follow the norm, then I have no desire to follow it. By contrast, for personal norms, I do have a desire to conform to the norm even if I do not expect others to do so. My desire to abide by the norm of brushing my teeth at night persists even if I do not expect others to do so.

Now that we have the key difference between social and personal norms, we can return to the main event – the equal-division norm. Two possibilities present themselves.

1. The equal-division norm is a social norm. Thus, whether a person desires to conform to the equal-division norm depends on his or her expectations.
2. The equal-division norm is a personal norm. Thus, whether a person desires to conform to the equal-division norm does *not* depend on his or her expectations.

Bicchieri proposes that the equal-division norm is a social norm, not a personal norm.

Bicchieri’s view that the equal-division norm and other fairness norms are social norms fits comfortably into the tradition of rational choice theory because of two assumptions:

1. As a matter of fact, it is rational to conform to these norms, but only when you expect others to conform to them as well (this is because the norms do not work properly unless they are widely followed), and
2. On Bicchieri’s proposal, expectations about whether others will conform are built into the desire to abide by the norm; thus, the desire is rational.

Although many details would need to be filled in, Bicchieri’s story might also explain why the equal-division norms are culturally ubiquitous. Part of such an explanation for ubiquity would be that communities are better off if people generally abide by the equal-division norm.¹² But in addition, Bicchieri’s model includes a mechanism for meeting the threat of free riders. For on Bicchieri’s account, one’s desire to conform to the norm depends on one’s expectations about others’ behavior. If I expect another to free ride, then I do not even *want* to divide equally. As a result, so long as the expectations are accurate enough, it is not costly for the individual to take on equal division as a social norm. This would presumably facilitate the cultural resilience of such a norm, since it would produce the group benefit with minimal risk to the individual.

To evaluate whether Bicchieri is right that the equal-division norm is a social norm, the key issue is whether the desire to conform to the norm is conditional on one's expectations. Her model generates a clear empirical prediction. If we put people in the Ultimatum game and we manipulate their expectations about whether others would divide equally, this should affect the offers that Proposers make. In a recent set of studies, this is exactly what happened. Bicchieri and Xiao had participants play the Dictator game, a variant on the Ultimatum game in which the 'Responder' has no option to reject the division.¹³ The dictator decides how to divide the money, and that is the end of it. Before the participants played the Dictator game, they were set up with different expectations. One group was told: '60% of the dividers who participated in a session of this experiment last year approximately maximized their own earnings (i.e., ... their counterpart got 20% or less).' Another group was told: '60% of the dividers who participated in a session of this experiment last year shared the amount approximately equally (i.e., ... their counterpart got 40% or more).' What Bicchieri and Xiao found was that among participants who expected others to divide unequally only 33 percent conformed to the equal-division norm, whereas 52 percent of those who expected others to divide equally conformed to the equal-division norm.

Thus, the prediction made by Bicchieri is borne out. On her view, I will conform to the equal-division norm *because* of mutual expectations and I will not conform when those expectations are not met.¹⁴ In the experiment, participants' behavior was sensitive to their expectations about the behavior of others. Expectations do indeed matter for whether people abide by the equal-division norm.

3. Expectations and personal norms

What do these results mean for whether the equal-division norm is a social norm or a personal norm? What we know from the above study is that behavior in these games is sensitive to the expectations of the participants. Of course, this is exactly what Bicchieri's theory predicted since she maintains that whether a person desires to conform depends on the person's expectations about others' behavior. By changing the expectations, we defeat the conditions that engage the desire.

Although Bicchieri's prediction is borne out, the evidence does not refute the view that equal division is really a personal norm. Recall that the norm for equal division is a personal norm if we desire to divide equally (in contexts like the Ultimatum game) even when we do not expect others to conform. That does not entail that expectations will be irrelevant to behavior. Even if equal division is a personal norm for me, expectations might affect my behavior for several different reasons. After all, my desire to divide equally is not my *only* desire. Just to pick a desire that is salient in the economic games, I also want *money*. If I do not expect others to conform to the equal-division norm, then I might use that fact as an excuse to cave in to my desire to maximize my gains. Consider, for illustration, the fact that many of us feel that there is a personal (moral) obligation to give to

famine relief, and we feel guilty for spending money in upscale restaurants when that money could relieve starving children. However, the fact that so many others in my community do the same thing (eat at nice restaurants when they could give the money to famine relief) makes it easier for me to do it. It is not that I have a merely strategic desire of the form *help starving children only if others help*. Instead, my expectations of others' behavior leads me to think that, while I really should not spend the money in the restaurants, I am no worse than my friends. In such a case, we have competing desires (the desire to conform to the personal norm, 'save starving children', and the desire to have a rich dining experience), and our expectations about others' behavior tilts the balance in favor of Chez Panisse. The point is that my expectations about others' behavior can affect whether I act on my unconditional desires. It is possible that something similar happens in Bicchieri and Xiao's experiment on the Dictator game. When I know that others do not distribute equally, this might give me an excuse to keep most of the money. If I keep most of the money, I am no worse than the others.¹⁵

A quite different explanation for subjects' sensitivity to expectations is that people might regard others' behavior as providing information about whether the equal-division norm applies – whether the right thing to do in this situation really is to divide equally. An instructive analogy here is the classic bystander effect.¹⁶ The likelihood that a person will help an apparently needy other is affected by the number of idle bystanders. But what is often neglected in reporting this study is the explanation offered by the researchers themselves. It is not that people are heartless and selfish in the presence of bystanders; rather, it is that the presence of idle bystanders often leads subjects to wonder whether they are failing to recognize some feature of the situation – the subjects are not sure that helping is the right thing to do.¹⁷ Similarly, then, I might have equal division as a personal norm, but because of the ambiguity of certain situations, my expectations about others' behavior might lead me to different judgments about whether the norm applies in the case. This differs from the social norm proposal because it is not that I have a mere conditional desire to conform. Rather, I have an unconditional desire to conform to equal division when it applies, but if I am in a situation in which others do not conform to the norm, then I may wonder whether the norm applies in my situation. In that case, the behavior of others provides important information about whether it applies in my situation, but the behavior of others is not taken as a *criterion* for whether the norm applies.¹⁸

4. Equal division as personal norm

Thus there are different ways that an advocate of the personal norm hypothesis might accommodate the fact that behavior is sensitive to expectations without yielding on the claim that people have an unconditional desire to conform to the equal-division norm. The foregoing is all theoretical speculation, aimed at showing that the personal norm account is *consistent* with Bicchieri and Xiao's data.

But is there any positive reason to think that the equal-division norm is personal? I want to bring forth three strands of evidence.

The first point emerges from Bicchieri and Xiao's study itself. Fully one-third of participants made fair offers even when told 60 percent of people in a past game chose selfishly. It seems here that we see commitment to the equal-division norm peeking out even when people do not expect others to conform. The personal norm advocate has a couple of options for explaining why one-third of Bicchieri and Xiao's subjects divided equally. One possibility is that most people have equal division as a personal norm, but for one reason or another (some candidates are listed in Section 3), the expectations affect whether they act on that norm. Another possibility, though, is that the population is fairly deeply divided. Equal division is a personal norm for many people, but for many other people, equal division is, instead, a social norm. This is very much a live possibility. We know independently that there are salient individual differences in performance in economic games. For example, people who are identified as pro-social on one measure are more likely to seek equality in outcomes in economic games and people who report expecting to find equal division very pleasurable are more likely to divide equally when they actually play economic games.¹⁹ That comports well with the idea that there are individual differences in the extent to which equal division is a personal norm – it is personal for some people, but not others.

A second consideration in favor of the idea that the equal-division norm is personal (at least for some people) comes from experiments on Ultimatum games in which the Proposer is presented as a computer. It is instructive for Bicchieri's theory to look at experiments in which expectations should be irrelevant, and, as she notes, the most familiar examples involve games against computerized opponents. In such cases, the computer obviously has no expectations that the human will follow a norm, and the human player 'has no reason to expect that the computer will follow a norm, be fair, or have any intention whatsoever'.²⁰ In support of the prediction, Bicchieri points to a 1995 study by Sally Blount in which participants accordingly did not adhere to the equal-division norm when they were paired with a computer in an Ultimatum game.²¹ However, more recent work presents a more mixed picture. In Alan Sanfey's brain-imaging experiment on the Ultimatum game, participants are shown a picture of their 'partner' in the game. In some cases, it is a picture of a woman; in other cases, it is a picture of a computer. They found that participants did indeed reject low offers (about 20 percent of the time) when the other player was a computer. In a related subsequent study, they found that unfair computer offers were rejected a stunning 47 percent of the time.²²

The brain data are instructive as well. Sanfey and colleagues measured activity in the insula, a region of the brain known to be associated with disgust. The central claim of their article was that unfair offers generated higher insula activation than fair offers when the Proposer was a person. But, although this has largely

gone unnoticed, the data also show that there is higher activation in the left insula when the unfair offers are made by a computer!²³ The fact that even the unfair offers of computers triggers insula activation suggests that the operative norm is something that is internalized and violations are found rather immediately aversive.²⁴

A third and more general reason to think that people have equal division as a personal norm comes from developmental considerations. From a very young age, kids follow an equal-division norm. In a recent experiment, three year olds were presented with a doll protagonist that was faced with the prospect of dividing resources among four other dolls, two of which were designated as siblings to the protagonist and two of which were previously unknown to the protagonist. What was of central interest to the researchers was the fact that when the resources could not be equally apportioned (for example, because there were an odd number of items), children divided resources in ways that favored siblings over 'strangers'. However, what is more important for us is that when the resources *could* be equally divided, children did show a very strong tendency to equal distribution.²⁵

Although kids will divide according to the equal-division norm by three years of age, it is questionable whether they have a facility with social norms. For abiding by social norms is a cognitively complex affair. Not only must you know that the norm exists in the community, but your desire to abide by it must be conditional on your expecting others to abide by it. It is not clear that three-year-old children are adept at forming desires for following a norm that are conditional on expecting others to follow that norm. In any case, the way we inculcate the sharing norm in our young kids is certainly not couched with the qualifications that attend social norms. We do not teach them a nuanced rule that includes details about the role of expectations and others' behavior. We just tell them that they should share equally and that not sharing equally is mean, selfish, and disrespectful – bad.

A simple conditioning story here would lead one to expect children to develop an unconditional aversion to dividing unequally when told to share a good. If you scold them enough with enough gravity (and if their teachers and peers do the same), this would naturally engender unpleasant associations with dividing unequally. Parents and peers certainly do scold a child who keeps a disproportionate amount of the good to be shared, and this provides some reason to expect that young children would come to internalize the equal-division norm in such a way that they would have some unconditional aversion to violating the norm. This is not to say that they will always divide equally, of course. Rather, the point is that conditioning would likely lead to some aversion to violating equal division.

Of course, even if that is right, it is possible that as adults we have a completely different version of the norm. But notice that this would mean that we would have to *depersonalize* or uproot our childhood equal-division norm to replace it with a social norm. To defend that proposal would require evidence that such an

upheaval occurs. We do know that children develop an increasingly sophisticated set of responses to the problems of distribution. In his classic work on children's views about fair distribution, Damon found an early stage at which children think that fair distribution is equal distribution, full stop. Damon described a scenario in which several children made crafts, and Damon asked his young subjects how money should be distributed among the children. Here is a sample from one of his interviews:

Experimenter: Do you think anyone should get more than anyone else?

Anita (7 years, 4 months): No, because it's not fair. Somebody has 35 cents and somebody has one penny. That's not fair.

Experimenter: Clara said she made more things than everybody else and she should get more money.

Anita: No. She shouldn't because it's not fair for her to get more money, like a dollar, and they get only about one cent.

Experimenter: Should she get a little more?

Anita: No. People should get the same amount of money because it's not fair.²⁶

This strict egalitarianism does not persist, though. Most children, according to Damon, come to take contribution and other factors into consideration as well. Here is an illustration:

Experimenter: So, would you give Rebecca, who made more things, more of the money?

Dan (8 years, 11 months): Well, she would get a little more. She would be getting about three dollars more.

Experimenter: Billy says that he should get more, too, because he doesn't get any money at home.

Dan: I'd give him a little more. Because everybody deserves an allowance.

Experimenter: What about Melissa, the best-behaved kid? Would you give her more?

Dan: Probably.

Experimenter: You would?

Dan: Yeah, but not too much more, because being a real nice kid isn't much, you know.²⁷

What Damon charts is that children become sensitive to an increasing number of factors that are relevant to distribution. But that is all consistent with the view that the equal-division rule itself persists as a personal norm, and the child learns about other factors that should be considered in making a final judgment about distribution. The key idea is that the additional considerations are not entered as revisions of the basic, personal norm. Rather, the additional considerations are brought on as potential overrides to the personal norm.²⁸

Thus far, I have argued that the expectation data do not rule out the hypothesis that equal division is a personal norm for many people in our culture. Further, I have marshaled some considerations in favor of the view that at least some of us do indeed have equal division as a personal norm. Obviously, this is not a

decisive argument against Bicchieri's view that equal division is characteristically a social norm. But it is enough, I think, to make it worth exploring whether we can explain the ubiquity of equal-division norms if they are personal rather than social norms.

5. Affective resonance and equal division

Why is the equal-division norm so widely represented across cultures? If one thinks that the equal-division norm is a moral truth that follows from rational considerations, then one could explain its ubiquity by claiming that people are sufficiently rational to appreciate this moral truth. Bicchieri would reject this explanation, for she maintains that there is nothing inherently good or moral about the fairness norms.²⁹ This is yet another point on which I agree with Bicchieri. If the personal norm hypothesis is right, however, we cannot rely on Bicchieri's social norm theory to explain the ubiquity of equal-division norms. Personal norms can be mere habits, which obviously vary enormously across cultures. So we still need some story about why equal-division norms have the cultural heft they do.

One strategy for explaining the cultural strength of a norm builds on Dan Sperber's epidemiological approach to cultural evolution. As Sperber maintains, by identifying characteristic features of human psychology, we can get some idea about which kinds of cultural items will be attractive to creatures like us.³⁰ Many different kinds of emotions (for example, anger, fear, jealousy, disgust, and sympathy) are characteristic features of human psychology. As a result, some cultural items might be attractive because they resonate with common emotional endowments. For instance, norms prohibiting the display of bodily fluids seem to be preserved once they are introduced into the culture, and a plausible explanation for this is that these prohibitions resonate with our natural proclivity to feel disgust at bodily fluids.³¹ We can frame the basic idea here in terms of an 'affective resonance' hypothesis:

Normative prohibitions against action X will be more likely to survive if action X elicits (or is easily led to elicit) negative affect.³²

On the basis of the affective resonance hypothesis, we can explain the cultural resilience of norms against spitting – since spitting is independently likely to trigger negative affect, norms prohibiting spitting will gain a cultural advantage. A similar story can be told about our norms prohibiting harming actions and our natural empathic reaction to suffering in others. It is a mistake to identify empathic responses with moral judgment, since one can have empathic feeling without making a moral judgment. However, it is plausible that our norms prohibiting harming others resonate with our natural empathic responses to suffering, and such affective resonance helps explain the cultural success of norms prohibiting harmful actions.

The affective resonance approach provides a reasonable story about how certain emotions would contribute to the cultural success of certain kinds of norms. But is there any hope that such an approach might apply to the equal-division norm? That is, is there an emotion that does for equal-division norms what empathy (or sympathy) plausibly does for harm norms? One intriguing, if Nietzschean, possibility is that *envy* plays a key role in shoring up the equal-division norm. Familiarly, envy is the aversive emotional state associated with wanting what someone else has.³³ We need to say a bit more about envy to see how an affective resonance story might go. First, envy can be triggered in the absence of any judgment of unfairness. For instance, I might envy the person in front of me at the store who wins a big prize for being the millionth customer. But I do not then charge the winner with being unfair for keeping the prize. Second, envy is typically about differential distribution. So, to return to the store, envy is unlikely to be triggered if we both win equal prizes; in that case, while I might want all of the prize for myself, I will not feel the pang of envy.

Given this understanding of envy, it is plausible that a person will feel envy when someone shares only a small fraction of their windfall. This feeling can be elicited even if there is no equal-division norm indicating that the behavior is unfair. However, if there *is* a norm which forbids disproportionate distribution, then the emotion of envy will contribute to the emotional power of the norm. For the norm prohibits an action that is independently likely to generate aversive envious reactions. This would provide one way to explain why, once an equal-division norm is present, it would be culturally successful. For if the equal-division norm is present, then our natural envious reactions would resonate with the norm, much as our natural disgust reactions resonate with (and lend cultural heft to) our norms prohibiting spitting.³⁴ The point here is not that envy and fairness judgments are the same thing. Just as it is a confusion to identify empathic feelings with judgments of moral wrongness, so too it is a confusion to identify feelings of envy with judgments of fairness. The two are quite distinct.³⁵ Critically, like Bicchieri, I think that judgments of fairness typically depend on culturally inculcated norms. Nonetheless, it is possible that the norms of fairness get their affective resonance from the connection with envy. In particular, the envious reaction might help to shore up the equal-division norm since the equal-division norm prohibits an action that would naturally generate the pain of envy.

6. Moralization and equal division

I want to turn now to a very different, though compatible, explanation for why equal-division norms are so culturally successful. Once again, I start with the assumption that equal-division norms are not inherently moral. However, as Bicchieri points out, some norms that start out as *nonmoral* come to acquire a moral-like character – they become *quasi-moral* norms.³⁶ In the psychological

literature, this phenomenon has been studied most extensively under the label ‘moralization’ and under the ingenious hand of Paul Rozin.

Moralization

Rozin characterizes moralization as ‘the acquisition of moral qualities by objects and activities that were previously morally neutral’.³⁷ Rozin’s own research has largely explored how behaviors such as smoking, drug use, and overeating come to be moralized. The moralization of a behavior manifests in many ways, but for our purposes what is especially important is how moralization presents at the level of the individual. At this level, moralization shows up in several different ways. First, when an activity is moralized, people are more inclined to react with disgust. This shows up in attitudes about smoking – there is a strong correlation between regarding smoking as immoral and regarding it as disgusting.³⁸ A similar phenomenon occurs among vegetarians – those who are vegetarians for moral reasons find meat more disgusting than those who are vegetarians for health reasons.³⁹ Second, once a behavior has been moralized against, it is acceptable to censure a person for engaging in the behavior. This is again well illustrated in the case of smoking, as people in the USA now feel empowered to censure others for smoking.⁴⁰ Third, moralization is associated with the *overjustification* of the wrongness of the activity. Smoking provides a clear example once again. Smoking is reviled because it is said to produce all manner of bad effects: ‘cancer, heart disease, bad breath, wrinkled skin, stained teeth, and environmental pollution’.⁴¹ The final indicator of the moralization of interest here is that when an activity is moralized, people are more inclined to make negative character evaluations of those who engage in the activity. For instance, Rozin maintains that the practice of eating fatty foods is becoming moralized, and research indicates that subjects make more negative moral evaluations of individuals who are said to eat fatty foods (‘steak, hamburgers, French fries, doughnuts, and double-fudge ice cream sundaes’) as compared to those said to eat healthy foods (‘fruit (especially oranges), salad, homemade whole wheat bread, chicken and potatoes’).⁴²

Rozin focuses on behaviors such as smoking, meat eating, and drug use. But the basic phenomenon of moralization can surely occur for *norms* as well. Of course, not all norms are moralized. Various norms of etiquette, such as where to leave your napkin, are not moralized. However, just as non-moralized behavior can become moralized (as with smoking), so too non-moralized norms may become moralized. What makes all this significant is that moralization is likely to increase cultural resilience. According to Rozin, if a norm gets moralized, then it will come to be more internalized and ‘liked for its own sake’, and as a result, it ‘is likely to be more resilient and durable’.⁴³ So if the equal-division norm is moralized, then that would help explain its cultural cachet. Our question now is whether the equal-division norm is moralized.

Moralization and the equal-division norm

Moralization comes on a continuum. Smoking is well advanced in the process of moralization in the USA, whereas meat avoidance is in its early stages.⁴⁴ There is no neat line to distinguish norms or behaviors that are moralized from those that are not. However, what I want to argue is that in our culture the equal-division norm is moralized to some significant extent.⁴⁵ Above I reviewed four individual-level indicators of moralization: disgust, censure, overjustification, and negative character evaluation. Evidence on economic games suggests that the norm of equal division is associated with each of these indicators.

First, as we have already seen, brain-imaging studies on people playing the Ultimatum game suggest that violations of the equal-division norm trigger disgust. In particular, a region of the brain associated with the disgust response (the insula) shows heightened activity when Responders receive a low offer, whether it comes from a person or a computer.⁴⁶

The second indicator of moralization is that people think it appropriate to censure those who engage in a behavior that is moralized against. We get some insight into this from recent Ultimatum game studies in which Responders were given an opportunity to send a written message to the Proposer. The primary finding of these studies is that when Responders were allowed to send a message to the Proposer, they were more willing to accept low offers.⁴⁷ For our purposes, though, what is especially important is an incidental aspect of the studies – the content of these messages. When offers were low, the communication was typically *censure*. ‘You suck’ and ‘Don’t be so greedy’ are representative examples. In a similar study using a Dictator game, unequal divisions again prompted censure: ‘So you choose to take all the money yourself, you greedy bastard. I was just wondering if there was anyone who would do that and the answer apparently is yes, apparently people like you exist!’⁴⁸

The next indicator of moralization is overjustification. Is the equal-division norm overjustified? Again, we can turn to the verbal responses from the economic games. That provides a small sample to draw from, but we still get importantly different ways of justifying why the action was wrong. Some invoked greediness (‘should not have been greedy’ and ‘too selfish’), others invoked desert (‘why should you get more \$ than me?’ and ‘I hope you will enjoy your undeserved money!!’), others adverted to lack of respect (‘so you think you are worth twice as much as me?’), and still others invoked something like the Golden Rule (‘Treat everyone as you want them to treat you’ and ‘imagine the reverse’). Perhaps we could fold a couple of these together, but there would still remain several different justifications for why it is wrong to flout equal division.

Negative character evaluation was the final indicator of moralization on the list. There has been recent work on character evaluation in economic games. Subjects played the Trust game, in which one player, the Investor, is given an allotment of money. The Investor can give as much as he wants to another anonymous player, the Trustee. Whatever amount the Investor gives will be tripled, and

then the Trustee gets to decide how much to give to the Investor. After playing several rounds of the Trust game, subjects read stories that were allegedly written by their co-players. In some of these stories, the person did something that had a bad outcome. The subjects were asked to evaluate how blameworthy the person was for the outcome. Subjects were significantly harsher in their moral evaluations when they thought the action was done by an 'unfair' Trustee (that is, one who gave the Investor nothing to a quarter of the final pot).⁴⁹ Thus, it seems like flouting the equal-division norm also triggers negative character evaluation.⁵⁰ Incidentally, negative character evaluation over sharing shows up in the real life of small-scale societies. Anthropologist Frank Marlowe, who has worked with the Hadza of Tanzania for more than a decade, claims that among the Hadza food sharing is expected, and 'Hadza say people who do not share are bad people.'⁵¹

The data on disgust, censure, overjustification, and character evaluation suggests that the equal-division norm has indeed been moralized. This is a significant fact for us. For our central question is why the equal-division norm is ubiquitous, and it is independently plausible that moralization increases cultural resilience. But there remains a major limitation. Our guiding question about equal-division norms is why they are so common cross-culturally. The fact that our equal-division norm is moralized helps explain its resilience. But this does not yet explain the cross-cultural ubiquity of equal-division norms because basically *any* norm can be moralized under the right conditions. Perhaps the most obvious illustrations are the apparently arbitrary taboos we find in many cultures (for example, prohibitions on certain clothing material), which are nonetheless moralized (people who violate the taboo are censured, regarded as bad, and so forth).⁵²

So, our equal-division norm is moralized, and moralized norms gain an advantage in cultural evolution. However, since basically any norm can get moralized, this does not yet explain why equal-division norms have differential success across cultures.

Status and the equal-division norm

Is there any reason to think that equal-division norms would be especially likely to get moralized? Rozin's discussion of the process of moralization focuses on how actions get moralized by linking them to harm.⁵³ In the USA, this has been a major feature of the moralization of smoking.⁵⁴ If there were a direct connection between equal division and harm, then we might capitalize on that. But if there is a connection between equal division and harm, it surely is not anything as simple as the 'harm' of missing out on a couple bucks in an Ultimatum game. However, appeals to direct harm are not the only routes to moralization. Another likely path to moralization is outrage. Feelings of outrage at a norm violation would reinforce the norm, leading to greater internalization of the norm, which is the key to moralization. The evidence on economic games recounted above certainly indicates that violations of the equal-division norm in our own culture triggers outrage.

Once again it seems like we have not made much progress, however. For outrage can be triggered by a vast array of norm violations that do not have cross-cultural uniformity. What counts as a bad tip varies by region, but leaving a bad tip is likely to provoke outrage wherever you are. We can make some headway, though, by identifying a general kind of appraisal that triggers outrage. Paradigmatically, judgments of disrespect trigger moral outrage.⁵⁵ Disrespect itself can be triggered in many ways, but one of the most common involves challenges to relative status.⁵⁶ The upshot is that threats to status are likely to generate outrage, certainly for the person whose status is threatened, as well as his kin.

Status itself is part of the furniture of most human societies. For instance, in small-scale societies, there is often a widely respected hierarchy in which elders have an elevated status. Work on cultures of honor, such as those in the Middle East, indicates that status is a critical resource that affects who will cooperate with you, who will work with you, and who will marry your children. In Arab culture, there is a constant struggle for rank that is reflected in the proverb: 'Always be sure to claim all due respect for what you have and deserve.'⁵⁷

Status continues to preoccupy us in large industrial societies. Concerns about status often trump even monetary concerns. Just to take one example from the empirical literature, indignation at low salaries is largely about threat to *status*, not buying power.⁵⁸ In street vernacular, outrage at status threats among peers is familiar from the rhetorical question, 'You think you're better than me?!'

It is easy to see that insults and other status threats would trigger outrage in the person whose status has been threatened. But in at least many cultures, there is an additional source of disapproval when one person threatens the status of a peer. Such status threats can undercut group integrity, which is quite explicitly prized in many cultures. For instance, among the Turkana, cattle herders of northwest Kenya, insulting someone in one's age-set (typically a tight coalition) will meet with disapproval by other members of the age-set because such actions threaten to undermine the coalition. In addition, elders who are not part of the age-set will disapprove of such actions because of potential disruption in the broader community.⁵⁹

We are now in a position to return to the equal-division norm. For equal-division norms are tightly connected to status. Starting from the assumption that the equal-division norm is in place, the question is why it has such staying power. My suggestion is that part of the answer is that when an equal-division norm is present, to violate the norm will naturally be interpreted as signaling a difference in status. If Jim is told to divide a good with Bill, and Jim elects to defy the equal-division norm, giving Bill a tenth of the good, what is Jim's justification? Since the good was a windfall, Jim can hardly claim that he earned the greater share. Given the presence of an equal-division norm, it will be natural to think that Jim is treating Bill as inferior.⁶⁰ Indeed, we see these kinds of status considerations emerge in the verbal responses in economic games. In the Ultimatum game, one player who got a low offer wrote to the Proposer: 'Sorry, I'm a person too ...

Since you decided you are obviously better than I am ... you get nothing.’⁶¹ In the Dictator game study, a recipient of an equal split wrote to the dictator: ‘So, you think you are worth twice as much as me?!’⁶² Obviously, these reactions strike the same chord as the street challenge, ‘You think you’re better than me?!’

Status is likely a much older part of human society than equal-division norms, and typically there are peer groups in which the individuals have equal status.⁶³ However, it is important to emphasize that I am not claiming that status *produces* the equal-division norm. That is, I am not claiming that the equal-division norm was introduced into communities because peers are taken to have equal status. Rather, I am assuming a situation in which the equal-division norm is in place. Under these circumstances, to defy a standing equal-division norm in interacting with a peer will naturally be interpreted as undercutting the peer’s status – and it will not be easy to devise convincing excuses.⁶⁴ Absent a good justification, to defy the norm will be perceived as a challenge to the equal status of the peers. A related phenomenon is found in real interactions over sharing among the Turkana, as charted by the anthropologist Pierre Lienard.⁶⁵ Among the Turkana, it is common for members of a peer group to ask each other for items. In such cases, not to acknowledge the request or to refuse flat-out to share is to treat the peer badly. To refuse flat-out to share is taken to show a lack of regard for him as a person. This triggers anger in the requester and some disapproval (and possibly anger) in the observers. The Turkana’s sharing norm allows for excuses (one can try to avoid sharing), but the request to share must be reckoned with. One must offer some reason for not complying with the request. Failing to be sensitive to the request to share with a peer is to treat him as inferior, not worth getting your surplus. That is a clear basis for outrage.⁶⁶

Now, finally, we can return to our question – why does the equal-division norm have such cultural power? I do not have an explanation for how the norm emerged in the first place. But once such a norm is in place, it would be hard to dislodge. Flouting an equal-division norm will naturally be regarded as a challenge to status, and such challenges, we know, issue in judgments of disrespect and feelings of outrage. *That* is likely to lead to the moralization of the norms. As we have seen, there is good reason to think that the equal-division norm is indeed moralized among western subjects. There is also reason, though not yet experimental evidence, to think that sharing norms are moralized in small-scale societies. So, equal-division norms are especially likely to get moralized, and being moralized is a huge asset in cultural evolution. That would help explain their ubiquity.

7. Conclusion

For at least a portion of the population, I have argued, the equal-division norm is a personal norm rather than a social norm. But this invites the question, ‘Why is the equal-division norm so widespread?’ I have suggested two paths that might

explain why equal-division norms are culturally resilient. One possibility is that our natural tendency for envy would generate affective resonance with a standing equal-division norm; another (compatible) possibility is that the equal-division norm is especially likely to become moralized. The thrust of this is that we can explain why the equal-division norm would be culturally successful even if it is a personal norm rather than a strategic social norm. However, none of this explains why the norms would emerge in the first place. Bicchieri's notion of social norm might provide an answer to that question. That is, even if many people embrace equal division as a personal norm, Bicchieri's account might explain how the equal-division norm can emerge. Moreover, even if I am right that the equal-division norm is personal for some people, it is quite possible that for other people equal division is a social norm. Indeed, given the evidence of individual differences in behavior in economic games, it is quite plausible that there are individual differences in whether the equal-division norm is taken as a social or a personal norm. This kind of a mixed model offers the hope of providing a story both about how the norms emerge (as social norms) and also about how the norms might become personal norms that get tightly fixed in the culture.

notes

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1. R. James Blair, 'A Cognitive Developmental Approach to Morality: Investigating the Psychopath', *Cognition* 57 (1995): 1–29; Joshua Greene and Jonathan Haidt, 'How (and Where) Does Moral Judgment Work?' *Trends in Cognitive Science* 6 (2002): 517–23; Shaun Nichols, *Sentimental Rules* (New York: Oxford University Press, 2004); Jesse Prinz, *The Emotional Construction of Morals* (Oxford: Oxford University Press, 2007). For contrasting views, see Bryce Huebner, Susan Dwyer and Marc Hauser, 'The Role of Emotion in Moral Psychology', *Trends in Cognitive Sciences* 13 (2008): 1–6 and John Mikhail, 'Universal Moral Grammar: Theory, Evidence and the Future', *Trends in Cognitive Sciences* 11 (2007): 143–52.
2. Werner Güth, Rolf Schmittberger and Bernd Schwarze, 'An Experimental Analysis of Ultimatum Bargaining', *Journal of Economic Behavior and Organization* 3 (1982): 367–88.
3. Joseph Henrich, Robert Boyd, Samuel Bowles, Herb Gintis, Colin Camerer and Ernst Fehr, *Foundations of Human Sociality: Economic Experiments and*

Ethnographic Evidence from Fifteen Small-Scale Societies (Oxford: Oxford University Press, 2004).

4. Cristina Bicchieri, *The Grammar of Society* (Cambridge: Cambridge University Press, 2006), p. 101.
5. *Ibid.*, pp. 117 ff.
6. *Ibid.*, p. 74.
7. For simplicity, I will typically speak as if there is a single equal-division norm that has fairly broad scope, subsuming cases in which experimental subjects are asked to divide a pot of money (as in the Ultimatum game) as well as natural cases in which a person is given a good and told to share it. Alternatively, one might want to maintain that there are really multiple equal-division norms that are more situation specific.
8. Bicchieri's account is phrased in terms of conditional 'preferences'. But the term 'preference' typically implies a rank ordering (for example, I prefer vanilla over chocolate), and in Bicchieri's account we are not given anything like a rank ordering. (I owe this observation to Jerry Gaus.) I take it that what Bicchieri has in mind by 'preference' is something like *desire* or *liking*, which can be invoked without specifying a ranking. This interpretation is supported by the fact that Bicchieri uses the label 'preference for fairness' to describe Fehr and Schmidt's model, which they explicitly frame in terms of an aversion (a disliking) for inequitable outcomes. (See Ernst Fehr and Klaus Schmidt, 'A Theory of Fairness, Competition, and Cooperation', *Quarterly Journal of Economics* 114 (1999): 820.) In this article, I will use 'desire' or 'liking' in place of Bicchieri's 'preference'.
9. Bicchieri, *The Grammar of Society*, p. 20.
10. *Ibid.*
11. *Ibid.*, p. 22, emphasis in the original.
12. One critical detail to fill in here is why (or if) communities are better off if people follow the equal-division norm (compare *ibid.*, pp. 214–5). But I will set that issue aside.
13. Cristina Bicchieri and Erte Xiao, 'Do the Right Thing: But Only if Others Do So', *Journal of Behavioral Decision Making* 22 (2008): 191–208.
14. Although it does not affect the present discussion, I should note that my presentation here is a simplification of Bicchieri's view. For she charts an additional path to conformity – I might conform to the equal-division norm because others prefer me to conform and will sanction my behavior if I do not. See Bicchieri, *The Grammar of Society*, p. 11.
15. This hypothesis might be explored by seeing whether lowering the stakes in a Dictator game would make people come closer to equal division. We know that in standard Dictator games, using at least US\$10, the mean allocation is only 20 percent. See Robert Forsythe, Joel Horowitz, N.E. Savin and Martin Sefton, 'Fairness in Simple Bargaining Experiments', *Games and Economic Behavior* 6 (1994): 347–69. For college students, US\$10 is not a trivial amount of money, and it is possible that if the stakes were lower, we would see a closer approximation of equal division. As Bicchieri notes, even though the benevolent person would rather be the sucker than the cheat, that preference would be cost sensitive. See Bicchieri, *The Grammar of Society*, p. 18.
16. Bibb Latane and John Darley, 'Group Inhibition of Bystander Intervention in

- Emergencies', *Journal of Personality and Social Psychology* 10 (1968): 215–21.
17. This is perhaps an instance of the phenomenon of 'information influence' discussed by Bicchieri. In such cases, she writes, 'we take "what most people do" to clarify reality'. See Bicchieri, *The Grammar of Society*, p. 64. Experiments on social conformity plausibly illustrate this phenomenon. Notoriously, subjects can be made to adjust their (avowed) opinion of whether two lines differ in length if they first hear several people say that the lines are of the same length. See Solomon Asch, *Social Psychology* (Englewood Cliffs, NJ: Prentice Hall, 1952). One natural interpretation of this is that many of the subjects adjust their opinion because they take the other group members to be in a position to know the truth.
 18. As Bicchieri notes, the Dictator game presents a novel and ambiguous situation – it is not clear which norm, if any, is supposed to apply. See Bicchieri, *The Grammar of Society*, p. 126. If it is a sharing game, then the equal-division norm would apply. But if I learn that most players do not divide equally, then that is reason to think that it is not a sharing game. (Importantly, the standard formulations of the Dictator game do not include the word 'share' in the instructions. Rather, the instructions are phrased in the neutral vocabulary of 'dividing'.)
 19. See, for example, Paul Van Lange, 'The Pursuit of Joint Outcomes and Equality in Outcomes', *Journal of Personality and Social Psychology* 77 (1999): 337–49; Michael Haselhuhn and Barbara Mellers, 'Emotions and Cooperation in Economic Games', *Cognitive Brain Research* 23 (2005): 24–33.
 20. Bicchieri, *The Grammar of Society*, p. 125.
 21. Sally Blount, 'When Social Outcomes Aren't Fair: The Effect of Causal Attributions on Preferences', *Organizational Behavior and Human Decision Processes* 63 (1995): 131–44.
 22. Alan Sanfey, James Rilling, Jessica Aronson, Leigh Nystrom and Jonathan Cohen, 'The Neural Basis of Economic Decision-Making in the Ultimatum Game', *Science* 300 (2003): 1755–8; Mascha van 't Wout, Rene Kahn, Alan Sanfey and Andre Aleman, 'Affective State and Decision-Making in the Ultimatum Game', *Experimental Brain Research* 169 (2006): 566.
 23. Sanfey et al., 'The Neural Basis of Economic Decision-Making in the Ultimatum Game', p. 1757, Figure 2, D.
 24. Presumably, this is not a simple inequality aversion, however, but rather, an aversion to unequal division in certain situations, such as that of the Ultimatum game. One could easily test this by seeing whether the elevated insula activation would occur under a differ frame, one in which we would not expect the equal-division norm to be activated. For instance, if the Ultimatum game were framed explicitly as a 'tipping game', in which the Proposer is designated as the 'tipper', then an inequitable split of 20/80 would likely not be regarded as a norm violation. So, if we found that in such a game there was no elevated insula activation that would give some reason to doubt that the reactions to computers derived from a simple aversion to inequality.
 25. Kristina Olson and Elizabeth Spelke, 'Foundations of Cooperation in Young Children', *Cognition* 108 (2008): 228.
 26. William Damon, *The Social World of the Child* (San Francisco, CA: Jossey-Bass, 1977), p. 81.
 27. *Ibid.*, p. 85.

28. This is akin to Carey and Spelke's idea that the young child has a certain body of core knowledge that persists unrevised into adulthood. See, for example, Susan Carey and Elizabeth Spelke, 'Science and Core Knowledge', *Philosophy of Science* 63 (1996): 515–33. However, I am not assuming that the child's knowledge of the equal-division norm is innate, as Carey and Spelke do for their standard cases of core knowledge. Rather, I am just adopting their idea that the early system persists.
29. Bicchieri, *The Grammar of Society*, p. 21.
30. Dan Sperber, *Explaining Culture* (Oxford: Blackwell, 1996).
31. Nichols, *Sentimental Rules*.
32. *Ibid.*
33. See, for example, Richard Lazarus, *Emotion and Adaptation* (Oxford: Oxford University Press, 1991), p. 254.
34. A natural objection to this proposal is that the person who benefits by flouting equal division presumably has a *positive* experience. Negative reactions of envy might offer support to the equal-division norm, but complementary positive reactions would seem to operate against it. It might look like this is a wash. However, it remains possible that envy is a more powerful reaction. Indeed, this seems at least somewhat plausible given the familiar psychological fact that losses loom larger than gains for most people.
35. Of course, a judgment of unfairness might aggravate the feeling of envy. But the point here is that one can feel envy even while not regarding an outcome as unfair; also, one might regard something as unfair without feeling envy, for instance, when a third party observes a disproportionate split.
36. Bicchieri, *The Grammar of Society*, pp. 43, 96.
37. Paul Rozin, 'Moralization', in *Morality and Health*, edited by Allan Brandt and Paul Rozin (New York: Routledge, 1997), p. 380.
38. Paul Rozin and Leher Singh, 'The Moralization of Cigarette Smoking in America', *Journal of Consumer Psychology* 8 (1999): 328.
39. Paul Rozin, Maureen Markwith and Caryn Stoess, 'Moralization: Becoming a Vegetarian, the Conversion of Preferences into Values and the Recruitment of Disgust', *Psychological Science* 8 (1997): 71–2; Paul Rozin, 'The Process of Moralization', *Psychological Science* 10 (1999): 218.
40. Rozin and Singh, 'The Moralization of Cigarette Smoking in America', p. 323.
41. Rozin, 'The Process of Moralization', p. 219.
42. Richard Stein and Carol Nemeroff, 'Moral Overtones of Food: Judgments of Others Based on What They Eat', *Personality and Social Psychology Bulletin* 21 (1995): 480–90.
43. Rozin, 'Moralization', pp. 382, 383. Rozin goes on to say, 'An action that is performed in the service of a value is likely to be more resilient and durable. One reason for this is that moral linkage may encourage a hedonic shift. In other words, an object or activity that is aligned with one's moral views may come to be liked, and one that is in violation of such views may come to be disliked.' See *ibid.*, p. 383.
44. Rozin, 'The Process of Moralization'.
45. I want to allow for the possibility that there was a time in our cultural past at which the equal-division norm was not moralized, but I do not mean to exclude the possibility that the norm was moralized from the start.

46. Sanfey et al., 'The Neural Basis of Economic Decision-Making in the Ultimatum Game', p. 1757, Figure 2, D.
47. Erte Xiao and Daniel Houser, 'Emotion Expression in Human Punishment Behavior', *Proceedings of the National Academy of Sciences* 102 (2005): 7398–401.
48. Tore Ellingsen and Magnus Johannesson, 'Anticipated Verbal Feedback Induces Altruistic Behavior', *Evolution and Human Behavior* 29 (2008): 100–5.
49. Dorit Kliemann, Liane Young, Jonathan Scholz and Rebecca Saxe, 'The Influence of Prior Record on Moral Judgment', *Neuropsychologica* 46 (2008): 2949–57.
50. The Trust game is different from the Ultimatum game in significant ways, so it will be important to make sure that the results do apply in the Ultimatum game as well.
51. Frank Marlowe, 'Dictators and Ultimatums in an Egalitarian Society of Hunter-Gatherers, the Hadza of Tanzania', in *Foundations of Human Sociality: Economic Experiments and Ethnographic Evidence from Fifteen Small-Scale Societies*, edited by Joseph Henrich et al. (Oxford: Oxford University Press, 2004), p. 189. Something similar is true of the Turkana of Kenya (Pierre Lienard, personal communication).
52. See, for example, Robert Edgerton, *Rules, Exceptions, and Social Order* (Berkeley: University of California Press, 1985), p. 45.
53. Rozin, 'The Process of Moralization', p. 220.
54. This kind of harm-based explanation also plausibly extends to explain how many taboos get moralized. For often the prohibited action is connected to supernaturally mediated bad consequences for the group, such as drought and disease.
55. Lazarus, *Emotion and Adaptation*; see also Dale Miller, 'Disrespect and the Experience of Injustice', *Annual Review of Psychology* 52 (2001): 527–53.
56. Fritz Heider, *The Psychology of Interpersonal Relations* (New York: Wiley, 1958), pp. 267–8; see also Tom Tyler, 'Psychological Models of the Justice Motive', *Journal of Personality and Social Psychology* 67 (1994): 850–63.
57. Philip Salzman, *Culture and Conflict in the Middle East* (Amherst, NY: Humanity Books, 2008), pp. 105–6.
58. Joseph Berger, Morris Zelditch, Bo Anderson and Bernard Cohen, 'Structural Aspects of Distributive Justice: A Status Value Formulation', in *Sociological Theories in Progress*, edited by Joseph Berger et al. (Boston, MA: Houghton Mifflin, 1972), pp. 119–46; Richard Layard, 'Happiness and Public Policy: A Challenge to the Profession', *The Economic Journal* 116 (2006): C24–C33.
59. Pierre Lienard, personal communication.
60. As Bicchieri points out, there is work indicating that allocation often depends on rank. See, respectively, Bicchieri, *The Grammar of Society*, p. 92 and Alan Fiske, *Structures of Social Life: The Four Elementary Forms of Human Relations* (New York: Free Press, 1991).
61. Xiao and Houser, 'Emotion Expression in Human Punishment Behavior'.
62. Ellingsen and Johannesson, 'Anticipated Verbal Feedback'.
63. For instance, in small-scale societies such as the Turkana, there are typically groups of young men who have this kind of equal status.
64. By contrast, even though giving a bad tip is likely to be perceived as disrespectful, there are ready excuses for under-tipping. Most familiarly, one can claim that the service itself was not worth the expected tip.
65. Pierre Lienard, personal communication; see also Pierre Lienard and Francois

Anselmo, 'The Social Construction of Emotions: Gratification and Gratitude among the Turkana and Nyangatom of East Africa', in *At the Fringes of Modernity*, edited by Steven Van Wolputte and Gustaaf Verswijver (Tervuren: Royal Museum for Central Africa, 2005), pp. 150–98.

66. Interestingly, among the Machiguenga, who make and accept low offers in Ultimatum games, status plays a minimal role (Joe Henrich, personal communication). If it is true that the Machiguenga do not have an equal-division norm, this might be because the Machiguenga lack the kinds of status concerns that play a role in securing equal-division norms.