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#### PART III

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An old Jewish story tells about two litigants appearing before the town’s rabbi. The first litigant having presented his case, the rabbi tells him: You are right. Then the second litigant presents his case, and the rabbi tells him, too: You are right. After the litigants had gone, the rabbi’s wife reproaches him: How can they both be right? The rabbi listens to her attentively, and says: You know what? You are right, too!

Stories like this reflect the deep unease that some of us feel about relativism, the “you are right too” view, the idea that judgement should be done in context. How can everyone be right? And when rationality is the issue, relativism seems a particularly bad idea. It seems that one cannot be relatively rational: the question of rationality is an absolute one. As Stein (1996) memorably put it: “prima facie, relativism seems implausible with respect to reasoning. It seems crazy to say that reasoning in accordance with principles based on rules of logic is a good thing for some people but not for others” (Stein, 1996, p. 32; more on Stein’s critique later). Oaksford and Chater recently voiced a similar objection, saying “there is a strong intuition [. . .] that there is some absolute sense in which some reasoning or decision-making is good, and other reasoning and decision-making is bad” (Oaksford & Chater, 2007, pp. 24–25).

In this chapter, I address the issue of relativism in rationality. Rationality seems a suitable topic for a book in honour of Jonathan Evans’s sixtieth birthday: Jonathan’s contribution to the field of human rationality (much of it with David Over) has shaped the way many of us think about rationality. In their seminal *Rationality and Reasoning* (1996), Evans and Over famously defended a distinction between rationality₁, the pragmatic, instrumental sort of rationality involved in obtaining goals, and rationality₂, implied by explicit normative rule following. This distinction is pertinent to the present discussion: relativism has a different meaning in the context of instrumental rationality and normative rationality. In instrumental rationality, a relativist viewpoint means that goals are relative to the individual, or, even more strongly, that cognitive tools for obtaining these goals are relative too. This is the approach that Evans and Over take regarding instrumental rationality: rationality₁ is “personal and relative to the individual” (p. 4), focusing on...
“what our individual goals are, and whether we are reasoning or acting in a way that is generally reliable for achieving these” (p. 7). It is explicitly relative. Similarly, Oaksford and Chater have recently defended the goal relativity of rational analysis (Oaksford & Chater, 2009, p. 100).

In comparison, in the context of normative rationality, relativism means that normative systems are relative to an individual in a particular context and should be judged in that context. That is, if an individual explicitly follows her own relevant normative system and conforms to its rules, then from a relativist angle this is both necessary and sufficient to make her normatively rational (rational; in Evans and Over’s terms). A relativist viewpoint means that the normative system followed does not have to be objectively justified or impersonal, although it does have to be subjectively and contextually justified. The issue seems orthogonal to the question of relativism in instrumental rationality: one can grant that goals are relative to the individual, that reliability of various cognitive tools for achieving them is relative, and yet leave open the issue whether normative systems are relative, or even opt for an absolutist view of the latter. While Evans and Over (1996) do not explicitly discuss the issue, they seem to adopt the latter view: rationality is presented as “impersonal”.

In this chapter, I will take one step further a view I have recently defended in collaboration with Jonathan (Elqayam & Evans, 2010), and will argue that, if psychologists wish to preserve a notion of normative rationality, this can best be done within a relativist framework. I will then examine a possible framework for such a relativist conception of normative rationality and defend it. I will argue that normative judgements in psychology run the risk of a problematic inference, whose solution requires a relativist viewpoint. I will also argue that the same principle that underlies bounded rationality, the “ought implies can” principle, means that normative judgement has to be taken in context. I will start by demonstrating how some of the arguments against normativism undermine an absolutist framework of normative rationality and that a relativist framework is a viable potential solution. Moving on to describing the relativist framework, I will start by sketching the way normative relativism changes the normative research question. The following section examines in some detail the way relativism would work for normative rationality. I will propose and defend a conception of grounded rationality, which is a relativist version of bounded rationality. Next examined is a major question that relativism and grounded rationality have to deal with, the role of universal constraints. Next, I examine the role of explicit processing. Finally, I will look in some detail at possible objections to the proposed relativist framework.

Relativism, normativism, and inferring the ought from the is

Notwithstanding what seems like the counterintuitive character of relativism in human thought, relativism does acquire greater plausibility in historical context. Plurality of formal systems is a matter of record in the history of
science. Like any domain of knowledge, formal systems develop and change over time and space (see Olson & Torrance, 1996). Consider the history of logic, mathematics and statistics – the leading candidates for normative systems. The simple observation is that they keep changing. The logic of, say, twenty-first century textbooks, is hardly what medieval students learned in the trivium. The highly sophisticated methods that Chinese mathematicians, for example, used to obtain results comparable in accuracy to those of the Greek mathematicians, were entirely different, involving no use of axioms (Lloyd, 1996). Contemporary formal systems vary too – think about many-valued logics (Gottwald, 2001; Rescher, 1969), or non-Euclidean geometries (Greenberg, 2008).

Add to this the accumulating evidence for cultural and individual differences in the psychology of reasoning and judgement and decision making. Different people do seem to think differently, depending on cultural (Buchtel & Norenzayan, 2009; Nisbett, Peng, Choi, & Norenzayan, 2001) and individual differences in style (Epstein, 1994; Epstein, Pacini, Denes-Raj, & Heier, 1996), ability and cognitive motivation (Stanovich, 1999, 2004; Stanovich & West, 2000). Even what people count as knowledge seems to be culture sensitive (Weinberg, Nichols, & Stich, 2006; also see Nichols, 2004). The case for descriptive pluralism, then (in the term coined by Stich, 1990), seems beyond dispute. And from descriptive pluralism to normative relativism seems but one easy step.

So here is the paradox: On the one hand, this intuitive “prima facie implausibility” (in Stein’s terms) of normative relativism; on the other – the historical, geographical, and psychological evidence for descriptive pluralism. Of course, a step from “is” to “ought” is never easy! One can accept the evidence for descriptive cultural pluralism and yet defend an absolutist normative view. However, this very gap between the is and the ought, the factual and the evaluative, provides us with a very good reason to embrace a relativist approach to human thought.

Recently, Elqayam and Evans (2010) identified and argued against normativism as a dominant paradigm in the psychology of human thinking. Normativism was defined as the view that (N1) human thinking reflects some kind of formal system S; and (N2) should be judged against S as a normative system. A major part of the argument was based on the descriptive pluralism of formal systems. Several authors (Evans, 1993; Stanovich, 1999) have pointed out a problem of arbitration (dubbed “the normative system problem” and “the inappropriate norm argument” respectively), when more than one normative system fits in with a particular empirical corpus. Elqayam and Evans (2010) pointed out that the problem of arbitration is particularly acute for normativism, because normative systems assume an “ought” component that is absent from computational (in Marr’s terms) or competence (in Chomsky’s terms) level theories (also see Elqayam, 2007; Evans, 2009a; Schroyens, 2009). Elqayam and Evans argued that, while supporting “is” theory with “is” evidence is fairly straightforward, supporting an “ought”
theory with “is” evidence seems to invite an “is–ought” (Hume, 2000) or naturalistic (Moore, 1903) inference: where the premises are purely factual, inferring evaluative, deontic conclusions has been argued to be fallacious (Hudson, 1969; Schurz, 1997). A notorious example of the naturalistic fallacy – in fact, the one that prompted Moore’s criticism – is Spencer’s Social Darwinism (Hofstadter, 1955; although see Weinstein, 2002), which converts Darwinian adaptation mechanisms (“is”) into a form of extreme capitalism captured by the catchphrase “survival of the fittest”, and presented as a moral argument (“ought”). Since any empirical solution to the arbitration problem requires inferring an “ought” (normative system) from an “is” (empirical evidence), normativism is problematic for psychology; Elqayam and Evans concluded, therefore, with an outline of a descriptivist agenda in the psychological study of human thinking.

It is far from clear, however, that inferring the “ought” from the “is” is indeed a fallacy. A tradition in meta-ethics endeavours to clear “is–ought” inference: the core argument is that the separation of factual from evaluative is artificial, and that many acts of communication (concepts, speech acts) in ordinary language are both (e.g., Frankena, 1939; Searle, 1964; Williams, 1985). For example, if Jones promises to pay Smith £5, then Jones ought to pay Smith £5; no fallacy is involved, since promising as a deontic speech act already incorporates an “ought” (Searle, 1964). Elqayam and Evans acknowledge this; but, they argue, here is the rub: these amalgam concepts (“thick” concepts, to borrow a term from Williams, 1985) typically depend on social construction. It is social consensus that gives them the evaluative, deontic meaning, and social consensus is relative to the society. The amalgam solution seems to be a package deal: if we use it to support normative judgement, such judgement would have to be in context. To save normative rationality from the is–ought problem, then, one has to opt for a solution that depends on a type of relativism alien to normativism.

The amalgam solution, then, cannot save normativism, but it can and it does support relativism. Normative evaluation free from the is–ought problem is only possible within a relativistic framework. Stich (1990) has already mounted a comprehensive support of relativism in instrumental rationality, a view shared, as mentioned, by Evans and Over (1996) and to some extent by Oaksford and Chater (2009). However, the amalgam solution to the is–ought problem implies that relativism is mandatory in order to preserve some notion of normative rationality in psychology. The price of saving normative rationality, then, is giving up on comparison against an absolute evaluative norm. But this changes everything: many of the research questions in the rationality debate depend on the normativist paradigm and share its presupposition. In the following sections, I will pick up where Elqayam and Evans (2010) have stopped, and examine in some detail the way a relativist paradigm changes the face of research where normative rationality is concerned.
Relativism: The research question

Once the normativist paradigm is discarded, then the psychology of reasoning and judgement has two main options. The first one, advocated by Elqayam and Evans (2010), is a purely descriptivist agenda, giving up any normative considerations. However, it seems that relativism allows a second option: retain a modicum of normative judgement, provided this is done in relativist context. The relativist option, however, is not that far different from a purely descriptivist agenda. I will take this issue up again in the final section, but before that, I should examine in some detail what normative relativism means.

So how does relativism change the agenda of normative rationality? I will start with the basics: the research question is different. The typical normativist, absolutist research question is $Q_{na}$:

$Q_{na}$. Is formal system $S$ normative?

With relativism, $Q_{na}$ becomes too underspecified, and is no longer even meaningful; it would be replaced by $Q_{nr}$:

$Q_{nr}$. Is formal system $S$ normative for agent $A$ in epistemic context $E$?

Where epistemic context is both diachronic and synchronic, and sensitive to culture, society, geography, ecology, as well as the individual: anything that can have an effect on one’s acceptance of a particular normative system. Thus, both personal and collective influences are taken into account in $Q_{nr}$.

Note that relativism obviates the arbitration problem or at least attenuates it considerably: Different normative systems, $S_1$ and $S_2$, can be normative at the same time, if applied to different agents $A_1$ or $A_2$, or different epistemic contexts $E_1$ or $E_2$, or both.

I should also note that normative relativism is different from the instrumental or pragmatic sort, which acquired prominence in Stich’s seminal defence of relativism (Stich, 1990), and which can be summarized as:

$Q_{pr}$. Is [formal] system $S$ useful (efficient, conducive to goal attainment) for agent $A$ in epistemic context $E$?

One of the main differences in epistemic context is the one between analytic, decontextualizing thinking style and holistic, contextualizing ones. There are cultures in which such contextual holistic thinking is the normative, trained response (Buchtel & Norenzayan, 2009; Choi, Koo, & Choi, 2007; Koo & Choi, 2005). The cultural differences literature tends to focus on the Eastern/Western dichotomy, but the differences seem to be a matter of training rather than geography: for example, responses of Korean students differed for Oriental medicine versus psychology majors, the latter responding similarly to Western students (Koo & Choi, 2005). I will therefore prefer

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the terms contextualizing versus decontextualizing cultures or epistemic contexts.

Just like normativism, relativism can vary, and seems to be a matter of degree rather than a dichotomy. Elqayam and Evans (2008) argued that both N1 (human thinking reflects normative system S) and N2 (S is the normative rational standard) are better conceived as vectors rather than dichotomies: N2, in particular, is sensitive to questions such as the a priori status of the normative system, whether conforming to it is considered both necessary and sufficient to normative rationality or only necessary, and whether the same normative system holds universally or only for each specific task. Relativism, as the mirror image of N2, is sensitive to the same factors. At its very extreme, each unique combination of individual in epistemic context should be tested for rational norms and conforming to them; the more one allows room for universal norms and behaviours, the weaker the relativism. In the next section, I will elaborate more on the role of universal and particular factors in a possible relativist framework.

**Bounded rationality and grounded rationality:**
**A relativist framework**

In the previous sections, I have defended a relativist conceptualization of normative rationality by, following Elqayam and Evans (2008), demonstrating it to be a viable solution to the is–ought dilemma. To some of the readers of this chapter, though, this defence may seem rather ad hoc, and relativism too high a price to pay for some quaint nicety. Now that we have examined the research question, however, we can see that there are theoretical benefits to be reaped by adopting a relativist position that go beyond solution to the arbitration problem. First, normativism in its absolutist form runs a substantial risk of “cultural blindness” (Norenzayan & Heine, 2005), or, in the more general term coined by Stich (1990), “epistemic chauvinism”: the tendency to generalize individual intuitions to universal norms. While epistemic chauvinism is always a risk for normative rationality in any form, the risk is considerably lower with relativism. It may be impossible to take epistemic context fully into account: after all, each situation is a unique combination of individual, cultural and historical context. But overgeneralization is a higher risk if all this is completely ignored.

More importantly, relativism adds a significant dimension to the traditional concerns of bounded rationality. Simon’s (1957, 1982, 1983) model of bounded rationality refers mainly to the way that human rationality is constrained by what Cherniak (1986) calls “the finitary predicament”; that is, physical and cognitive limitations on processing. The fact that humans do not live forever, that our brain capacity is finite, dictates that only tractable computations could count as rational. The underlying rationale is the age old “ought implies can” attributed to Kant (1932/1787).

In addition to bounded rationality, once epistemic context is taken into
account, it also makes sense to talk about what I will term grounded rationality: that is, normative as well as instrumental rationality that is grounded in the individual’s epistemic context and everything that goes into it: species specific cognition, personal ability and cognitive style, history, culture, society, and ecology. Grounded rationality does not replace bounded rationality; they are conceptually distinct ideas, contextual versus universalist respectively, albeit based on a similar “ought implies can” principle. Note that bounded rationality itself is a relativist kind of constraint (Nickerson, 2008): it binds rationality to the relative context of human finitary considerations. However, from an angle of normative relativism, bounded rationality is just the beginning.

Accepting grounded rationality considerations means that the psychology of human thinking needs to consider seriously where contextual epistemic boundaries lie. Cultural differences are perhaps the prototypical (albeit not the only) source of epistemic context. They are certainly more accessible for psychological research: one can hardly time travel to the fourteenth century and study William of Ockham’s contemporaries under controlled experimental conditions. Cross-cultural studies, therefore, seem to be the best bet for analysing the effects of epistemic context. It is easy to forget that within-culture studies represent a biased sample of human behaviour – what Norenzayan and Heine (2005) call the “restricted database” of psychology. This oft-neglected truism has far-reaching implications for bounded rationality as a universalist concept: it is easy to mistake cultural constraints for universal cognitive limitations, when the sample is biased towards one culture. To avoid this error, we need to understand where bounded rationality ends and grounded rationality begins.

There is a precedent in cognitive science. Much of the ground I am trying to cover has already been covered in linguistics, where universalism has been a significant issue for many decades. In a way, cross-cultural studies of human thinking are now where linguistics was about half a century ago, perhaps because the easily accessible evidence is different in each case. In language, the empirical facts of linguistic diversity are blindingly obvious: different languages have different lexicons, different grammars. It took the Chomskyan revolution for linguistics to focus on language universals, to look for constraints on language that go beyond those imposed by particular languages (although see Harris, 1980, for a social constructionist critique of this approach; and Evans & Levinson, 2009, for a recent cognitive science critique).

In contrast, cross-cultural differences in thought may not be all that obvious or accessible, and it is only in the last two decades or so that psychologists have started to have some inkling of their extent, mainly thanks to the efforts of Nisbett, Norenzayan, and their collaborators (Norenzayan & Heine, 2005; Buchtel & Norenzayan, 2009; Nisbett et al., 2001). It is even more recently that authors have started comparing the role of universal and cultural constraints on thinking, in particular within a dual-process framework.
(Buchtel & Norenzayan, 2009; Norenzayan & Heine, 2005; Yama, Nishioka, Horishita, Kawasaki, & Taniguchi, 2007). There is no guarantee that thinking is indeed analogous to language and that the role of universal and local constraints can be profitably transferred from the study of the latter to the study of the former; however, it seems a useful starting point, at least as a work postulate. The next section looks into this analogy in more detail.

**Grounded rationality and the question of cognitive universals**

The analogy between linguistic and thinking universals and their implications for bounded rationality is illustrated in Figure 18.1. The first part of the figure, 18.1(a), centres on the role of linguistic universals. To explain it, I will draw on a classic example of linguistic universals: the order in which each language prefers to arrange the subject (S), verb (V), and object (O) in a normal (“unmarked”) sentence (Comrie, 1981; Greenberg, 1963; Hawkins, 1983). A brief consideration shows that with three components, potentially there can be six permutations of word order in any language: SVO, SOV, VSO, VOS, OVS, and OSV. The outermost of the concentric circles in Figure 18.1(a) represents this possibility. For word order, the possibilities embodied in all languages, natural as well as formal (i.e., logic), would include these six permutations. However, out of these six, only three are prevalent in known natural human languages: SOV (subject–object–verb), SVO, and VSO (in that order). The other orders are much rarer. This would be captured in the intermediate circle in 18.1(a), which represents linguistic universals in natural human languages. The classic explanation that goes back to Greenberg (1963) is that linguistic universals in general and word order universals in particular are a product of constraints on processing: in all the prevalent orders, subject precedes the object (also see Evans & Levinson, 2009). Lastly, particular languages, represented in the innermost circle, tend to adopt specific orders as the “unmarked”, default word order: English is an SVO language, Arabic is a VSO language, and so on.

The potential possibilities space, then, is narrowed down by constraints on processing that determine language universals, and that is further narrowed down in particular languages. Note that in this case as in most cases, neither type of constraint is entirely rigid: other word orders exist in world languages even if they are far less common (although whether they all exist is moot); some languages do not have any preferred order; and in languages with preferred order, the constraints only apply to the unmarked, normal sentence structure. Different word order may be used, mainly for emphatic purposes. (Compare, for example, this pair of SVO and OSV English sentences: “The police detained the suspect. The witnesses, they released after questioning.”) How far universality extends and what role linguistic diversity has is moot. Evans and Levinson (2009) have recently defended a strong diversity-based approach to universals, maintaining that diversity exceeds universality, and that whatever universals do exist reflect cognitive rather than
Figure 18.1 (a) Linguistic universals, (b) human thought, and (c) bounded and grounded rationality.
linguistic constraints. What is not moot, however, is that both universality and diversity play a role, and that at least some linguistic universals are a function of cognitive universals.

The analogy to human thought and rationality can be seen in Figures 18.1(b) and 18.1(c) respectively. The outermost circle of 18.1(b) depicts unbounded thought (perhaps something like a universal Turing machine), echoed in unbounded rationality in the outermost circle of 18.1(c) – both out of reach for humanity’s finitary context. Bounded rationality, in contrast, acknowledges universal processing constraints on human thought, just as language universals give us access to processing constraints on human language. Bounded rationality in the intermediate circle of 18.1(c) acknowledges – an “ought implies can” sort of acknowledgement – that thinking universals, represented in the intermediate circle of 18.1(b), are shaped by finitary processing constraints.

Bounded rationality neglects, however, the innermost circle of Figure 18.1(b), that of the epistemic context, exemplified in cultural diversity and individual differences. This is acknowledged in grounded rationality, in the innermost circle of 18.1(c). As particular languages pick specific linguistic tools from this limited space (Jackendoff, 2002), so may particular epistemic contexts – combinations of cultures and individuals – pick out specific thinking tools. For example, decontextualizing cultures tend to pick object-based thinking, whereas holistic cultures tend to be, by definition, context based (Buchtel & Norenzayan, 2009). Here, too, constraints often seem to be “soft”, making leading authors refer to thinking styles (Nisbett et al., 2001; Norenzayan, Smith, Kim, & Nisbett, 2002) rather than differences in cognitive architecture (Buchtel & Norenzayan, 2009; Evans, 2008, 2009b).

Note that empirical evidence will always be gathered at the innermost of the concentric circles, and generalized by comparing the space taken up by different languages or different epistemic contexts. To borrow a distinction from Harris (1980), we have no access to Language (with a capital L), only to languages. With just one language, or one type of epistemic context (such as culture) to draw on, overgeneralization is a clear hazard. Without cross-linguistic studies, it is easy to mistake particular language constraints for universal constraints, a sin typically committed by traditional grammar. Similarly, with no cross-cultural comparison, evidence from a specific culture can easily be mistaken for thinking universals (see Norenzayan & Heine, 2005, for a similar argument). The point is that both linguistic universals and thinking universals are a result of second-order theorizing. We only have access to human cognition in particular epistemic contexts. Unlike bounded rationality, grounded rationality takes this into account.4

Bounded and grounded rationality considerations alike are constraints rather than positive theories. Neither can dictate what the content of rationality norms is; they can only determine what it cannot be: norms can be neither computationally intractable nor contextually alien, respectively. The question therefore remains what the content of relativist, epistemic-context sensitive
norms would actually be. A theory of the content of rational norms – that is, what different cultures consider to be norms of rational thinking – would have to be accessed descriptively. This is part of the task that the cross-cultural approach undertook in recent years (e.g., Buchtel & Norenzayan, 2009; Choi et al., 2007; Koo & Choi, 2005; Nisbett et al., 2001).

If there is an answer, it has to be found in some level of abstraction, an approach dominant in mainstream linguistics (Chomsky, 1965, pp. 27–30; Jackendoff, 2002, pp. 74–78) and voiced in psychology, for example, by Norenzayan and Heine (2005). This is a “hard-core” approach to universals: the idea that at some level, there lurks a formalized or natural universal which is foundational to all particular manifestations. Such a hard core may constitute, in Cherniak’s (1986) terms, an element of “minimal rationality” (see also Saunders & Over, 2009). For psychological universals in general, the evidence does seem to support a universal hard core. It is not obvious, however, that such strong psychological universals, common to all epistemic contexts, can also be found in the domain of rational norms. The evidence that Norenzayan and Heine review only supports the existence of a hard core of psychological tools; it does not conclusively support that rational norms, specifically, are among these hard-core universal tools. If there is a universal, perhaps it is only the existence of norms simpliciter, as Carruthers (2006) recently suggested – not necessarily rational norms. An alternative relativist view would be that such a universal hard core for rational norms will never be found. Perhaps rational norms belong to the relativist part of the psychological toolbox. Or perhaps normative universals are like Wittgensteinian families, with partially overlapping features but no universal hard core, whatever the level of abstraction (for a similar proposal see Stich, 1990, p. 88). For example, perhaps there is a family of cognitive systems that shares noncontradiction as a rule, and another cognitive family that depends on dialectics; while both families share, say, a correspondence conception of truth. Note that this Wittgensteinian option is a possible alternative to any claim of universalism, but would be rather difficult to determine empirically. A limited survey of cognitive systems may come up with a feature that seems universal, but may not be shared by another cognitive family, left out of the survey.

Universal constraints on rationality, then, still allow a wide margin for local factors, both because finitary boundaries are somewhat elastic, and because the question of specific solutions remains open. As pointed out earlier, however, the link from “is” to “ought” is a particularly tenuous one. That cognition varies in epistemic context does not necessarily mean that normative rationality should take this into account. In other words, it is perfectly possible to acknowledge the innermost circle in Figure 18.1(b), and yet reject its analogue in 18.1(c), acknowledging only the universal constraints in the middle circle. The most extreme form of relativism would focus on grounded rationality, the particular component, to the exclusion of bounded rationality, the universal component. I doubt, however, that such a position is viable. It seems beyond dispute that the intermediate, universal circle should be
acknowledged, and indeed bounded rationality considerations seem to be a consensus in the rationality debate regardless of position. However, it is certainly possible to adopt a universalist position, ignoring grounded rationality altogether. The question, then, is if grounded rationality constraints should be taken into account at all, given their particular and local nature. The next section examines this issue.

**Weak versus strong normative relativism: The question of universals**

Given bounded rationality as a departure point, one can still accept grounded rationality as an additional relativist set of constraints, or reject it. Weak relativism would accept bounded rationality constraints but reject grounded rationality, whereas strong relativism would acknowledge both types of constraints. To reiterate, the question is not whether bounded rationality, the intermediate circle of Figure 18.1(c), should be accepted as a relevant set of constraints on what accounts as normative: that much goes without saying. Indeed in this weak sense, all contributors to the rationality debate can be said to hold a relativist position. The question is whether grounded rationality, or constraints sensitive to epistemic context, should be ignored, while bounded rationality, or more generally universal constraints on normative rationality, should be given a privileged status. Nozick (1993), for example, argues that if norms are particular to epistemic context – place, time, or individual – then they are just accidental generalizations. It is only “nomic universals” – scientific lawlike statements – that can provide viable norms.

In this section I will compare these weak and strong approaches to normative relativism. On the face of it, the idea that cognitive universals should have a special place in our normative considerations, over and above that of contextual systems, seems an appealing and sensible position to take. Weak normative relativism acknowledges relative constraints – recall that bounded rationality itself is relativist to some degree – while avoiding the potentially unsettling implications of strong normative relativism. It even seems to deflect the criticism of epistemic chauvinism, since only universals are taken into account. Suppose, for example, that a principle of noncontradiction is a cognitive rational universal (as suggested by, e.g., Over, 2004). If all humans have access to this principle, and some individuals violate it, no one can accuse us of being epistemic chauvinists if we condemn them as irrational. Weak normative relativism is also congruent with the amalgam solution to the is–ought fallacy presented above. Even if different cultures construct different factual-evaluative compounds, the very fact that such compounds exist seems to be universal.

It seems, then, that weak normative relativism carries all of relativism’s blessings and none of its hazards; that while we have to acknowledge bounded rationality, we can safely ignore grounded rationality. However, there are still good reasons to adopt grounded rationality in addition to the
bounded sort – that is, good reasons to prefer strong relativism to the weak version, as the next section proposes.

**How normative universals vary**

The most basic argument in favour of strong relativism, the one examined in the beginning of this section, is the “ought implies can” principle. If there are local constraints on cognitive mechanisms, then they have to be taken into account when setting rational norms, alongside universal constraints: one can hardly be accused of being irrational if one does not use cognitive tools that one cannot access. It makes little difference if a particular cognitive tool cannot be accessed because it is computationally intractable, and therefore inaccessible to all humans, or just not part of the cognitive repertoire of a particular epistemic context, and accessible to some individuals but not others. Can’t is can’t.

A possible objection here is that “ought implies can” may be a good reason for bounded rationality, but not for grounded rationality, because the intermediate circle reflects genuine processing constraints, whereas the innermost circle reflects mere optional constraints. In other words, there is a qualitative difference between bounded rationality constraints and grounded rationality constraints: the former makes a much more powerful “can’t” than the latter. Training, for example, can transcend cultural constraints (Koo & Choi, 2005). Hence, if the rationale is that processing limitations have to be taken into account, and if these limitations are much less severe for epistemic context, then “ought implies can” can be used to justify bounded but not grounded rationality.

However, as pointed out earlier in this section, constraints of bounded rationality, too, may be less rigid than they seem. Recall that in natural language universals there may be exceptions to the rules at least in some cases. In our example of word orders, despite the processing difficulty, some examples of each of the six possible word orders do exist in the world languages. Granted some are very rare, one cannot defend a “cannot” thesis in any absolute sense here. Even finitary boundaries vary across individuals. True, no one lives for ever; nevertheless, finitary limits on computation are not the same for everyone. There are always outliers with exceptional abilities, such as Luria’s famous mnemonic genius S (Luria, 2002), whose memory for long lists remained intact decades after memorizing them.

The point is that cognitive universals come in various shapes and degrees. Norenzayan and Heine (2005), for example, distinguish between accessibility universals, functional universals, and existential universals. By their typology, all universals share cognitive tools, but only accessibility universals use the same cognitive tool for the same function and with the same degree of accessibility for all cultures (or, in the terminology suggested here, for all epistemic contexts). Functional universals use the same cognitive tools for the same cognitive function but with varying degrees of accessibility, and existential
universals, the weakest type of universals, use the same cognitive tools for different functions.

Even within bounded rationality, then, constraints are graded rather than absolute. If a qualitative line is to be drawn, it might be easier to defend within bounded rationality, than between bounded and grounded rationality. For example, one may claim that only access universals are genuine cognitive constraints that need to be taken into account in bounded rationality. The risk of this approach is that one may be left with an empty set, a theoretical notion that has intension but no extension. As Norenzayan and Heine point out, robust empirical support for such hard-core universals can be rather difficult to come by. There is always the possibility that some culture, some language, some individual, would prove an exception by function or access. The only viable alternative is to give up “ought implies can” altogether, which seems radical and difficult to justify. To maintain “ought implies can”, then, grounded rationality should be acknowledged.

The observation that normative constraints vary reflects on another argument in favour of weak relativism, the epistemic chauvinism argument. Recall that weak relativism seems to be no less successful than the strong sort in deflecting such accusations. However, since cognitive constraints vary in their accessibility, epistemic chauvinism is still a non-negligible risk with weak relativism. For example, decontextualizing tools seem to be existential rather than access universals: they are universal in that they are shared by all humans, but some individuals and cultures can access them more easily than others. If we take decontextualization for a normative universal, we still risk epistemic chauvinism towards individuals and cultures that prefer contextualization.

In conclusion, I see little reason to prefer universal norms to culturally sensitive ones. Both need to be acknowledged. This means that all rational norms potentially take part in the normative game. For each individual in each specific epistemic context, the relevant norms would include the ones dictated by that epistemic context relevant to that individual, as well as any universal norms. Normative rationality would still have to be strongly relativistic, even while incorporating universal elements.

**Grounded rationality, Panglossianism, and dual processing**

With grounded rationality defined, we can now get back to the big rationality debate. Are humans, then, rational? With this question in mind, grounded rationality still seems a rather risky business. One particular pitfall is the Panglossian (or “anything goes”) risk; the second and related one is loss of relevance to cognitive architecture. The term “Panglossian” was coined by Gould and Lewontin (1979), after Voltaire’s ever-optimistic protagonist Dr Pangloss, and later on adopted by Stanovich (1999) in the context of the rationality debate. (Ironically perhaps for our context, the name “Pangloss” means “all languages”.) The Panglossian view maintains that humans are a
priori rational, a view introduced into the rationality arena by Cohen (1981), and taken up by such diverse psychological programmes as rational analysis (Oaksford & Chater, 1998, 2007) and the “fast and frugal” approach (Gigerenzer & Selten, 2001; Gigerenzer & Todd, 1999).

The problem with grounded rationality seems to be, first, that it invites a “you are right too” type of Panglossianism; and, even worse, that it seems to invite a particularly unattractive version it. The argument goes like this: surely everyone follows some sort of normative rules, however harebrained. Thus, if we allow room for relativism of this kind, then not only does everyone becomes rational, it is an uninteresting and trivial sort of rationality. Stich (1990) calls this the “anything goes” argument: evaluation is no longer possible because it is entirely subjugated to the particular. Oaksford and Chater (2007) seem to have this type of the “anything goes” argument in mind, when they argue that one can always claim rationality “by cooking up a bizarre set of assumptions about a problem that a person thinks they are solving” (Oaksford & Chater, 2007, p. 31). It seems, then, that if everyone is rational in some context, this obviates the need for a good psychological theory of rationality: the link between rationality and cognition is lost. The challenge, then, is to create a framework for normative relativism that avoids the “anything goes” pitfall. This is what the present section attempts to achieve.

On its own, grounded rationality does not necessarily imply any specific cognitive architecture. However, it is potentially compatible with a dual-processing framework, and with this added set of constraints, the “anything goes” argument loses much of its force. Dual-processing theories vary (for a recent review see Evans, 2008), but they all share a distinction between one family of processes, variably described as rapid, automatic, unconscious, high capacity, and parallel, and another family of processes described as slow, controlled, explicit, high effort, sequential, and correlated with general ability (e.g., Evans, 2006, 2007; Evans & Over, 1996; Sloman, 1996; Stanovich, 1999, 2004; Stanovich & West, 2000). Labels vary too, so here I will adopt the neutral labels “Type 1” and “Type 2” respectively (Evans, 2009b; Frankish & Evans, 2009).

Dual-process theorists tend to conceptualize normative rationality as linked to Type 2 processing, although again, theories vary in the particulars of this connection. While no theory seems to support a one-to-one parallel, what they do share is the idea that Type 2 processes are necessary (though not sufficient) for normative rationality. Thus, according to Evans and Over (1996), one is rational when one explicitly conforms to a normative theory: “To possess rationality, people need to have good reasons for what they are doing, which must be part of an explanation of their action. They have to follow rules sanctioned by a normative theory: this is what makes the reasons ‘good’ ones” (p. 9). The crucial aspect here is the existence of explicit (hence Type 2) normative rationale; “good”, which seems evaluative, means no more and no less than “normative”. Stanovich’s early conception of normative
rationality is broader, emphasizing individuals and goals rather than processes (Stanovich, 1999, 2004), but he too, champions the crucial role of Type 2 processes in overriding the evolutionary goals that Type 1 processes are adapted to. Later writings, both sets of authors emphasize that Type 2 processes can fail – for example, Evans (2007) refers to a “fundamental analytic bias”, which Stanovich (2009) calls “serial associative cognition” – but their earlier approaches viewed them as necessary for normative rationality (as opposed to mere normative responding).

Of these two approaches, Stanovich’s seems to be difficult to reconcile with grounded rationality, since his approach is explicitly broad – that is, it encompasses critique of beliefs and desires (Stanovich, 2004). In contrast, although Evans and Over’s (1996) rationality2 is silent on the issue of culture-sensitive norms, there seems to be nothing to preclude conformity to such norms from being rational2, so long as this conformity is made explicit. The advantage of this approach is that it manages to avoid both Panglossian and epistemic chauvinism concerns at the same time. Let me examine what this proposal entails. In a chapter for Jonathan’s Festschrift book, you just can’t do without an Arsenal example. So here is one:

Joe and Tom, an engineer and accountant respectively, and ardent Arsenal fans both, discuss the latest successful match. The outcome was a surprise: Arsenal has won despite the absence of a key player due to injury the week before. “I knew all along they would win,” says Joe. Tom agrees: “They just had to, they have been on a winning streak since the season started,” he adds.

Thousands of miles away, Haneul and Chul, students of Oriental medicine in a prestigious Korean university (Koo & Choi, 2005) and avid followers of English football, discuss the same match: why has Bendtner seemed out of form? Chul feels that there must be many complex reasons. Haneul agrees. “The wise man does not judge or divide,” she quotes from the Tao Te Ching (Lao Tzu, 2001, p. 102).

All four people contextualize, but they vary in explicit conformity to cultural norms. Haneul and Chul both conform to holistic cultural norms by weighing complex contextual causes to performance. However, only Haneul has an explicit reason for her judgement. By explicitly following Taoism, Haneul conforms to a system that is normative for her particular epistemic context. This context includes her holistic culture as well as her training in Oriental medicine (recall that responses of psychology students in a comparably prestigious Korean university were indistinguishable from those of Western participants; Koo & Choi, 2005). By this view, then, Haneul is rational2, but Chul, who follows the same rules implicitly and with no apparent reflection, is not. Haneul is no less rational, than, say, a participant from a decontextualizing culture taking part in a conjunction fallacy (Tversky & Kahneman, 1983)
experiment, who estimates that Linda is more likely to be a banker than a feminist banker, and gives an explicit probabilistic explanation.

Now compare Haneul and Chul with Joe and Tom. The latter two fall prey to hindsight ("I knew it all along") bias, which falls outside the decontextualizing rational norms of their professions. However, Joe does so implicitly, whereas Tom has an explicit rationale. The rationale, however, is not "good": a version of the "hot hand fallacy", it does not conform to a culturally relevant expert norm. Explicit but non-normative, Tom’s explanation falls into the category of what Stanovich recently called “contaminated mindware” (Stanovich, 2009). This means that neither Joe nor Tom is rational_2.

In an open peer commentary discussion of *Rationality and Reasoning* (Evans & Over, 1997; Over & Evans, 1997), Evans and Over clarified that they considered rationality_1 as basic: rationality_2 is justified by providing good means of achieving goals (Over & Evans, 1997, pp. 255–256). Prima facie, it seems that for Haneul, this is indeed the case: by explicitly conforming to the principles of the Tao Te Ching, she can achieve everyday goals, such as success in her chosen profession and esteem of her peers. She can even achieve her epistemic goals; spiritual harmony, for example.

Evans and Over’s suggestion, that normative rationality has to include explicit normative reasons, is rather attractive, and as we just saw, perfectly compatible with a relativist solution, so long as we include sensitivity to epistemic context as a caveat. The main attraction is that it allows us to distinguish between Haneul, who is rational_2, and, say, a tree, which may be in perfect spiritual harmony with the universe but cannot be said to be normatively rational. This is an extension of the original suggestion, which distinguished between the rational_1 behaviour of a bumble-bee and consequentialist, rational_2 decision making (Evans & Over, 1996, p. 148). Implicit rule conformity does not make one rational_2, and this applies to spiritual harmony just as it applies to consequential decision making. Explicit rule following does so, and again this applies just as well to spiritual harmony. The fact that some of us may strongly reject spiritual harmony as an epistemic goal is entirely beside the point, if we opt for normative relativism.

Note that this solution obviates Panglossianism worries. One can fail to be normatively rational by failing to conform explicitly to a normative system; the addition is that this normative system has to be relevant to the individual within her or his epistemic context (in our example, this is a combination of professional and geographical context). Thus, Haneul and Tom both respond contextually and explicitly, but only Haneul is normatively rational, since only she conforms to an epistemically relevant system.

Two caveats are in order. One is that normative responses should not be taken as indication for explicit processing – what Elqayam and Evans dubbed “ought–is fallacy”. This is still true for the relativist version of normative rationality. The second, and perhaps more interesting caveat, is that what falls under the heading of explicit processing can vary considerably: it would be analytic for decontextualizing epistemic contexts, but it may well be holistic.
for contextualizing cultures and individuals (Buchtel & Norenzayan, 2009). This is a strength of grounded rationality. Consider the case of fundamental attribution error (correspondence bias), the tendency to attribute other people’s behaviours to their disposition and personality, discounting the effects of context. People in decontextualizing cultures are much more likely to commit this particular error, since they focus on the object rather than its environment (e.g., Choi, Nisbett, & Norenzayan, 1999). Decontextualization in itself, then, does not guarantee inoculation against bias, in the conventional absolutist sense used by psychologists.

In conclusion, a dual-processing framework of rationality does not necessarily acknowledge grounded rationality concerns; indeed, the broad version advocated by Stanovich seems to contradict it. However, processing-based versions such as Evans and Over’s seem to be potentially compatible. From a grounded rationality point of view, the advantage in adopting a dual-processing framework seems to be a more rounded and psychologically relevant perspective, and avoiding the unpalatable “anything goes” version of the Panglossian position, that humans are necessarily and unfailingly rational.

Grounded rationality and the descriptive agenda

Before I wind up this discussion, there is one last thing that needs to be examined, and that is the relationship between the grounded rationality framework presented in this chapter, and the descriptivist agenda defended by Elqayam and Evans (2010). A possible objection to grounded rationality is that it has an implicit descriptivist agenda: that it pulls the carpet from underneath normative rationality. With a relativist framework, what constitutes normative rationality is no longer an ought question. It becomes a purely descriptive question: the question of which normative system holds for a particular agent in a particular epistemic context, and to what extent they satisfy it. Ultimately, then, there is no such thing as normative relativism. The ought is replaced with an is.

There are two possible answers here. One is that, even with a relativist framework, evaluation is still possible. As we saw in the previous section, even with a grounded rationality framework, people can still fail to be normatively rational in a variety of nontrivial ways. Stich (1990) defended a similar argument, proposing that agents can still fail to be rational within a relativist context, if they fail to adhere to their own standards. Hence, even with a relativist framework of the sort inherent in grounded rationality, normative evaluation is still attainable to those who want it.

The other answer, however, is precisely the opposite, and that is the answer that I tend to favour, at least as far as the empirical study of human thought is concerned. I do not deny that relativism does weaken the ought in normative rationality, and ultimately replaces it with an is question. However, such an outcome, far from being a detriment, is actually quite desirable for
psychology. Elqayam and Evans (2010) conclude with an outline a descriptivist agenda for the psychology of reasoning and judgement and decision making. Such a framework, they argue, proved beneficial to the development of linguistics as a mature science, and may carry similar benefits for psychology. The same observation is still relevant here.

In conclusion, while grounded rationality is an anathema to the absolutist concerns of normativism, it still allows some scope for normative research questions. Within empirical psychological science, grounded rationality sits particularly well with a descriptivist agenda for the psychology of human thought. By now, I hope I have convinced you at least that normative relativism, in the form of grounded rationality, should be taken seriously, and that it can provide an interesting and productive framework for normative rationality and the associated empirical paradigms of human thought. Perhaps not everyone is right, but what is right and what is wrong cannot be taken out of context.

Notes

1 I will not address the related though separable issue of moral relativism (for a recent review see Gowans, 2008), although I will draw on it occasionally.
2 The term is inspired by (rather than directly draws on) Barsalou’s (2008) notion of grounded cognition.
3 By cross-cultural I mean any study that systematically compares two cultures or more. This covers what Norenzayan and Heine (2005) call two-culture and three-culture or triangulation studies, as well as their genuine cross-cultural studies which cover multiple cultures.
4 Some readers may be wondering where the linguistic equivalent of Figure 18.1(c) has disappeared to. That is, if 18.1(b) is descriptive of human thought, and 18.1(c) is prescriptive, why does Figure 18.1 include no representation of normative linguistic considerations, only the descriptive ones represented in 18.1(a)? The answer is simple: Modern linguistic theory is concerned very little with normative considerations, a tradition that goes back as far as de Saussure (1959).
5 By doing so they avoid the fundamental attribution error. They have not, for example, maintained that Bendtner always underperforms when he is under pressure.

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