than with perceptual illusions. Although, in our culture, the Müller-Lyer illusion occurs invariably, there is nothing invariable about the scores of judgment errors listed by the authors. Whether or not judgement errors occur, and which version of the ambiguous figure will be seen, both depend critically on the immediate and historical context in which the task is embedded. We bring rich histories to the task and these histories affect what we see and how we judge. In our view, an acknowledgment of the role of learning is a necessary complement to the authors' explanatory framework.

For example, why do participants in psychology studies demonstrate behavior that is irrational or violates norms? All behaviors, whether labeled normative or non-normative, are influenced by learning. That is, insofar as we use biased strategies for making judgments, it is because we have learned to use those strategies. For example, Goodie and Fantino (1996) demonstrated that a past history of matching (e.g., matching pictures with words, as children learn to do from early childhood) influenced the tendency to neglect base-rate information on a matching-to-sample analog of Tversky and Kahneman's (1982) taxicab problem. When stimuli with no previous association were substituted, performance on the task improved significantly. The base-rate task may be viewed as one involving multiple stimulus control, that is, competition for control by the case-specific cues and by the base rates. Depending on the subject's history, one or the other of these will dominate. The conjunction effect (or conjunction fallacy) also provides a good example of the effect of learning history on a judgment task. For example, a number of investigators (e.g., Abelson et al. 1987; Fantino et al. 1997; Zizzo et al. 2000) have suggested that the effect often results from application of a weighted averaging strategy, or a variant thereof, that people have learned to use in many other judgment tasks (see Anderson 1981). This describes what research participants are doing when their judgments reflect the conjunction effect. However, what influences them to answer normatively? Fantino et al. (2003) report a study in which students performed a repeated-trials conjunction task. In the first phase, participants answered 20 conjunction questions presented in either a likelihood or a frequency format or in mixed presentation. As expected, based on the findings of Hertwig and Gigerenzer (1999), participants were significantly less likely to show the conjunction effect on questions given in a frequency format than on those given in the more typical likelihood format. However, students who received the likelihood and frequency questions in a mixed order apparently were able to carry over the normatively correct approach they used to answer the more transparent frequency questions when they answered the likelihood questions. That is, the performance of the mixed presentation group equaled that of the frequency group. The importance of learning history is also apparent in work on the "sunk cost" effect (also known as persistence or escalation of commitment), an example of non-optimal economic behavior (see Arkes & Blumer 1985). Goltz (1992) manipulated participants' past experience of success or failure on a simulated investment task by controlling returns on the investments they made. She found greater persistence in failing investment strategies to be a function of participants' past rate and magnitude of reinforcement. In addition, she found that participants whose previous reinforcements (i.e., returns on investments made) had been unpredictable persisted longer than those whose investments had previously paid off continuously or had not paid off at all. These results, of course, implicate learning and the subject's prior history. But they also remind us to revisit the importance of situational cues, as emphasized by the authors. Persistent behavior is as likely to be adaptive ("If at first you don't succeed . . .") as maladaptive ("throwing good money after bad"). Depending on the contextual cues and the participant's history, behavior will persist (and will or will not be adaptive). When maladaptive, the behavior may be viewed as the misapplication of learned strategies that have been successful in the past.

In conclusion, the authors take social psychologists to task for emphasizing the negative. Behavioral research on the information-seeking behavior of college students suggests that information about negative outcomes is ordinarily avoided (e.g., Fantino & Case 1983), at least when it cannot be used to improve the outcome. From this perspective, one can commend social psychologists for accentuating the negative. Perhaps their willingness to do so reflects their confidence that, not only are these phenomena unusual, but that studying them can lead to improved understanding of human behavior.

Why is ain't ought, or: Is *Homo sapiens* a rational humanist?

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Abstract: Although the critique of disputable norms is largely legitimate in the cognitive realm, the role of social norms is a different one. Darley, Zimbardo, Milgram, and CNN have compellingly demonstrated that humans are not always humane. But the very cognitive ability to distinguish between "is" and "ought" shows that there is behavioral plasticity, and space for education, inoculation, and learning.

> *"What's optimism?" said Cacambo.*
> *"Alas!" said Candide," it is the mania of insisting that all is well when one is miserable."*
> —Voltaire (1759), *Candide ou l'Optimisme*

Krueger & Funder (K&F) have presented a fine article that strikes me with a holism paradox. Although I subscribe to most of the single points they make, such as their rebuttal of a hunt for cognitive biases gone wild in judgment and decision-making research (Kahneman et al. 1982; Tversky & Kahneman 1974), or their warning of mindless application of Null Hypothesis Significance Testing (NHST; cf. Glück & Vitouch 1998; Gigerenzer et al. 2004), I do not like the overall take-home message emerging from their article. How can this be?

"Cognitive norms" are not the same, neither genetically nor functionally, as social norms. Although some of the effects from the heuristics-and-biases program seem to be substantial, others result from highly specific instructions or setups, almost similar to trick questions. This "bag of tricks" has been rightfully criticized (e.g., Gigerenzer 1996b; 2001; Gigerenzer et al. 1999; Mellers et al. 2001). To what extent these effects really count as "norm violations," and which norms rationally apply, is a question of language ambiguities (e.g., "if" vs. "if and only if"), of conventions of formal logic, of different concepts of probability (from frequentist to subjectivist), and so forth. It therefore is a justifiable standpoint that many of those biases live more in the heads of researchers than in the heads of their subjects.

Social norms are of a different kind. Be they moral, legal, or religious, their function is to regulate the living-together of people in the modern world. It is clear that some of these standards (e.g., "Thou shalt not kill") are essential for guaranteeing peaceful life in a society, and they seem to be cultural universals. Research about violations of social norms is much more *ecologically valid* than research about violations of cognitive norms. The classic experiments of "negative" or "problem-seeking" social psychology were stimulated by actual events, not by dark perverted fantasies. Milgram's (1974) motivation, in his careful experimental work on obedience to authority, was to explain how the Holocaust was possible; Darley and Latané (1968; Latané & Darley 1970) wanted to understand how the "public murder" of the 28-year-old Queens woman Kitty Genovese in 1964 could happen, and how such "unresponsive bystander" phenomena can be avoided. Zimbardo, in his Stanford prison experiment (Zimbardo 1971; see http://www.prisonexp.org), wanted to understand how roles, uniforms, and authority, and more generally, powerful situations,

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make people behave in ways that, in retrospect, seem strange even to themselves. All this has led not only to a better understanding of the spectrum of human behavior in social contexts, but has also enabled us to develop prevention and intervention strategies.

Together with the "biases" literature from social-cognitive psychology, K&F put all this into one common pot of allegedly negativistic social psychology. They are certainly correct that there has been a "bias towards biases" in the literature, and the list they present in Table 1 is truly outrageous. But experimenter-imposed zero-tolerance norms or shortcomings of NHST cannot be blamed for the 40% of participants giving the strongest shock (450 V, labeled "XXX") in the Milgram (1974) study, being in the same room together with the student/victim, and the additional 25% who gave intense shocks (> 240 V) in this condition before they refused to continue. And Zimbardo's (1971) results show that even when a majority behaves decently, a minority that does not (such as the guard "John Wayne") can easily get the upper hand.

We need not, however, resort to laboratory classics and textbooks of social psychology, but can look into CNN, quality newspapers, and history books. Just consider behavioral reports from the recent (civil) wars in former Yugoslavia and in several African countries. The "field" tells the story. And history repeats: There are evocative parallels between the Austrian-German war against Serbia, which triggered WWI, and the recent U.S. war against Iraq. The parallel starts with the formulation of an unacceptable ultimatum by the super-power (luckily with much less tragic consequences in the latter case). It ends with American patriots fiercely requesting that *French fries* be renamed *freedom fries* because of the anti-war policy of the French, just as the Viennese demolished the windows of shops and cafés with foreign names some 90 years before, in 1914 (Kraus 1922 [I, 1]); and with my e-mail box getting spammed with Saddam jokes and war remembrance ads.

Taking an evolutionary stance, it is clear that a specific social behavior (e.g., unconditioned obedience to authority) can be beneficial in one context, and maladaptive in another. It is also clear that hypothetical human social adaptations to "then" (the social environments of our ancestors) are not necessarily beneficial now. Evolutionary thinking should never lead us into normative biologism, or into Hume's (1740) *naturalistic fallacy:* "Is" and "ought" do not naturally relate. It may be well understandable *why* socially situated humans act in a certain way, and their behavior may even be an adaptation. But this does not mean that behavior is completely inflexible, and that the "is" dictates the norms.

I am skeptical about an evolution-inspired Panglossian paradigm (Gould & Lewontin 1979) for social psychology, in the sense of Dr. Pangloss's tragicomic stance, that "All's for the best in this best of all possible worlds" (Voltaire 1759). Although K&F advocate a balanced agenda, to some extent they fall prey to their own optimism. They sometimes seem to suggest that in-group/outgroup effects, stereotypes, and so forth only exist in the minds of researchers. Although a more balanced view of the positive and the negative, and a more integrated picture of "human nature," may prove to be helpful for the field, I cannot see how this implicit denial of real effects should be useful. Of course, glasses can be either half-full or half-empty; but a generalized "I'm OK – you're OK" attitude does not automatically promote social psychology.

So, is *Homo sapiens* a rational humanist?[1] Often, the easiest way to react (e.g., to obey) is neither the most rational nor the most socially desirable one. But I am an optimist, too: I believe in the power of education, insight, culture, and learning. I believe that informed human beings, who know what can happen, are better able to avoid bad outcomes. (That's why history is taught in schools.) People can *learn,* also from social psychology, to behave differently. For example, they can learn to disobey when obedience may have fatal consequences.[2]

It was a central point of the Enlightenment that not everything is for the best in our world, and that humans do not always act humanistically. It remains a legitimate task of social psychology to explain why.

NOTES

1. This is, at least, what philosophers believed for the longest time. Many other metaphors have been proposed, such as *Homo economicus,* the selfish and corrupt guy who you would not necessarily like to live next door to.

2. In order to endorse such (extraordinary) courageous behavior, the Austrian empress Maria Theresia (1717–1780) instituted a high military decoration for justified and victorious disobedience to an order.

Social cognitive neuroscience: The perspective shift in progress

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Abstract: Krueger & Funder (K&F) describe social cognitive research as being flawed by its emphasis on performance errors and biases. They argue that a perspective shift is necessary to give balance to the field. However, such a shift may already be occurring with the emergence of social cognitive neuroscience leading to new theories and research that focus on normal social cognition.

Krueger & Funder (K&F) present a reasoned argument that much of social cognitive research – particularly, decision-making, judgment, and reasoning – is flawed, as it focuses on errors that people make. They suggest, quite reasonably, that these errors and biases may reflect adaptive cognition that is appropriate to real-world situations and leads to errors only in the somewhat artificial laboratory environment. They express a desire for errors, biases, and normal behavior to be considered in the same theoretical frameworks. I agree that research and theories should address normal behavior and not just errors. Further, I believe that there is a growing body of social cognitive research that tests hypotheses about social cognition by studying the range of performance, rather than focusing on "abnormal states" – K&F review some of these studies in their article (e.g., Ekman 1991/1992; Stanovich & West 2000).

Social cognitive neuroscience is a synthesis of social psychology and cognitive neuroscience, and the emergence of this field has brought new integrative theoretical approaches. Although in its infancy, I would argue that this field meets the challenges of K&F. There are several theories of social cognition that address different aspects of normal social cognition (e.g., decision-making, social judgment, intuition, theory-of-mind, attitudes, stereotypes, emotional processing, reasoning) (Adolphs 2003; Cacioppo 2002; Cacioppo et al. 2000; Damasio 1996; Greene & Haidt 2002; Haidt 2001; Lieberman 2000; Ochsner & Lieberman 2001; Wood 2003). Recent social cognitive neuroscientific research has explored moral judgment and moral reasoning to establish how people make moral decisions (e.g., Greene & Haidt 2002; Greene et al. 2001; Haidt 2001; Moll et al. 2002a; 2002b). Damasio and his colleagues have explored social decision-making and demonstrated that people are able to make good decisions in the absence of awareness of experimental contingencies (e.g., Bechara et al. 1997; 2000). These theories and research meet K&F's criterion of considering error and accuracy in the same experiments and theoretical frameworks.

Even within more traditional reasoning research, it has been shown that people who fail classic reasoning tasks, such as Wason's selection task (Wason 1968), can perform accurately if the stimulus materials are familiar rules that are presented in a familiar real-world context (e.g., Cheng & Holyoak 1985; Griggs & Cox 1982; Johnson-Laird et al. 1972; Wason & Shapiro 1971). In addition, it has been argued that failures on traditional reasoning tasks result from the comparison of everyday reasoning strategies with "an inappropriate logical standard" (for a recent review, see Oaksford & Chater 2001).

In summary, K&F's take-home message is that social psychol-

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