

terms of Sunstein's general framework, nor does his description illuminate these age-old questions.

Sunstein goes on to state that moral heuristics are different from Kahneman and Tversky-esque heuristics in that the latter are based on factual problems. But this strikes me as an inaccurate reading. Certainly, much of Kahneman & Tversky's (KT's) work has been based on how we judge the market, and what dictates our views of fairness and subjective utility. Both play critical roles in delivering moral verdicts. For the utilitarian, there is much to gain from KT's work because we now have a better sense of the currency over which individuals may seek to maximize overall well-being. For the deontologically inclined, we gain a better sense of how individuals compute fairness by appreciating that they unconsciously appeal to the principle of a reference transaction. Although it is true that much of what KT had to say about these heuristics were more readily identified as logical flaws that led to objective errors, and that the moral sphere is undeniably more subjective, it is not the case that this work falls squarely outside issues of moral concern.

Overall, then, though I am sympathetic to the general framework that Sunstein articulates, I do not think that there is much new here, and nor do I believe that his framing of the problem significantly advances how one goes about doing the science of moral psychology; of course, if the message is largely targeted at lawyers or policy makers, who may either fail to recognize the importance of heuristics in our common sense morality, or assume that such heuristics are unambiguous determiners of what we ought to do, then I couldn't agree more.

An alternative, by no means incompatible with Sunstein's moral heuristics, draws on an analogy with the language faculty. If there are either strong or weak analogies with the language faculty, then we might expect to find the following design features:

1. A universal moral grammar [UMG] that represents a theory of the initial state.
2. The UMG consists of a set of principles that provides a toolkit for building possible – external – moral systems.
3. These principles are based on combinations of actions and action sequences (“phrases”) into events, anchored by the psychological processes of intentionality, motivation, cause, and consequence.
4. The judgments and actions that young children make in the moral domain cannot be accounted for by the input. As such, there is a poverty of the stimulus-type argument, which requires the inference that the initial state consists of largely content-free, abstract, and innate principles. What experience does, under this kind of model, is set the parameters, and thereby dictate which particular moral system is acquired.
5. There is a moral organ – dedicated circuitry that consists of principles for deciding whether actions are permissible, obligatory, forbidden, and/or punishable. This circuitry must interface with both other mind-internal processes, as well as mind-external ones.

When this faculty breaks down, there will be specific deficits in our moral judgments, as opposed to more general cognitive deficits.

This is an extremely rough sketch, explicated in greater detail in the references cited earlier. These ideas gain support in that they have generated both new empirical findings and have also helped to set up new research problems. For example, in a large-scale study of moral judgments using the internet, results show that, across considerable demographic and cultural variation, people converge on a set of common judgments concerning permissible harm, while having no access to the underlying principles (Hauser et al., in press). This dissociation between judgment and justification is similar, at some level, to evidence in linguistics of grammaticality judgments, and highlights the distinction between operative and expressed principles. It also suggests that some aspects of our moral judgments may well be universal. This work has led to ongoing studies of patient populations in which the relative contribution of unconscious emotions and principles of action in-

terface with our moral judgments. These patient studies will help us to understand how the moral faculty is fractionated into different component processes, and to decide which are specific to our moral psychology as well as uniquely human.

The next frontier: Moral heuristics and the treatment of animals

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Abstract: Heuristics provide insight into the inconsistencies that characterize thinking related to the use of nonhuman animals. We examine paradoxes in judgments and policy related to the treatment of animals in science from a moral intuition perspective. Sunstein's ideas are consistent with a model of animal-related ethical evaluation we developed twenty-five years ago and which appear readily formulated as moral heuristics.

Sunstein's argument is simple yet powerful – moral thinking, like other forms of human cognition, is frequently thrown awry by simple cognitive heuristics. This insight sheds considerable light on a topic we have long been interested in – the fact that ethical thinking about animals is rife with inconsistency and paradox (Burghardt & Herzog 1980; Herzog 1993). Indeed, for several reasons, Sunstein's heuristics may be illuminated even more when applied to understanding contradictions in how we think about animals than it is to human-focused moral quandaries. First, with animals there is ambiguity over the existence and moral relevance of mental capacities of different species (e.g., consciousness, intelligence, emotions, and the experience of pain). Second, these considerations reflect subtle and often unrecognized ethical rules of thumb. There is no shortage of examples where moral heuristics interfere with clear thinking about the use of animals. Here we briefly discuss two situations of interest to scientists.

The first is the comparative status of rats and dogs under the Animal Welfare Act (AWA). Although they make up the majority of animals used in biomedical and behavioral research, rats (along with lab-bred mice and all birds) are denied coverage under the AWA because they are not considered “animals” under the provisions of the statutes.¹ Dogs, in contrast, not only are covered by the AWA, they are the only species that the act specifies must be given daily exercise. Indeed, because the AWA applies to deceased as well as living animals, a dead dog actually has legal status not afforded a living laboratory rat.² There was only minor public outcry about the exclusion of rats, either when the act was written or several years ago when Congress enacted legislation permanently excluding rats from AWA coverage. Why? We suspect the rat exclusion reflects the operation of a heuristic along the lines of “Rats are pests: pests are bad.”

Dogs, on the other hand, are treated differently. One reason is that rats are perceived as far less intelligent and sentient than dogs (Herzog & Galvin 1997). More importantly, dogs live in 40% of American households. For most owners, dogs assume the role of friend or even family member (Serpell 1989). The specter of one's pet splayed on the dissection table evokes a particularly powerful moral heuristic – “Don't betray friends and family.” The inclusion of dogs in and the exclusion of rats from AWA coverage are consistent with most people's moral intuition.³ The rat exclusion rule, however, is increasingly viewed as an embarrassment by regulators, and surveys indicate that most researchers now advocate coverage of rats and mice under the AWA (Plous & Herzog 2000).

Our second example concerns the role of heuristics in approval/disapproval decisions of Institutional Animal Care and Use Committees (IACUCs). As Sunstein indicates, it is rarely possible to assess the validity of ethical judgments by holding them to some sort

of “correct” moral yardstick. Reliability, however, is a different matter, and inconsistency of ethical decisions precludes their validity. Two studies have examined the consistency of IACUC decision-making procedures by having different IACUCs evaluate the same protocols (Dresser 1989; Plous & Herzog 2001). Both arrived at the same conclusion – more often than not, different committees make different decisions. Plous and Herzog found that even members of the same IACUC were inconsistent in their evaluations of dimensions of protocols (e.g., clinical significance, clarity). Interestingly, when IACUC members were provided with specific guidelines, such as a detailed pain scale, the role of intuitive appraisals (heuristics) seemed to decrease, and inter-rater reliability substantially increased.

Before the emergence of the animal rights movement as a political force and the enactment of important 1985 amendments to the Animal Welfare Act, we attempted to make sense of inconsistencies that we observed in ourselves and others when it came to moral judgments pertaining to other species (Burghardt & Herzog 1980; 1989). In order to systematize discussion in this area, we constructed a typology of factors that influence thinking about the ethical use of nonhuman animals in general, not just in research. We identified 26 “ethical considerations” under four major headings: human benefits (and costs), anthropomorphism, ecological, and psychological. In retrospect, we believe many of these factors function as moral heuristics (e.g., cuteness of the species, similarity in appearance to humans, status as a pest or competitor, rarity, domestication). And these 26 could be added to, subdivided, and extended today. In 1980 we concluded: “We suspect that currently it is impossible to derive from science, theology, philosophy, or any conceivable source a consistent universal set of principles to guide humans in dealing with members of other species” (Burghardt & Herzog 1980, p. 767).

Sadly, despite the growth of a veritable cottage industry of professionals in many fields and numerous journals, books, conferences, and organizations, we think that little progress has been made on general principles outside of the acceptance of some regulations and greater scientific understanding of animals. Some scholars in this area focus on narrow issues, while others adopt their own simple set of heuristics or insulated philosophical stance (utilitarianism, deontology) and ignore or remain blind to their problematic aspects. Others simply revel in the dilemmas as an enduring contradiction of the human drama, one best minimized by good intentions and modest melioration. Perhaps more formally embedding animal issues into work on moral heuristics will help clarify and resolve issues too often approached with feelings divorced from thought. Research in the cognitive sciences along the lines suggested by Sunstein may provide insights into the psychological processes that underlie differences in opinion related to human–animal interactions. This message is certainly not lost on Sunstein, who has contributed elsewhere to legal thinking about the status of animals (see Sunstein & Nussbaum 2004).

NOTES

1. Although they are excluded under the AWA, rats, mice, and birds do fall under NIH guidelines.

2. A footnote in the regulations, however, exempts dead dogs from AWA canine cage size requirements.

3. Some moral intuitions are culture-specific; whereas common sense may tell most North American pet lovers that dogs are family members, in some Asian cultures puppies are dinner.

A selectionist approach integrates moral heuristics

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Abstract: The nature and diversity of moral codes can be understood in terms of a few basic propensities honed by diachronic dialectics between what people do and what they are supposed to do in the culture in question. Many of the moral heuristics presented by Sunstein can be seen as by-products of these processes.

In his important contribution, Sunstein shows successfully that we sometimes use “heuristics” or “short-cuts” in making moral judgments, applying principles that usually work well in instances where they are inappropriate. We must ask, however, where these heuristics come from. Sunstein uses descriptive categorisations of the heuristics as if they were causal principles, referring, for example, to “a process of attribute substitution” or an “outrage heuristic.” My claim is that most of the instances of moral heuristics cited by Sunstein are compatible with, and perhaps could have been predicted from, a more interdisciplinary approach (Hinde 2002).

Such an approach indicates that moral codes stem from certain pan-cultural propensities, notably to look after one’s own interests (selfish assertiveness) and to be cooperative and kind to others (prosociality), especially to close kin and in-group members. These propensities are present even in very young babies (Kagan 2000; Rheingold & Hay 1980), but are honed in development by parenting, relationships with peers, charismatic figures, and so on. These relationships have themselves been affected by the precepts to which they have been exposed and the physical environment. Individuals incorporate moral precepts into the way in which they see themselves, and experience pangs of conscience when they behave contrary to their own standards. Some individuals seem to behave morally without thinking. In other words, individuals differ in what Sunstein refers to as System 1.

Morality is concerned with maintaining a balance between the basic propensities such that group living is possible in the circumstances prevailing. The resulting moral precepts are reified somewhat differently between cultures. Often the processes involved depend on diachronic dialectical relations between what people do and what they are supposed to do. For example, the respectability of divorce in western countries has changed through dialectics between what people do and what they are supposed to do.

This is essentially an evolutionary approach (mentioned but not exploited by Sunstein), but does not try to explain everything by natural selection. There is no implication that what is natural is right. Moral judgements change somewhat with time and circumstances: Cultural selection over prehistorical and historical time is crucial. Moral precepts therefore differ somewhat between cultures, but the basic principles on which they are based (selfish assertiveness; prosociality to in-group members) appear to be pan-cultural. Variants of the Golden Rule, Do-as-you-would-be-done-by, are shared by all moral codes. Most of the Ten Commandments are compatible with the Golden Rule, and, not surprisingly, the commandment not to kill has special potency. This is compatible with the judgements made in, for instance, the trolley problem (e.g., stealing to save an in-group member; answering A or D in the Asian Disease problem). However, the basic propensity is limited to in-group members. Thus, killing out-group members may be permissible, and the death of contemporaries is more salient than that of remote descendants, who are seen as more distantly associated.

Again, exchange theories, invoking reciprocity (Kelley & Thibaut 1978; review in Hinde 1997) explain many aspects of human relationships, and reciprocity accompanied by prosociality is compatible with selectionist theory (Boyd & Richerson 1991). Because reciprocity often involves delay, trust in the partner, honesty, and