CHAPTER 7

Moral Intuition[*]

> Natural selection is an amoral process, yet it can produce moral intuitions.
>
> *Leda Cosmides and John Tooby*[1]

> Intuitions come first, strategic reasoning second.
>
> *Jonathan Haidt*[2]

Work hard. Be honest and disciplined. Be punctual and reliable. Don't waste your earnings on pleasure, power, and material comfort. Live frugally and reinvest your income to accumulate more capital. The moral intuition that one should be disciplined, work hard, and not squander time accumulating luxury objects is acquired by cultural learning. It comes quickly to mind in cultures endorsing these values when people observe others not working hard and appearing to be unproductive. According to sociologist Max Weber, this kind of self-discipline is the moral essence of the *Protestant work ethic*, which became the blueprint for forms of modern capitalism. It fuels distinct intuitions about self-expectations and life goals. In his painting *The Fight Between Carnival and Lent,* the Dutch artist Pieter Bruegel the Elder depicted the tension between the vices and virtues of puritanical morals. On the left side of the painting, women and men crowd into a tavern, play games, make music, sneak inside for sex, and play tricks on others. On the right side, men and women attend church, work, and are sober, decently clothed, orderly, and disciplined. How do moral norms come about and shape what people feel they ought to do?

A *moral intuition* is a feeling about what is right and wrong,

1. based on evolutionary and cultural learning,
2. which appears spontaneously in one's consciousness, and
3. whose underlying rationale is unconscious.

[*] This chapter is a revised version of Gigerenzer (2010).

[1] Cosmides & Tooby (2008), p. 54.

[2] Haidt (2013), title of Chapter 1.

According to Weber, the rationale underlying the Protestant work ethic is the doctrine of predestination: God has already decided who will be saved from damnation and who will not.[3] All that mortals can do is seek clues that might reveal whether they are among the chosen ones. Seeing oneself working hard and not wasting time on worldly pleasures is such a clue. Spending hours at the billiard table, shopping, or doing nothing is a sign of being among the doomed. Historically, this narrative of the meaning of life emerged in various Puritan religions, including Calvinism, Methodism, Pietism, and Baptism. It appears that only in these religions did capitalism become associated with the strict abstinence from the spontaneous enjoyment of life, while other forms of capitalism, before and after, feature luxury and display.

The crucial feature of a moral intuition is that its underlying rationale – such as the logic of the Protestant work ethic – is not conscious; it is not arrived at by going through steps of a logical argument or by the weighing of evidence. One strongly feels what is right and wrong without being able to articulate why. Even then, moral intuitions can be transmitted through generations.

Moral intuition needs to be distinguished from *moral reasoning,* a term that refers to moral convictions that originate from deliberate reflection. In the case of the Protestant work ethic, moral reasoning could mean that a person is aware of the doctrine of predestination and, after reflection, decides to live accordingly. In general, moral reasoning requires awareness of the religious or cultural origins of one's ethical convictions or a conscious deliberation of their utility. For instance, Benjamin Franklin, a proponent of the Protestant work ethic, reasoned about the utility of his moral principles. As he saw it, working hard and being honest, punctual, and frugal is useful because this behavior assures credit, and credit, in turn, enables accumulating more capital. Franklin's moral reasoning was deliberately utilitarian. Centuries later, many of us live by these moral principles without having reasoned through their foundations or having considered their utility. Moral reasoning has become intuitive.

The vision that morality is, or should be, based on reasoning is an old one. It has been known since the ancient Greeks and Romans, albeit with varying conclusions. In Cicero's words, once reason has taught the ideal Stoic – the wise man – that moral goodness is the only thing of real value, he is happy forever and the freest of men, since his mind is not enslaved by desires.[4] According to this, reason makes humans moral, or at least men.

[3] Weber (1930/1992). [4] Cicero (De finibus 3), pp. 75–76.

As we saw in Chapter 2, into the early 20th century, psychologists believed that men's abstract reasoning enabled them to grasp general moral principles, while women's concrete, intuitive thinking prevented them from doing so. Thus, men who lied were held morally responsible, but women were not: They were considered merely incapable of understanding that their actions were evil.

Moral Satisficing

Moral philosophy and moral psychology have proposed various views of moral intuition and of its relation to moral reasoning.[5] On the one hand, some psychologists have proposed that moral behavior is the product of moral judgment, and that moral judgment, in turn, requires conscious deliberation. Lawrence Kohlberg's theory of moral development is a case in point, which holds moral reasoning as necessary for ethical behavior.[6] On the other hand, moral intuitionists such as psychologist Jonathan Haidt argued that moral judgment, like aesthetic judgment, is a rapid intuitive process, and that people engage in moral reasoning primarily to seek evidence that confirms the initial intuition.[7] My aim is not to summarize or do justice to the complexity of these approaches, nor do I believe that an opposition between reason and intuition is fruitful. The question I ask in this chapter is: What picture of moral intuition emerges from the perspective of ecological rationality?

The three key principles are uncertainty, social heuristics, and their interaction with the social environment:

1. **Moral intuition evolved to deal with situations of uncertainty, not risk:** We need to distinguish between situations of risk and uncertainty and between their respective tools, probability, and heuristics (see Chapter 5).
2. **Moral intuition is based on social heuristics:** In situations of uncertainty, much (not necessarily all) of moral behavior is guided by heuristics. Specifically, I will argue that these heuristics are typically social heuristics.
3. **Ecological morality:** The resulting moral behavior depends not only on the social heuristic but also on the environment. It results from the

[5] For an overview, see Sinnott-Armstrong (2008).
[6] Kohlberg (1984).
[7] Haidt (2001, 2008).

match (or mismatch) of the heuristics with the structure of the social environment.

I will refer to this approach as *moral satisficing*.[8] This term has been used by moral philosophers, but often in the negative sense of a second-best strategy.[9] These kinds of statements assume a situation of risk, where maximization (of utility or happiness) is actually feasible. However, in situations of uncertainty, maximization is a fiction and, equally important, satisficing can outperform complex strategies (see Chapter 5).[10] A normative theory that is uninformed of the workings of the mind or impossible to be actually executed by humans or computers (e.g., because maximization is computationally intractable) is unlikely to be of much benefit in the real world.

Which heuristics underlie moral behavior? One answer would be, specifically, moral heuristics, such as "don't kill" and "don't lie."[11] These are the fabric of the Ten Commandments of the Bible and other sacred books. In my view, assuming specialized moral heuristics is unnecessary and, moreover, obscures the close relation between social coordination and moral behavior. My hypothesis that moral rules are typically social heuristics contrasts with the postulate of specifically moral rules by rule consequentialism, as well as the view that humans have a specially "hardwired" moral grammar with specialized moral rules.

Following Hume rather than Kant, my aim is not to provide a normative theory that tells us how we ought to behave, but to provide a descriptive theory with prescriptive consequences, such as how to design environments that help people reach their own goals. Informed by psychology, moral satisficing is what philosophers call *naturalism*, as opposed to supernaturalism, spiritualism, or moral paternalism, where ethics is guided by religion and sacred books.[12]

Social Narratives Select Heuristics

Weber contrasted the Protestant work ethic with traditional Catholic doctrine, which assumes that our individual fates are not predetermined, but in our own hands. People living by this narrative can go through cycles of sin, repentance, and forgiveness, play billiards, and enjoy other worldly

[8] Gigerenzer (2010).
[9] See Byron (2004), p. 192; Richardson (2004), p. 127; and the contributions to *Satisficing and Maximizing* (Byron, 2004).
[10] Gigerenzer & Brighton (2009). [11] Sunstein (2005). [12] Kitcher (1992).

pleasures without feeling guilty. Life is not centered on the question of whether one is among the chosen, and there is no pressure to find out. In this way, the Catholic narrative implies a different ethic. Weber tells the story of employers who increased the hourly wages of their workers to get them to work longer for a limited time, such as at harvest. In modern economic theory, higher pay is an incentive, and workers should work longer hours to maximize their profit. To the surprise of the employers, however, many workers worked not more, but fewer, hours. Their work ethics was guided by a satisficing heuristic (Chapter 5) with an amount of money as an aspiration level:

Set an aspiration level α for sufficient earnings. Stop working when α is satisfied.

After earning the amount to which they had aspired, the workers stopped working and went home to spend the money and time together with their family. These workers, the employers learned, did not follow the Protestant work ethic. Getting them to work longer would have entailed reducing, not increasing, their hourly wages – a strategy that some capitalists actually followed. Contrast this with the heuristic selected by the Protestant work ethic:

Work hard and accumulate as much capital as possible. Do not spend it on pleasure.

This rule embodies the ideal of *maximizing*. Maximizing means trying to accumulate as much as possible of a good for its own sake, such as wealth.

Weber's comparison between Protestant and Catholic ethics illustrates the approach of ecological rationality. From this perspective, the meaning of life is uncertain, and, to give it a purpose, religious or social narratives such as the Protestant work ethic provide a moral framework for what one should and should not do. Darwin argued that these social narratives bolster group patriotism and provide an advantage over other tribes, thus leading to natural selection. Heuristics are the behavioral components of such a narrative, telling us what to do even if we are not fully aware of the underlying narrative.[13] As the case of satisficing illustrates, these heuristics are not necessarily specifically moral heuristics such as "don't steal"; rather, they can be the heuristics that guide behavior outside the moral domain. My hypothesis is that the narrative also defines whether a heuristic is considered a moral one. For instance, from the point of view of the Protestant work ethic, satisficing is immoral, but, seen from the Catholic

[13] See Tuckett (2011) on the role of narratives in decision-making.

doctrine, it is amoral, that is, stopping working when an aspiration is met is not seen as a moral issue in the first place.

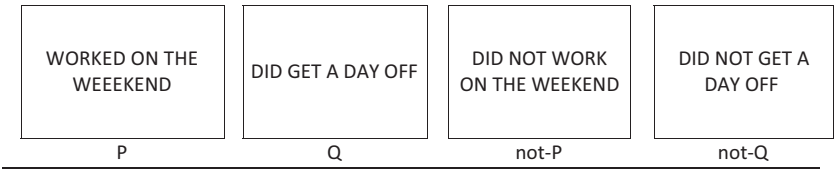
In general, narratives can define the moral nature of human social relations. Anthropologist Alan Fiske distinguishes four kinds of relationships among which people move back and forth during their daily activities: communal sharing, authority ranking, market pricing, and equality matching.[14] In communal sharing, people give what they can and take what they need, be it within a couple, family, or larger community. Caring, kindness, and altruism are the moral virtues within the community, while in interaction with outside groups, aggression may be seen as legitimate.

Authority ranking relates to a community characterized by a social hierarchy, which selects heuristics embodying obedience, such as: *If a person is an authority, follow requests*. For instance, in Milgram's obedience studies, the experimenter instructed the participant to administer electric shocks of increasing intensity to a learner every time the learner gave an incorrect answer. The experiments implemented an authority narrative where subordinates reacted with respect and deference and superiors took paternalistic responsibility for them. That is not to say that selection is a one-to-one process; conflicts are the rule rather than the exception. For instance, in one condition of the obedience experiments, a confederate participant was introduced who sat next to the real participant and refused to continue the experiment after pressing the 90-V switch and hearing the learner's groan.[15] This situation might trigger both obedience and a conflicting heuristic, *imitate your peers*, here, to copy the other participant's refusal to be obedient. In that experiment, obedience won over social imitation. The majority of participants (63 percent) followed the authority and went on to give shocks of higher intensity, compared with 70 percent of those who did so without seeing someone refusing.

In market-pricing relations, moral judgment is guided by cost-benefit calculations, as in utilitarian theories of morality. For instance, economist Gary Becker told the story that he began to think about crime in the 1960s after he was late for an oral examination and had to decide whether to put his car in a parking lot or risk getting a ticket for parking illegally on the street. He calculated the likelihood of getting a ticket, the size of the penalty, and the cost of putting the car in a lot before deciding that it paid to take the risk and park on the street.[16] In Becker's view, violations of the law, be they petty or grave, are not due to an irrational motive, a bad

[14] Fiske (1992). [15] Burger (2009). [16] Becker (1995), p. 637.

Table 7.1. *A four-card problem: A social contract with a perspective change.*



When participants were cued into the perspective of an employee, most turned over the "worked on the weekend" and "did not get a day off" cards. When they were cued into the perspective of an employer, they turned over the other two cards.

character, or mental illness, but can be explained as a rational choice based on the calculus of expectation.

Finally, in equality-matching relations, people keep track of the balance of favors and know what is required to restore the balance. Examples are social contracts in which both sides exchange benefits but also are obliged to pay the costs. Not paying the costs is cheating. Do people reason about social contracts in a logical way, as assumed in rational approaches to moral behavior, or do they rely on heuristic search for cheaters? In a series of experiments, Klaus Hug and I used *four-card problems*, also known as *Wason selection tasks*. Consider a social contract between employer and employee (see Table 7.1):[17]

Day-off rule:
If an employee works on the weekend, then that person gets a day off during the week.
The "cards" in Table 7.1 have information about four employees. Each card represents one person. One side of the card tells whether the person worked on the weekend, and the other side tells whether the person got a day off during the week. Indicate only the card(s) you definitely need to turn over to see if the rule has been violated.

Which cards would you turn over? According to the dictum that moral reasoning should follow the laws of logic, one would expect people to turn over the first and the last card. This is because the rule has the logical

[17] Gigerenzer & Hug (1992). These experiments resolved a debate between Leda Cosmides (1989), who had argued for a specific cheater detection module, and her critics who conjectured that social contracts for some unknown reason would simply increase logical answers – in her original work, cheating detection and logical reasoning predicted the same cards being chosen. The perspective experiments, however, showed clearly that the results cannot be explained by logic, but by cheating detection, albeit a perspectual one.

structure "If P then Q", and the only case in which it is violated is "P and not-Q," that is, "worked on the weekend" and "did not get a day off." Turning over these two cards can reveal such a violation. But the participants in our experiment chose these cards only when cued into the role of an employee. In that role, they were concerned about being cheated if they worked on the weekend, but did not get a day off. When cued into the role of an employer, however, the majority by far turned over the Q and not-P cards, which can reveal whether an employee cheated by taking a day off without having worked on the weekend. All in all, participants' search did not follow disembodied logic, but instead the heuristic "find out whether you or your group is being cheated." Thus, people were not reasoning by logic or with a Kantian moral, but with Machiavellian intelligence. Compared with the highly variable results previously reported in four-card problems that did not use social tasks, the striking result here was how highly consistent participants' choices were. These were made with little reflection, which has been interpreted to mean that intuitions about social contracts have been shaped by natural selection and have eventually become part of our "social instincts."[18]

Moral Intuition Is Based on Social Heuristics

Darwin thought that a combination of social instincts plus sufficient intellectual powers leads to the evolution of moral sense, and he proposed the coherence or coordination of human groups as its purpose:[19]

> There can be no doubt that a tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to give aid to each other and to sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection. At all times throughout the world tribes have supplanted other tribes; and as morality is one element in their success, the standard of morality and the number of well-endowed men will thus everywhere tend to rise and increase.

If Darwin's assumption that one original function of morality was the coherence of groups is correct, then the heuristics underlying moral behavior should include those that can provide this function. Social heuristics such as imitate-your-peers are apt examples: They can foster social coherence. Note that this hypothesis opens up a different

[18] Cosmides & Tooby (2008). [19] Darwin (1871/1981), p. 166.

understanding of the nature of potential universals underlying moral behavior. For instance, proponents of the idea of a universal moral grammar that mirrors Chomsky's universal language grammar assume "hard-wired" principles such as: Do as you would be done by; don't kill; don't cheat, steal, or lie; avoid adultery and incest; and care for children and the weak.[20] Critics responded that these values may be ours, but not those of other cultures and times: children sold into slavery by parents who feel entitled to do so; guilt-free spousal abuse by men who see it as their right; moral sanctioning of pregnant unmarried women by humiliation or driving them to suicide; and so forth.[21] A theory of moral behavior should avoid a present-day bias. Darwin captured this point long ago:[22]

> If for instance, to take an extreme case, men were reared under precisely the same conditions as hive-bees, there can hardly be a doubt that our unmarried females would, like the worker-bees, think it a sacred duty to kill their brothers, and mothers would strive to kill their fertile daughters; and no one would think of interfering.

We should not fail to notice that terrorists, the Mafia, and crack-dealing gangs run on strong moral intuitions.[23] For his film *Suicide Killers*, filmmaker Pierre Rehow interviewed would-be terrorists who had survived because their bombs failed to explode: "Every single one of them tried to convince me that it was the right thing to do for moralistic reasons."[24] Social psychologists have documented in our own cultures how a situation can stimulate evil behavior in ordinary people and how easily physical abuse of others can be elicited.[25] I suggest that the heuristics underlying moral behavior are not the mirror images of the Ten Commandments and their modern humanistic equivalents, but embody more general social principles that coordinate human groups. That means that one and the same heuristic can solve both problems that we call moral and those that we do not.[26]

The Moral Rim

The boundaries between what is deemed a moral issue shift over historical time and between cultures. Although contemporary Western moral psychology and philosophy often center on the issues of harm and individual

[20] Hauser (2006). [21] Pippin (2009). [22] Darwin (1871/1981), p. 73.
[23] Gambetta (1996). [24] Cited in Neiman (2008), p. 87.
[25] Burger (2009); Zimbardo (2007). [26] Gigerenzer (2008, 2010).

rights, such a constrained view of the domain of morality is unusual in history and other cultures. There existed more important moral values than avoiding harm to individuals. Abraham was asked by the Lord to kill his son, and his unquestioning readiness to heed God's command signaled a higher moral value, faith. For the ancient world, where human sacrifice was prevalent, the surprising part of the story was that God stopped the sacrifice.[27]

The story of the Sodomites who wanted to gang rape two strangers to whom Lot had offered shelter is another case in point. From a contemporary Western view, we might misleadingly believe that the major moral issue at stake here is rape or homosexuality, but hospitality was an essential moral duty at that time and remains so in many cultures. For Lot, this duty was so serious that he offered the raging mob his virgin daughters if they left his guests alone.[28] Similarly, in modern Europe, wasting energy, eating meat, or smoking in the presence of others were long seen as purely self-regarding decisions. Environmental protectionists, animal rights advocates, and anti-smoking groups have reinterpreted these as moral infractions that cause environmental pollution, the killing of animals, and lung cancer through secondhand smoking. I refer to the line that divides personal taste and moral virtues as the moral rim. The location of the moral rim describes whether a behavior is included in the moral domain. My hypothesis is that, wherever the rim is drawn, the underlying social heuristic is likely to remain the same.

Ecological Morality

Several accounts, normative and descriptive, from virtue theories to Kohlberg's stages of moral reasoning, assume that forces inside the mind – moral intuition or reasoning – are, or should be, the cause of moral behavior (unless someone actively prevents a person from executing it by threat or force). These theories provide a conceptual language for only one blade of Simon's scissors (see Chapter 5): the mind. Here, I would like to propose the notion of ecological morality, that is, that moral behavior results from an interaction between the mind and environment. As a consequence, the same moral intuition can lead to quite different moral outcomes, depending on the structure of the environment.

[27] Neiman (2008). [28] Ibid.

Fairness

Consider the moral intuition of many parents that they should treat all their children equally in order to create fairness and justice. To implement this goal, many parents try to divide their time, love, and attention among their children equally:

Equality heuristic: To share a resource among N persons, divide it equally ($1/N$).

The equality heuristic, however, does not necessarily produce the desired result. The outcome depends on the particular environment, some of which can even generate systematic inequality. For instance, parents who try to divide their time each day between their children equally will attain the long-term goal of providing each child with equal time if they have exactly two children. But, if they have three or more children (excepting multiple births), the goal will be missed because the first-born and the last-born will end up receiving more time than the middle-borns.[29] The reason is that first-borns do not have to share parents' time with other siblings before these siblings are born, and last-borns do not have to share after the older ones have left the family. Only the middle-borns always have to share, and their disadvantage increases with the number of years between the siblings. This result illustrates that a heuristic can or cannot reach a fairness goal (all children should be given the same amount of time during their childhood), depending on the structure of the environment. In the present case, there are two relevant features of the environment: the larger the number of siblings (three or more) and the larger their temporal spacing, the greater the imbalance. The environment has the last word.

Imitation

Consider a second social heuristic (mentioned in the section "Social Narratives Select Heuristics") and how its outcome depends on the environment.

Imitate your peers: Do what the majority of your peers do.

Imitation is probably the most important social learning principle, together with teaching and language. No other species is known in which

[29] Hertwig et al. (2002). Related to fairness are reciprocity heuristics, such as "if you take the benefit, you have to pay the costs," see Tooby & Cosmides (1992).

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individuals imitate the behavior of others as generally and precisely as Homo sapiens. Psychologist and primatologist Michael Tomasello argues that the precision and slavishness of imitation led to our remarkable culture.[30] Imitation enables us to accumulate what our ancestors have learned, thus replacing slow Darwinian evolutionary learning by a Lamarckian form of cultural inheritance.

Imitation can steer both good and bad moral action, from donating to charity to discriminating against minorities. If adolescents imitate the behavior of their peers, that can lead to mobbing and criminal action or to helpful and altruistic behavior, depending on the peer group that constitutes their social environment. The social heuristic and the environment are the joint causes of moral behavior. The same dependency holds in adult life. Those who refuse to imitate the behavior and the values of their social environment are likely to be called a coward or oddball if male, or a dishonor to the family if female. Imitating the majority virtually guarantees social acceptance in one's peer group and fosters shared community values.

Comradeship

As a final and dramatic case, consider a situation in July 1942 during World War II, as described by the historian Christopher Browning in his seminal book *Ordinary Men*.[31] Brought to the outskirts of a small Polish village, around 500 German men belonging to the German Reserve Police Batallion 101 were informed by their commander Major Trapp that they had been given a most unpleasant order from the highest authorities. There were some 1,800 Jews in the village, and the males of working age were to be brought to a work camp. The elderly, women, and children were to be shot. At this point, Trapp made an extraordinary offer: If any men did not feel up to the task, they could step out.

The men had only seconds to decide. A dozen stepped forward; the rest participated in the massacre. Why then did only 12 men decline to participate in mass murder?

Browning considered the obvious explanations. First, Nazi anti-Semitism. Yet, these men were mostly middle-aged family men considered too old to be drafted into the army, who had been educated in the pre-Nazi era with different moral values, and who came from a social class that was anti-Nazi in its political culture and from Hamburg, which was by

[30] Tomasello (2019). [31] Browning (1998).

reputation one of the least nazified cities in Germany. A second possible explanation is conformity with authority. But the extensive court interviews indicate that this was not the primary reason either. Moreover, Trapp had explicitly allowed for nonconformity. After taking several more explanations into account, including the lack of forewarning and concern about career advancement, Browning posited a different explanation, based on how men in uniforms identify with their comrades. Many of the policemen seem to have followed a social heuristic:

Don't break ranks.

According to Browning, the men felt "the strong urge not to separate themselves from the group by stepping out,"[32] even if that meant violating the moral imperative of not killing innocent people. Stepping out meant leaving one's comrades more than their share of the ugly task and losing face by doing so. Don't break ranks is a social heuristic that can lead to bravery in combat, such as risking one's life for one's comrades, but it can also lead to atrocities.

Trapp could have framed his offer the other way round, so that the social heuristic would not conflict with the Judeo-Christian commandment "don't murder." Browning suggested that if Trapp had asked that those men should step forward *who felt up to the task*, that is, to "opt in," the conflict would have been partially eliminated and the number of men who participated in the killing might have been considerably smaller. That is a thought experiment, no longer an analysis of the historical record. But it illustrates the ecological nature of moral behavior. Moreover, it indicates that by understanding the conflict between two moral intuitions – don't break ranks and don't kill innocent people – one can find solutions in the environment that can change what people do.

Systematic Inconsistencies

Inconsistencies between moral intuition and behavior are a surprise for virtue ethics. Virtues are believed to be character traits: A virtue makes a person a good one, a vice a bad one. For instance, for centuries, courage was a virtue for men and chastity was a virtue for women (see Chapter 2). Because these traits are considered to be stable, the resulting behavior should be consistently moral or immoral. From an ecological view of morality, consistency is not to be expected. In contrast, one can predict

[32] Ibid., p. 71.

in what situation inconsistencies are likely to arise. For instance, a survey asked citizens whether they would be willing to donate an organ after they had died; 69 percent and 81 percent of Danish and Swedish citizens, respectively, answered "yes," compared with about 4 percent and 86 percent who are actually potential donors.[33] The Danish citizens appear to behave inconsistently; the Swedish citizens do not. Yet, the apparent inconsistency of the Danish citizens is due to a mismatch between people's willingness and their government's default rule: Nobody is a potential donor unless they opt in. In the Swedish case, the government's default is presumed consent (opt-out); thus, no such conflict arises.

Similar inconsistencies and only moderate correlations between moral intuition and behavior have been reported in studies that both elicited people's moral intuitions and observed their behavior in the same situation.[34] Consider premarital sexual relations and American teenagers who publicly take a vow of abstinence. These teenagers typically come from religious backgrounds and have revived virginity as a moral virtue. One would expect that their moral intentions, particularly after having been declared in public, would guide their behavior. Yet, teenagers who made a virginity pledge were just as likely to have premarital sex as their peers who did not.[35] The only difference was that, when those who made the pledge had sex, they were less likely to use condoms or other forms of contraception. As mentioned, teenagers' behavior is often guided by a social coordination heuristic: imitate-your-peers – do what the majority of your peers do. If my friends make a virginity pledge, I will too; if my friends get drunk, I will too; if my friends already have sex at age 16, I will too; and so on. If behavior is guided by peer imitation, a pledge in itself plays little part. The social environment is what makes the difference.

Most importantly, if teenagers are not aware of the role that this heuristic plays in guiding part of their behavior, but, instead, believe they make their decisions themselves, this would explain why they were not prepared for the event of acting against their stated moral values. Similarly, the US Government has spent nearly $2 billion since the 1990s on the abstinence-promotion programs, which not only has turned out to be ineffective in preventing adolescent birth rates, but has actually increased these in conservative states.[36] One possible explanation of this failure is that adolescents' behavior is guided by social heuristics, which these governmental programs have not targeted.

[33] Commission of the European Communities (2007).
[34] See, for example, Narvaez & Lapsley (2005). [35] Rosenbaum (2009). [36] Fox et al. (2019).

Moral Luck

Philosopher Thomas Nagel defined moral luck as follows: "Where a significant aspect of what someone does depends on factors beyond his control, yet we continue to treat him in that respect as an object of moral judgment, it can be called moral luck."[37] The destiny of men who are enlisted for war is an issue of moral luck. Nagel observed that we frequently make moral judgments about people based on factors out of their control, despite our intuition that they cannot be morally assessed for what is not their fault. Moral luck arises from the fact that moral behavior is, in part, determined by our environment and, thus, not entirely controllable by the individual. It concerns the question of whether behavior should be evaluated as right or wrong depending on its result shaped by situational circumstances.[38]

Moral luck is a direct consequence of ecological morality. The teenager who desires to be accepted and imitates what peers do is lucky if the peer group is prosocial rather than criminal. The middle-aged family father who is confronted with choosing between breaking ranks and killing is unlucky to find himself in that situation. Moral luck, like ecological morality in general, expands normative questions such as "What is our duty?" and "What is a good character?" into interactive questions such as "How to create a virtuous environment for humans?"

Virtuous Environments

In this chapter, I have argued that moral intuitions are guided by social heuristics, which are not distinctive from other heuristics in the adaptive toolbox. One and the same heuristic can solve problems that we call moral and those we do not. That perspective helps explain the processes underlying moral intuition rather than taking intuition as an unexplained primitive. While moral psychologists debate over whether our moral sense is reflective and rational, as in Lawrence Kohlberg's theory, or intuitive and nonrational, as in Jonathan Haidt's theory, I believe that any assumed opposition and ranking is a misleading start.[39] Both intuition and deliberation are involved in moral behavior, as they are in decision-making in general. The result of deliberation may become automatic and intuitive over a lifetime or generations, or intuitive judgments may be justified post hoc by reason to save face. If Darwin is right that the function of morality

[37] Nagel (1993), p. 59. [38] Williams (1981). [39] See also Narvaez (2010).

is to create and maintain the coherence of groups, then social heuristics are the tools toward that goal.

The ecological view of morality emphasizes that behavior is a function of both heuristics and the environment in which they operate. Yet many theories continue to assume a simple causal arrow from an inner process – be it virtues, traits, moral reasoning, or utility calculations – to behavior. In contrast, the adaptive view that is inspired by Simon's scissors (see Chapter 5) explains apparent systematic inconsistencies in moral behavior and takes the phenomenon of moral luck seriously. Virtue is found not only in people but also in environments.

Virtuous environments can support people not only with respect to moral behavior. Chapter 8, the final chapter, deals with the question of how to set up and maintain a research environment that enables innovation through an open culture of intense, critical, but respectful discussion.