

# Emotions as Aids and Obstacles in Thinking About Risky Technologies

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Developments in technology have prompted ethical concerns for as long as recorded history. Writing itself is denounced by Plato in the *Phaedrus*, and other technological developments since then that have attracted moral censure include the mechanical clock, the crossbow, printing, the steam engine, vaccinations, and nuclear power, to name only the most notorious examples. It is as if the extent of man's curiosity and genius for invention were equalled only by his apparent discomfort with these faculties. This discomfort is encoded in many ancient myths, from the Hebrew story of the expulsion from the Garden of Eden, to the Greek tale of Prometheus and the Mayan legend of the rebellion of the tools.

Although contemporary developments such as genetic engineering, nanotechnology, and the use of stem cells in medical research are new, there is nothing new, therefore, about the aversion that many people today feel towards new technology. Indeed, it is all depressingly familiar.

What is new is a certain willingness by some scholars to endow this aversion with some normative weight. Traditionally, philosophers (in the Western tradition at least) have regarded emotional reactions as inimical to rational appraisal. In his famous metaphor of the chariot, Plato portrayed the passions as horses and reason as the charioteer. The message is clear; the passions may provide motive power, but it is up to the charioteer to steer them in the right direction. Immanuel Kant too argued that moral decisions should be a matter for pure reason, excluding all "pathological" emotional considerations. In standard accounts of the history of Western philosophy, Kant's views are usually contrasted with those of David Hume, who argued that approbation or blame "cannot be the work of the judgement, but of the heart; and is not a speculative proposition or affirmation, but an active feeling or sentiment" (Hume 1777 Appendix 1). However, it is worth noting that Kant and Hume agree on a fundamental idea; namely, that moral judgements are irrational to the extent that they are determined by emotional considerations. Kant believes that moral judgements can and should be made without emotional involvement, and

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46 are rendered irrational to the extent that they are contaminated by emotion. Hume  
47 believes that moral judgements are always determined by emotional considerations,  
48 and concludes that they are therefore irrational (or at least a rational). Neither Kant  
49 nor Hume attribute any normative weight to our emotional reactions.

50 Recently, however, some thinkers have proposed an alternative view, according to  
51 which emotions can be a normative guide in making moral judgments. Perhaps the  
52 best known proponent of this view is Leon Kass, who argues that feelings of disgust  
53 may be the manifestation of a kind of moral “wisdom” (Kass 1997). Kass is certainly  
54 not alone, however, and nor is disgust the only emotion that these attempts to endow  
55 emotions with normative weight have focused on. Roeser, for example, agrees with  
56 Kass that emotions can be a normative guide in making moral judgements, but her  
57 focus is on sympathy, empathy, fear and indignation (Roeser 2006).

58 Critics of Kass have rightly pointed out that human history is littered with exam-  
59 ples of things that were once considered disgusting but which we now recognise  
60 were inappropriate objects of revulsion. Homosexuality, working women, and other  
61 races were all considered disgusting by very large numbers of people, and some-  
62 times whole societies. Yet few would say today that those feelings were appropriate.  
63 As John Harris points out, “we ought to have a rational caution about following the  
64 yuk factor because we know it has led us not only in the wrong direction but in  
65 a thoroughly corrupt direction” (cited in Ahuja 2007). History teaches us that we  
66 cannot rely on the emotion of disgust to provide our moral compass. Like other  
67 emotions, disgust can be educated, but it can also have dubious causes.

68 The same arguments could be made, of course, against claims for the moral sig-  
69 nificance of other emotions besides disgust such as Roeser’s claims for the moral  
70 significance of sympathy. More important than any claims about the moral signif-  
71 icance of particular emotions such as disgust or fear, though, is the logically prior  
72 claim that emotions of whatever kind can carry normative weight. To my mind, this  
73 is Kass’s most fundamental error; the argument about disgust is important only as a  
74 special case of the more general claim.

75 Prima facie, it would seem that Kass and the other thinkers who share his views  
76 on the normative weight of emotions are simply making an elementary philosophical  
77 blunder by failing to observe the is-ought distinction. If one starts with the premise  
78 that research involving embryonic stem cells is disgusting, and concludes (after any  
79 number of intermediate steps) that one ought not to engage in such research, then it  
80 is clear that at some point in the argument one has made an invalid inference unless  
81 one of those intermediate steps is a premise to the effect that one ought not to do  
82 disgusting things. It is then clear that the moral weight of the argument depends on  
83 this crucial moral claim, and not on the empirical facts.

84 However, the proponents of the moral emotion view (as I shall call it here) would  
85 presumably reject such a criticism on the grounds that it is too simplistic. Roeser,  
86 for example, claims to base her views on “recent developments in neurobiology,  
87 psychology and the philosophy of emotions”, which, she thinks, show that “emo-  
88 tions and rationality are not mutually exclusive, but rather, in order to be practically  
89 rational, we need to have emotions” (Roeser 2007). Roeser takes these empirical  
90 findings in psychology to provide some support for her specific version of the

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91 philosophical position known as ethical intuitionism – the thesis that we some-  
92 times have intuitive awareness of value, or intuitive knowledge of evaluative facts,  
93 which forms the foundation of our ethical knowledge. According to Roeser, ethical  
94 intuitions are paradigmatically cognitive moral emotions with which we perceive  
95 objective moral truths (Roeser 2006a).

96 Moral realism is the critical premise on which all of Roeser’s claims about the  
97 normative status of emotions depend. To refute these claims decisively, then, it  
98 would be necessary to show that moral realism is false. Limitations of space make  
99 it impossible, however, to rehearse the well-known and well-established arguments  
100 against this notion here. For the purpose of this article, I will limit myself to dealing  
101 only with what Roeser herself calls “the main argument for moral realism” (Roeser  
102 2006b, p. 692). This argument begins by assuming that if there were no moral truths,  
103 there would not be an objective standard against which to evaluate a situation. It then  
104 appeals to our moral intuitions, which tell us clearly that certain moral practices are  
105 wrong, and by *modus tollens* infers that there must be moral truths. This is a valid  
106 argument, but the conclusion is only true if one accepts that our moral intuitions are  
107 good guides to the truth. Yet this is exactly what the argument purports to show, so  
108 the reasoning is circular. “This might sound like wishful thinking or circular reason-  
109 ing,” admits Roeser, but then adds; “it is rather to be understood as ‘inference’ to  
110 the best explanation” (Roeser 2006b, p. 692). This is disingenuous; no amount of  
111 denial will obscure the blatant circularity.

112 Nor does the occasional reference to “cognitive” theories of emotion provide  
113 any support for any species of moral realism. I suppose Roeser is right to claim  
114 that “cognitive theories of emotions allow for the idea that emotions are basic per-  
115 ceptions of moral reality” (Roeser 2006b, p. 692), but the mere fact that cognitive  
116 theories of emotion might be logically consistent with the thesis of moral realism. . .  
117 does not provide any grounds for thinking that it is true. Some cognitive theories  
118 of emotion hold that emotions are judgements of value (Nussbaum 2001), but the  
119 sense in which the term “value” is used here is not a moral or ethical one. Rather,  
120 what “value” means in this context is the relation that some event or fact has to an  
121 organism’s desires or intentions. Something has value in this sense if and only if it  
122 is either a potential aid or a potential obstacle to the achievement of one’s desires  
123 or intentions, irrespective of any moral or ethical matters. It is simply a category  
124 mistake, therefore, to think that cognitive theories of emotion provide any support  
125 for any species of moral realism.

126 It is likewise a mistake to think that certain contemporary views on the role that  
127 emotions play in practical reasoning have any bearing on the question of whether or  
128 not emotions have normative weight. The view that humans need emotions in order  
129 to be practically rational has become increasingly popular in the past decade (eg.  
130 de Sousa 1987; Evans 2002). But, like the cognitive theories of emotion with which  
131 this view is often closely associated, it is entirely a matter of empirical psychology,  
132 and has no necessary link with any species of moral realism.

133 In what follows, then, I simply assume that values, norms and ethics are all sub-  
134 jective phenomena, in the sense that we may have opinions about them, but there are  
135 no facts of matter. This does not imply, of course, that no practice can be morally

136 better or worse than another. It simply means that statements about the relative moral  
137 value of different practice must always be relativised to a given person or commu-  
138 nity. Democracy may be morally better than dictatorship for this person, or for that  
139 community, but never per se.

140 According to Roeser, her philosophical framework “is meant as a ‘third way’  
141 between Kant and Hume” (personal communication). But like many “third ways”,  
142 this is really no more than incoherence masquerading as complexity. The truth does  
143 not always lie half-way between two opposing views. Sometimes, the dichotomy  
144 exhausts the space of logical possibilities. In such cases, to reject the dichotomy as  
145 being “too simplistic” is intellectually dishonest. It muddies the water and prevents  
146 clear debate.

147 Until Roeser and the other proponents of the moral emotion view provide a  
148 clearly articulated explication of their much-vaunted “third way”, then, we must  
149 treat their claims as mere hand-waving. Neither they nor anyone else has yet pro-  
150 vided sufficient reasons to question the widely held view that emotions provide no  
151 evidence at all for or against any moral or ethical claim.

152 Does this mean that emotions convey no ethical or moral information? Certainly  
153 not. Emotional reactions often (but not always) convey information about the ethical  
154 and moral beliefs of the person exhibiting the reaction. If a person reacts with anger  
155 when she reads about a businessman who retires with a fat pension after almost  
156 bankrupting his company, I can reasonably infer that among her moral beliefs is one  
157 that places a high value on accountability and fairness.

158 Although this idea is hardly new, it is still underdeveloped. When combined with  
159 recent developments in psychological ethics, however, such as Jonathan Haidt’s  
160 “moral foundations theory”, it gives rise to some interesting consequences.

161 Haidt argues that there are five psychological systems that provide the founda-  
162 tions for the world’s many moralities. Each system is specialised for detect-  
163 ing and reacting emotionally to distinct issues: harm/care, fairness/reciprocity,  
164 ingroup/loyalty, authority/respect, and purity/sanctity. When the harm/care system  
165 is triggered, the emotions of fear and compassion may be activated. The fair-  
166 ness/reciprocity system evokes primarily the emotions of anger, gratitude and guilt.  
167 The ingroup/loyalty system involves strong social emotions related to recognizing,  
168 trusting, and cooperating with members of one’s co-residing ingroup, while being  
169 wary and distrustful of members of other groups. Emotions of pride, shame, awe and  
170 admiration, are manifestations of the authority/respect system. Finally, activation of  
171 the purity/sanctity system is associated most strongly with the emotion of disgust:

172 Disgust appears to function as a guardian of the body in all cultures, responding to elicit-  
173 ors that are biologically or culturally linked to disease transmission (feces, vomit, rotting  
174 corpses, and animals whose habits associate them with such vectors). However, in most  
175 human societies disgust has become a social emotion as well, attached at a minimum to  
176 those whose appearance (deformity, obesity, or diseased state), or occupation (the lowest  
177 castes in caste-based societies are usually involved in disposing of excrement or corpses)  
178 makes people feel queasy. In many cultures, disgust goes beyond such contaminant-related  
179 issues and supports a set of virtues and vices linked to bodily activities in general, and reli-  
180 gious activities in particular. Those who seem ruled by carnal passions (lust, gluttony, greed,  
and anger) are seen as debased, impure, and less than human, while those who live so that

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181 the soul is in charge of the body (chaste, spiritually minded, pious) are seen as elevated and  
182 sanctified. (Haidt and Graham 2007, p. 116)

183  
184 Haidt's theory allows us to make much more systematic inferences about the  
185 information that emotional reactions often convey about the ethical and moral  
186 beliefs of the person exhibiting the reaction. For example, if someone appeals to the  
187 emotion of fear when expounding on their moral opposition to GM crops, we can  
188 infer that the risks they associate with this technology are largely to do with the possible  
189 harm that this technology could do (by, for example, damaging the digestive  
190 system of those who consume them). Alternatively, if the emotion of anger plays  
191 a larger role in someone's opposition to GM crops, we might infer that the risks  
192 they associate with this technology have more to do with possible injustice (such  
193 as increasing the profits of large corporations at the expense of small farmers). Or,  
194 again, if it is the emotion of disgust that seems to motivate the opponent of GM  
195 crops, it may be that the risks that weigh most heavily on their mind are spiritual or  
196 theological ones (such as "tampering with God's creation").

197 Haidt has also argued that political liberals tend to base their moral intuitions  
198 primarily upon just two systems (the harm/care and fairness/reciprocity systems),  
199 while political conservatives generally rely upon all five systems. Liberals there-  
200 fore often misunderstand the moral motivations of conservatives, explaining them  
201 as a product of various non-moral processes such as system justification or social  
202 dominance orientation. The fact that bioconservatives like Kass see wisdom in the  
203 emotion of disgust is clearly in line with Haidt's claim that the values of purity and  
204 sanctity tend to play an especially important role in the moral beliefs of political  
205 conservatives. Similarly, the fact that liberals like Harris disparage the appeal to this  
206 emotion is also in line with Haidt's view that purity and sanctity do not even figure  
207 as concepts in liberal moral systems.

208 Haidt's thesis is not necessarily disproven by the recent appropriation of disgust  
209 by liberal thinkers. Dan Kahan, for example, has argued that even a liberal society  
210 needs to build law on the basis of disgust, and attempts "to redeem disgust in the  
211 eyes of those who value equality, solidarity, and other progressive values" (Kahan  
212 2000). Liberals should not, he argues, cede the "powerful rhetorical capital of that  
213 sentiment to political reactionaries" just because prominent defenders of disgust  
214 have often used it to defend conservative ideas. While this may seem an interesting  
215 tactical manoeuvre, if Haidt is right about the deeper psychological foundations of  
216 moral discourse, it is not likely to win much support among liberals. Time will tell.

217 Haidt's analysis is valuable here, not just because of his theses about specific  
218 emotions such as disgust, but also for the more general light that throws on the  
219 debate about the role of emotions in moral reasoning. Perhaps the debate between  
220 Harris and Kass is not about the importance of emotion per se in moral reasoning,  
221 but about the relative value of particular emotions in moral reasoning. If this is the  
222 case, then it might be more perspicuous to view the debate between Harris and  
223 Kass, not as simply a rerun of the Kant/Hume debate, with Harris playing the role  
224 of Kant and Kass the role of Hume, but rather as a debate between different species  
225 of Humean ethics. If this is true, we would expect Harris and Kass to agree on the

226 importance and relevance of emotions like compassion and pity to moral debate,  
227 since both liberals and conservatives base their moral intuitions on the harm/care  
228 system with which such emotions are associated. A true Kantian, of course, would  
229 take these emotions to be just as irrelevant to moral reasoning as the emotion of  
230 disgust.

231 Even a Kantian can, however, find something of value in this analysis. The fact  
232 that a person's emotional reaction can be used to infer their implicit moral values  
233 does not, of course, imply that emotions carry any normative weight. The Kantian  
234 is nevertheless perfectly entitled to avail himself of such emotional evidence to help  
235 tease out the moral values which are at stake in the argument. Once emotions have  
236 been used in this way, the argument can proceed in an entirely unemotional way.

237 In the case of arguments about risky technologies, the Kantian can use the evi-  
238 dence provided by emotional reactions to help clarify what exactly the risks are  
239 that a person associates with a given technological development. When this has  
240 been established, however, the likelihood of those risks will be assessed by rational  
241 means alone – that is, by statistical evidence, without reference to emotion-laden  
242 perceptions. For example, suppose that my reaction to some new development in  
243 biotechnology is fear – fear that the acceptance of this vital new technology may  
244 be hampered by misleading propaganda put about by environmentalists. That would  
245 suggest that the risks that matter most to me are risks of possible harm – in this case,  
246 the harm done to humanity by depriving people of a means for improving quality of  
247 life – rather than the risk of injustice or some imaginary “theological risk”. That, in  
248 my view, is where the “moral” issues end. What remains is for me to gather empiri-  
249 cal data about the likelihood of the risks I care about. This is a purely statistical  
250 matter.

251 The findings that have accumulated over four decades of research in the heuristics  
252 and biases programme must remain the key reference point here. These findings  
253 show conclusively that emotions almost always tend to reduce the rationality of  
254 decisions regarding the moral acceptability of technological risks by causing us to  
255 pay more attention to potential harms or potential benefits than is warranted by the  
256 evidence. Sometimes, enthusiasm can lead proponents to pay too much attention to  
257 the benefits of a technology and not to pay enough attention to risks. More often,  
258 however, it is the other way round, with the risks getting too much attention and the  
259 benefits being downplayed. The prevalence of this “luddite bias” may have some  
260 evolutionary basis; many emotional subsystems in the brain seem to be biased in  
261 the direction of perceiving threats at the expense of missing benefits, and overall there  
262 are many more negative emotions than positive ones. Thus people tend to be better  
263 at imagining the potential harm of new technologies than imagining the benefits.

264 As Cass Sunstein has pointed out in *Laws of Fear*, a truly rational analysis will  
265 always balance the risks of developing a given technology against the risks of not  
266 developing that technology (Sunstein 2005). The luddite bias is therefore an obstacle  
267 to rational analysis. One may attempt to overcome this obstacle by systematic debi-  
268 asing methods, such as forcing oneself to list as many potential benefits as potential  
269 harms when considering a new technology. Given the powerful emotional nature  
270 of the luddite bias, however, intellectual corrective procedures may not be enough

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271 to counteract it, and it may therefore be necessary to employ emotional debiasing  
 272 techniques too. For example, one might attempt to elicit the corresponding posi-  
 273 tive emotion for each negative emotion. When considering the possibility that GM  
 274 foods might be toxic, for example, we should also consider the possibility that they  
 275 might help avert starvation in developing countries, and we should try to elicit the  
 276 emotion of compassion for the millions of people who might be helped in this way.  
 277 Alternatively, if we are carried away by enthusiasm for a particular technological  
 278 development, we might try to elicit a reasonable degree of fear for the potential  
 279 risks.

280 This process is not, of course, a substitute for the rational assessment of the  
 281 likelihood of the potential harms and benefits, but merely attempts to make sure  
 282 that the emotional input into the decision-making process is fair and balanced and  
 283 so less likely to distort the unbiased gathering of relevant information.  
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 285

## 286 1 Conclusion

288 I have outlined a way in which emotions may play a role in assessing the moral  
 289 acceptability of the risks associated with new technologies which does not impair  
 290 the rationality of such assessments. Even a Kantian could claim that emotions could  
 291 enhance the rationality of such assessments. This underlines the importance of  
 292 spelling out precisely the nature of claims about the “rationality of emotion”, which  
 293 can cover a multitude of sins. All a Kantian would mean by such a phrase is that  
 294 emotions can help to clarify what exactly the risks are that a person associates with a  
 295 given technological development. Their role is purely to provide empirical evidence  
 296 concerning the implicit values of a given person.  
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## Chapter 5

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