Daniel Kelly, *Yuck! The Nature and Moral Significance of Disgust* (Cambridge, Mass.: MIT Press, 2011), 208 pp. ISBN: 978-0262-01558-5. $30.00/£20.95 (cloth).

Popularizing thought experiments about eating dogs and kissing siblings, a prominent strand of contemporary moral psychology has suggested that disgust plays a pervasive, previously ignored role in moral cognition. It is therefore unsurprising to find an up-and-coming philosopher of psychology detailing a fresh, thorough, empirically informed theory of the nature and origins of disgust and then applying it to moral debates. Daniel Kelly's conclusion is that "disgust has no moral authority" and that we should be "deeply suspicious of the influence it can exert on ethical thought and deliberation" (p. 146). Kelly's account of disgust is very impressive and helpful. However, his argument against disgust's "moral authority", while plausible in its conclusion, is overly compressed, leaving options unexplored.

Chapter 1 describes some preliminary data about disgust, explanations of which are three desiderata for a theory of disgust's nature and origin. Chapters 2-4 develop such a theory. Chapter 5 contains his argument against disgust's "moral authority".

The class of properties which elicit disgust has some impressive features. It is *unified*: normal, mature humans from virtually all cultures seem to have similar behavioral, physiological, and facial disgust responses (pp. 15-16) in response to a certain "core" of elicitors pertaining to organic decay and including bodily fluids and orifices (p. 28). Yet there is also *variation* across individuals, especially when they come from different cultures or subcultures—e.g., seeing cat on a menu disgusts most in Tallahassee but delights many in Shenzhen; and one American family might be homophobic or xenophobic while their neighbors homo- or xenophilic. Finally, there is also *diversity* within the things that typically disgust an average person. Near-universal themes in what elicits disgust range from foreigners and out-group members, to various sorts of foods, to sexual activities and proclivities, to people with moral vices (pp. 29-33). Naturally, explanations of these three features are desiderata for a theory of disgust (pp. 33-4), and Kelly uses them as guides to organize and support his theory of disgust's nature and origin.

Kelly explains disgust's *unity* by appealing to what he calls the Entanglement Thesis (Chapter 2). In all biologically normal humans, Kelly postulates two separate mechanisms which evolved in response to two separate adaptive problems, but then merged into a single, integrated emotion we now call disgust. The Poison Mechanism was a gastrointestinal mechanism responsible for creating and sustaining acquired taste aversions. It is associated with aversion, withdrawal, nausea, and the "gape face" characteristic of disgust. The Parasite Mechanism was mostly behavioral, producing contamination sensitivity, a sense of uncleanliness, and a propensity to cleanse oneself, all of which helped early humans avoid parasites. These two mechanisms fused largely due to a functional overlap stemming from the prevalence of parasites in potential foods, especially as humans came to eat more meat (p. 54). Additionally, the gape face associated with the poison mechanism probably served as a useful means of transmitting information about the presence of contamination to conspecifics (p. 55). This involves what Kelly calls disgust's "sentimental signaling system"—the topic of Chapter 3.

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As with many emotions, we display disgust on our faces. Often this happens unconsciously and automatically. We also have ease with perceiving disgust in others. Often we recognize these signals unconsciously. They are difficult to fake and tend to make disgust reactions contagious (p. 68). To explain all this Kelly develops the "Cultural Transmission Model" of how individuals transmit certain cultural information by facially revealing disgust toward culturally taboo items. This helps Kelly meet the second desideratum, an explanation of disgust's *variation* across cultures and subcultures. Groups with different surroundings and social structures perpetuate divergent information and revulsions regarding which entities are potentially tainted.

The fourth chapter develops the Co-Opt Thesis: that disgust was recruited to perform various "auxiliary functions associated with tribal living" (p. 116). This is because increased human sociality made it increasingly adaptive to rely on extensive social information. Especially, disgust "became implicated in the psychological systems underlying cognition of [i] social norms and [ii] ethnic boundary markers" (p. 102). More broadly, disgust "reliably produced a particular piece of motivation (aversion) and behavior (avoidance), and it was equipped with a flexible acquisition system" (pp. 145-6). This is why such *diverse* kinds of elicitors—from cockroaches to the collection at the Museum of Bad Art—can be disgusting to the same person.

Kelly marshals ample evidence that disgust is implicated in cognition of social norms pertaining to burial, food preparation, sexual conduct, and other activities involving intrinsically disgusting entities. The ethnic boundary markers to which he points, such as cuisine, also involve intrinsically disgusting entities. However, he leaves it less clear why or how disgust would have been co-opted to other, less intrinsically disgusting domains. Examples may include: kitsch art; people who are ugly, socially inept, manipulative, or closed-minded; or states of affairs which remind one of one's animal nature. Kelly will be partly at a loss for explaining precisely why disgust in particular was recruited for these domains; he can only point to disgust's flexibility and not much more.

Section 4.4 begins the discussion of disgust in moral thinking. Kelly registers a pessimistic view on the possibility of, "demarcat[ing] the domain of morality" (p. 128), and remains agnostic about whether there are any instances of genuinely 'moral disgust'. An apt replacement for this awkward terminology is that of 'moral*istic* disgust': disgust which gives rise to normative judgments with the categorical, authority-independent signature traditionally criterial of moral judgments in the tradition proceeding from Elliot Turiel.

At the very end (Section 5.4) Kelly sneaks in his argument against disgust's "moral authority". According to Kelly, here is why we should be suspicious of disgust's influence on moral thinking. It deploys too easily: automatically, quickly, and sometimes involuntarily or unconsciously. Disgust, "is on a hair trigger, following a 'better safe than sorry' rule" (p. 147). This, "results in the emotion being extremely susceptible to false positives" (ibid.). "The mere fact that something is disgusting is a far from fail-safe indicator that something is poisonous or infectious, let alone immoral" (ibid.).

It is problematic that Kelly relies on the notion of a 'false positive' without telling us what a true positive for disgust would be in the social domain, or specifically

what "auxiliary functions" disgust was co-opted to fulfill. He was clear that in the physical domain disgust responds to signs of poisons or parasites. But a 'Disgust Advocate' might argue that one of the functions to which disgust was co-opted was simply the detection of immoral behavior. Perhaps we should count a disgust reaction to (e.g.) John Wayne Gacy as a true positive, even though Gacy himself was neither poisonous nor parasite-infested. (After all, *shouldn't* we be disgusted by a pedophilic murderer? Aren't our disgust reactions to him reliably producing intuitions that his behavior was terribly immoral?) Moreover, in several places Kelly details how disgust reinforces norms pertaining to sexual and spiritual purity. If these turned out to be morally important issues, then they could be domains within which disgust is reliably moralistic. Insofar as Kelly counts disgust's moralistic tendencies in these domains against its moral reliability, he relies on substantive assumptions about the extent of the moral domain which are incompatible with his official agnosticism about how to demarcate the moral domain.

Another problem for Kelly is an equivocation about whether disgust is a substantive hindrance to good moral reasoning or is by contrast merely neutral. If he is *Opposed to Disgust* then he thinks that disgust leads us to inaccurate moral intuitions and/or distorts our moral thinking. Presumably, that is why we should be "deeply suspicious of disgust's influence" (p. 146). But if he is *Indifferent regarding Disgust*, then he thinks that the fact that (e.g.) Gacy disgusts you counts neutrally regarding whether your moral intuitions about Gacy's actions have been reliably formed, and hence the presence of a disgust reaction should not be taken as evidence regarding Gacy's moral standing. Supporting this interpretation of Kelly is his statement that, "the mere fact that … the violation of a certain norm induces disgust in some people is neither here nor there" [p. 150]. (Thanks to Scott Kimbrough for discussion of this point.)

I think we can extend Kelly's argument as follows. Offer an account of disgust's function in the social domain to rival that of Disgust Advocates. Viz., argue that disgust aims at signs of 'social parasites': undercover threats to one's self or group. One can be a social parasite by being any of the following (for example): unhygienic, a member of a competing tribe, inept, irrational, or underhanded/conniving. Then argue that social parasitism in this sense is morally irrelevant. For example, poor hygiene, foreignness, and ineptitude do not involve intentional violations of moral rules. Social disgust cannot adequately distinguish morally relevant from irrelevant social parasitism. Yet disgust (as Kelly argues) does pervasively sway social and moral cognition. Hence, on the whole it distorts our moral thinking, which weighs in Opposition to Disgust.

All in all, this is an important work on the psychology of disgust destined to thoroughly inform at least the next decade of disgust research. Kelly fails to argue adequately that disgust is either non-helpful or unhelpful to moral reasoning, but his fresh account of disgust's nature, evolution, and elicitors can help us finish the argument off.

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