

HOW TO CONCEPTUALISE DISGUST

A review of Daniel Kelly (2011) *Yuck! The Nature and Moral Significance of Disgust*. Boston: MIT-Press. 194 pages, ISBN: 978-0-262-01558-5

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Disgust is a basic emotion and consists of an experience of revulsion, a withdrawal response, feeling nauseous and a typical facial expression (gape). It can be triggered by many different stimuli such as rotten food, the idea of sex with animals, and faeces. However, also more abstract concepts such as unfair deals can elicit a disgusted facial expression (CHAPMAN 2009). There is not only a huge variety in disgust elicitors, but also a huge difference between individuals, partially culturally determined. Some people find it disgusting to eat snakes, others love it. It is therefore difficult to develop an all-encompassing theory about disgust which can explain both the variety of disgust elicitors and the individual differences, but this was Kelly's aim.

Kelly combined two important theories of disgust: contamination theory and oral avoidance theory. The contamination theory as developed by CURTIS and BIRAN (2001) claims that disgust is an evolved mechanism in both humans and animals to avoid contamination with infectious agents. This is a very plausible theory but without additional theories it cannot explain the variety of stimuli. Food which is not infectious can still be experienced as very disgusting (e.g. a well-known item from the Disgust Scale: eating vanilla ice cream with tomato ketchup). Moreover, unfair deals are difficult to perceive as infectious. ROZIN, HAIDT and MCCAULEY (2008) developed a different theory and asserted that disgust started in human evolution as a mouth-based rejection system but later also developed into 'animal reminder' disgust, a uniquely human feeling. Stimuli which remind humans of their animal nature and that they are going to die, such as corpses, graveyards, etc., are experienced as disgusting as well. However, it is not entirely clear why and how animal reminder disgust developed from an oral avoidance mechanism. After explaining that both theories are incomplete, Kelly argued for a combination, namely the entanglement thesis.

According to the entanglement thesis, there are two different basic forms of disgust, namely contamination disgust and oral or food avoidance disgust and these two forms of disgust merged in humans but not in any other animals. Many animals have innate mechanisms to both avoid contamination and avoid eating oral toxins, but according to Kelly they are separate mechanisms in animals. The reason why in humans the two mechanisms became combined is that humans became meat eaters to a much greater extent than did great apes; and this also occurred fairly rapidly in

evolutionary terms. Purely carnivorous animals had been selected for dealing with toxic food but the human digestive system was not adjusted to that and so the contamination system was instead hijacked. Although Kelly states that this is not a 'just-so' story, it does remain a speculative idea. There is some developmental evidence for his theory, namely that contamination disgust occurs later in development than oral disgust and this could be explained by the fact they were separate mechanisms during human evolution. However, crucial for Kelly's theory is that contamination disgust and oral disgust are separate in great apes and as far as I know this has not been investigated.

After explaining the entanglement hypothesis, Kelly still has to explain why there is huge variation in disgust responses both between individuals and between cultures. There are good evolutionary reasons for this because humans live in very diverse surroundings. It would take a lot of time if everybody had to find out for himself which foods were poisonous and which situations to avoid for infections, and it would be risky in evolutionary terms because one might well have died before being able to reproduce. Therefore one has to learn it from parents and other humans. Kelly discusses that disgust has a typical facial expression and that this is actually difficult to hide, and so others do notice it.

Kelly argues in favour of cultural transmission because that is the only way that humans as a group could adapt to such diverse surroundings. However, according to Kelly this is a different process than the classical commitment necessary to display that one will reciprocate in transactions. Disgust according to Kelly primarily evolved to deal with the physical environment and classical commitment theory describes how social transactions evolved.

Kelly does describe individual acquisition processes in the chapter on cultural transmission. He discusses incest avoidance; particularly that involving a sexual relationship with people you grew up with during childhood. However, the Westermarck phenomenon tends to be described as a biological process triggered by certain living conditions, not as a cultural process. The reason why Kelly has to mention it in the chapter about cultural transmission is that the Westermarck effect is not easy to reconcile with either oral disgust or contamination disgust. This categorisation by the author is not entirely convincing.

According to Kelly there was gene-culture co-evolution so that humans could make optimal use of cultural-transmission mechanisms. People outside one's group have been more likely to carry infectious organisms to which one is not immune, and disgust has therefore reinforced group-specific social norms and avoidance of people in other groups. This is a very plausible explanation but it can probably also be explained by contamination disgust theories per se and one does not here need Kelly's entanglement thesis. Disgust has also been used for moral judgement and Kelly's last chapter argues against KASS (1998), who considers disgust experiences a form of deep moral wisdom. Kelly's main argument is that something which developed for avoidance of toxins and contamination should not be used for moral judgement, or at least should not be given a special moral status. Disgust as guid-