

## **Handout #2: Vincent, Ring and Andrews on Animal Norms**

### **1. Darwin on the Distinction between Human and Animal Morality**

**Moral subjects:** We call an animal a “moral subject,” or proper object of moral concern, just in case we think we must take into account its interests, desires, preferences, plans and/or feelings when we are deciding whether or not to perform an action that we know will have some effect on it.

**Moral agents:** We call an animal a “moral agent,” or proper object of moral judgment, just in case we think it is appropriate to hold it responsible for its actions by blaming or punishing it when it fails to conform to “operative” moral standards.

Note that different standards are operative in different contexts of judgment. I consider you a moral agent when I communicate expectations with regard to your performance in this course and I reward or punish you (with grades) depending on whether you meet these expectations, exceed them or fail to do so entirely. You also have expectations of yourself, as is witnessed by your feeling disappointed in yourself for your performance or pride/relief if you live up to your own expectations for yourself.

When we think about normative cognition in the other animals, we should be alive to this division. We can separately inquire into whether the other animals: (a) understand the expectations of conspecifics, (b) seek to meet these expectations, (c) feel bad for frustrating them, etc. But we can also wonder whether chimpanzees or orcas (d) **have expectations of themselves**, where this is something like what Kant has in mind by a “self-legislated” morality.

More specifically: Are any of the other animals ever disappointed in themselves? Do any experience pride? Andrews, Ring and Vincent argue that we shouldn’t limit ourselves to looking for this “advanced” form of normative thought when we look at chimps and orcas. And that’s surely right. We should be looking for the presence or absence of the full range of experiences that characterize a person’s moral psychology.

Kant’s position is that the other animals are neither moral subjects nor moral agents because they lack the capacity for autonomy that comes with self-legislating a morality or adopting a normative view out of a relatively intellectual understanding of its function and the value of that function in the life of the community (i.e. the suitability of a norm or rule to serve as a universal law for all moral agents). Mill’s position is that the other animals are not moral agents because we cannot teach them our laws, but they are nevertheless moral subjects because they experience happiness and suffering. Indeed, Mill argued that we should ignore the species boundary as such when we are deciding what to do even if we value uniquely human forms of pleasure or happiness (the “higher pleasures”) more in our calculations than animal forms of happiness and pleasure.

**A Major Question in Moral Psychology:** What if anything justifies us in saying with Mill and Kant that humans are moral agents and so capable of acting morally and immorally, but that the behaviors of non-human animals cannot be appropriately assessed in these terms?

Traditionally, theorists have argued that an animal or person must have the understanding or

**intellectual capacity** necessary to grasp the expectations communicated to her and the **self-control** necessary to meet those expectations if we are to appropriately conceptualize her as a moral agent. (As stated above, Kant requires considerably more than this insofar as he thinks people must be able to “self-legislate” morals to be moral agents, where this involves doing the right thing for the right reason and not to gain a good reputation or avoid punishment.) Traditionally, the other animals and young human children are excluded from the category of moral agency (and are therefore not properly punished in the way criminal adults are punished) because young children and the other animals are thought to lack the understanding they would need to grasp the moral rules we use to articulate our expectations to them and would anyway lack the self-control they would need to abide by these rules were we to somehow successfully communicate with them. Teenagers are thought of as an “in-between” case insofar as they are thought to have an understanding of their society’s morality while they are still developing the forethought and control necessary to conform to that morality when tempted to violate its rules.

The Traditional Conditions on Moral Agency: It is appropriate to hold A responsible for her actions by blaming or punishing A when she fails to conform to “operative” moral standards just in case A has the **intellectual capacity** necessary to understand what these standards are and the **self-control** necessary to conform to these standards out of her understanding of them.

Questions: Do you communicate expectations to your dog not to defecate in the house or chew up the furniture? Do you blame him or her if he or she fails to meet these expectations? How does this differ from your reactions to comparable human failures (like your roommate eating your leftovers without permission or your friend borrowing something without permission and then losing it)?

Andrews, Ring and Vincent concede to the Kantians that other animals are not moral agents if moral agency involves an understanding of “what makes an action wrong.”

Certainly, if a moral agent must understand what makes an action right or wrong, then most nonhuman animals would not qualify (and perhaps some humans, too). However, if we are to understand the evolution of moral psychology and moral practice, we need to turn our attention to the foundations of full moral agency. We must first pay attention to the more broadly normative practices of other animals.

Note: This may be conceding too much to the Kantian. It isn’t entirely clear what is involved in “understanding the wrongness” of a prospective course of action.

It’s pretty early on in their development that children “understand what you’re saying” when you tell them that they shouldn’t hit people and they should share their toys, etc. (where filling in the etc. depends on the moral psychology of the caregiver). Mightn’t some of the other animals have this kind of understanding?

Hard question: What is it to “understand” what someone is saying when they tell you not to hit others because doing so would be wrong or immoral? Must you be able to explain why hitting them would be wrong in a manner that would satisfy the party assessing your understanding? (This is a fairly “cognitive” or discursive condition on understanding.) Must you show some reluctance before lashing out when you do? (This is a fairly “affective” or motivational condition on understanding.) Doesn’t understanding come in varieties and degrees? Even two-year-old children have a minimal (cognitive and affective) understanding of what you’re demanding of them and a minimal grasp of the reasons why they should keep their hands to themselves (as long as they’ve been told as much by responsible caregivers). This minimal understanding is in place long before children can be tried as adults for breaking laws. (In

California, a juvenile system deals with the punishment of criminals under the age of 18, but 14 year-olds can be tried as adults in certain cases; which is absurd in my opinion.) What, if anything, changes between the ages of say 4 and 14 or 14 and 28 to justify the differing treatment of children in comparison to juveniles or juveniles in comparison to adults? Is it just an increase in self-control?

The million-dollar question (posed by social workers and reformers for millenia): How are the relevant varieties of self-control gained or imparted?

In his Descent of Man and Selection in Relation to Sex, Darwin agreed with the traditional posture on moral agency, though Darwin provided a more detailed (and somewhat reductive) analysis of the capacity of moral-understanding-taken-together-with-self-control which he appropriately termed “conscience.”

In the process of providing a theory of the evolution of conscience, Darwin noted an inconsistency in our evaluations of humans and other animals. We praise people for instinctive courage and benevolence, as when someone takes a bullet for a friend or risks her life to save people from a burning building without prior thought, and we describe this as moral behavior or morally excellent behavior. But though we praise animals for similarly **instinctive acts of courage**, we do not describe other animals as “moral,” nor do we characterize their behavior as “morally excellent.” Is this a justified practice?

Consider, in this light, the overview Andrews, Ring and Vincent provide of chimps and cetaceans performing acts of this sort as well as retributive, mean-spirited or vengeful actions.

Figure 3.3 Care norms: regarding the wellbeing of others

Care Norms		
Behaviors	Examples in Chimps	Examples in Cetaceans
Caring and consolation	Console those who lose fights and reconcile after fights (de Waal & van Roosmalen, 1979; Kutsukake & Castles, 2004; deWaal, 2009)	Cetaceans ‘stand by’ others in distress, staying close but not offering aid, often in dangerous situations such as whaling (Connor & Norris, 1982)
	Console bonded individuals in distress (Fraser et al., 2008)	
Targeted helping/hurting	No preference for food delivery method that also delivered food to a conspecific (Silk et al., 2005)	Cetaceans ‘support’ others in distress, pressing them to the surface until the supported recovers or dies; observed intra- and interspecifically (Connor & Norris, 1982; Williams, 2013)
	Help a human obtain out-of-reach objects (Warneken et al., 2007)	Cetaceans help others deliver infants and help raise newborns to surface (Connor & Norris, 1982; McKenna, 2015; Whitehead & Rendell, 2015)
	Prefer to use a token that supplied food to self and conspecific rather than only to self (Horner et al., 2011); note Skoyle’s (2011) interpretation of this behavior as mean-spirited, not pro-social (but still normative)	Cetaceans approach injured individuals, show violent or excited behavior, come between captors and the injured, bite or attack capture vessels, and push the injured away from captors; observed intra- and interspecifically (Connor & Norris, 1982)

	Help another chimpanzee even when there is no direct benefit to self (Yamamoto et al., 2009)	Dolphins approached a sailor who fell overboard, then approached search boats, going back and forth, thereby leading human rescuers to the sailor (Whitehead & Rendell, 2015)
	Target individuals to kill, castrate, and disembowel (Peterson & Wrangham, 2003; Boesch et al., 2008; Wilson et al., 2014)	Orcas guided lost researchers by surrounding and staying with the boat until they reached home, then swam away in opposite direction (Morton, 2002)
	Males and dominants aid females and youth in road crossing (Hockings et al., 2006)	Humpback whales interfere with orca whale predatory attacks on various species, sometimes rescuing the prey (Pitman & Durban, 2009; Pitman et al., 2016)
		A bottlenose dolphin guided a mother/calf pygmy sperm whale pair out of an area of sandbars upon which they were repeatedly stranding (Lilley, 2008)
		A captive orca attacked and killed a human trainer at SeaWorld, holding the trainer underwater too long (Kirby, 2012; Neiwert, 2015)
Response to loss (grief)	Mothers carry dead infants until they are mummified (Biro et al., 2010)	Adult cetaceans carry dead calves and juveniles, sometimes until they decompose (Connor & Norris, 1982; Reggente et al., 2016)
	Responses to dying and death include caring for dying individual, examining for signs of life, male aggression to the corpse, all-night attendance by adult daughter, cleaning the corpse, and subsequent avoidance of the place of death (Anderson et al., 2010)	Captive orca Bjossa remained with her dead calf for days, touching her and preventing humans from approaching ( <a href="http://www.apnewsarchive.com/1995/Killer-Whale-Calf-Loses-Fight-for-Life/id-0a2a8961200d44de8938963260ce058b">www.apnewsarchive.com/1995/Killer-Whale-Calf-Loses-Fight-for-Life/id-0a2a8961200d44de8938963260ce058b</a> ); captive orca Corky made specific distress vocalizations and refused food for days after calf died (Morton, 2002)
Emotion recognition	Recognize basic emotions in facial expressions (Parr et al., 2007)	

Questions: Are all these actions instinctive? Do any of them involve the understanding of rules and the exercise of self-control to conform to rules that is supposed to be constitutive of moral agency (according to the classical view)?

Darwin's concession to Kant: "He who is forced to overcome his fear or want of sympathy before he acts, deserves, however, in one way higher credit than the man whose innate disposition leads him to a good act without effort. As we cannot distinguish between motives, we rank all actions of a certain class as moral, if performed by a moral being. **A moral being is one who is capable of comparing his past and future actions or motives, and of approving or disapproving of them.** We have no reason to suppose that any of the lower animals have this capacity; therefore, when a Newfoundland dog drags a child out of the water, or a monkey faces danger to rescue its comrade, or takes charge of an orphan monkey, we do not call its

conduct moral. But in the case of man, who alone can with certainty be ranked as a moral being, actions of a certain class are called moral, whether performed deliberately, after a struggle with opposing motives, or impulsively through instinct, or from the effects of slowly-gained habit.”

As an illustration of this difference Darwin reflects on the strength of the migratory instinct, which is maladaptive when it leads the mother bird to abandon her young. His idea is that birds aren't moral agents because they lack the reflective capacities in terms of which he defines “conscience.”

“Whilst the mother-bird is feeding, or brooding over her nestlings, the maternal instinct is probably stronger than the migratory; but the instinct which is the more persistent gains the victory, and at last, at a moment when her young ones are not in sight, she takes flight and deserts them. When arrived at the end of her long journey, and the migratory instinct has ceased to act, what an agony of remorse the bird would feel, if, from being endowed with great mental activity, she could not prevent the image constantly passing through her mind, of her young ones perishing in the bleak north from cold and hunger.”

**Darwin's definition of “conscience”**: Conscience consists in (a) a propensity to reflect on our past behavior, (b) the propensity to feel pride when our past behavior made others happy and met with their approval, (c) the propensity to feel regret when our past behavior caused pain and met with disapproval<sup>1</sup>, (d) the capacity to frame rules on the basis of these forms of regret and pride so as to commit to acting in the future in ways of which we are proud and refrain from acting in ways that have provoked shame<sup>2</sup>, and (e) the “meta-cognitive” ability to resist acting on an impulse or inclination when we recognize that doing so would conflict with our commitments (i.e. commitments of the sort described in (d) above).

“At the moment of action, man will no doubt be apt to follow the stronger impulse; and though this may occasionally prompt him to the noblest deeds, it will more commonly lead him to gratify his own desires at the expense of other men. But after their gratification when past and weaker impressions are judged by the ever-enduring social instinct, and by his deep regard for the good opinion of his fellows, retribution will surely come. He will then feel remorse, repentance, regret, or shame; this latter feeling, however, relates almost exclusively to the judgment of others. He will consequently resolve more or less firmly to act differently for the future; and this is conscience; for conscience looks backwards, and serves as a guide for the future....”

If any desire or instinct leading to an action opposed to the good of others still appears, when recalled to mind, as strong as, or stronger than, the social instinct, a man will feel no keen regret at having followed it; but he will be conscious that if his conduct were known to his fellows, it would meet with their disapprobation; and few are so destitute of sympathy as not to feel discomfort when this is realised. If he has no such sympathy, and if his desires leading to bad actions are at the time strong, and when recalled are not over-mastered by the persistent social instincts, and the judgment of others, then he is essentially a bad man; and the sole restraining motive left is the fear of punishment, and the conviction that in the long run it would be best for his own selfish interests to regard the good of others rather than his own.”

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<sup>1</sup> Note that (b) and (c) are the operations of sympathy according to Hume and Bain. (Darwin cites Bain in this regard.)

<sup>2</sup> Kant would describe this as “adopting a maxim.” Darwin concedes that the adoption of maxims is uniquely human but it is unclear whether this is true.

Questions: Has Darwin accurately explained the difference between human moral cognition and the (proto) moral cognition of non-human animals? Does self-control require the kind of meta-cognitive ability involved in identifying an impulse or inclination and resisting it out of a reflectively formulated commitment to acting in accordance with one's rules or ideals?

Further questions: Does Darwin attribute too great a role to the thoughts and opinions of other people in his account of conscience? Can we commit to certain rules of conduct from our reflective understanding of their fairness or justice alone (as Kant maintained)? Or does some concern with securing a good reputation always enter into the formation of moral commitments? For example, how does the philosophical vegetarian know that a desire for praise plays no role in her maintaining her diet? (Kant actually thought that none of us could know we had purely altruistic motives.)

## **2. Looking for Normative Thought rather than Just Goodness or Altruism in Animals**

Recall the distinction between uses of “moral” with which we began the course. We commonly use “moral” to describe an agent as good. But we can also talk of “the moral views” of a Nazi or the moral perspective of a slave trader without implying that the Nazi or slaver is moral in any way. When we're using “moral” in this way, it makes perfect sense to say that these ‘moralities’ (and others) are horribly wrongheaded or misguided and that they include lots of false beliefs and pernicious motivations. Andrews, Ring and Vincent argue that a confusion between these two senses of “moral” has skewed research into animal morality. Instead of just looking at how good or unselfish or kind other animals can be, we should be looking at evidence for and against the hypothesis that the other animals enact moralities by holding each other to certain norms, rules or widely held expectations.

When the investigation into animal morality only identifies laudable acts as evidence of moral participation, and when we look for evidence of specifically moral norms, we lose sight of the basic cognitive requirement for moral agency – namely, ought-thought, which is a cognitive modality much like mental time travel or counterfactual thinking. Thinking about what ought to be the case – like thinking about what happened in the past, what might happen in the future, and what might be the case under various circumstances – is a cognitive mode that requires the thinker to do more than represent what is currently the case. The cognitive mode of thinking about what ought to be the case is what we will refer to here as *naïve normativity* (Andrews, et al, 58-9).

Questions: But what exactly is naïve normativity? How can we tell whether an animal is thinking about what ought to be the case?

We understand naïve normativity to include diverse instances of valuing, some of which are not moral. For example, if someone wears the shoes of her favorite celebrity, she thinks of this celebrity as a fashion ideal. That is a kind of normative thought. If a person uses toilet paper because she implicitly recognizes that this is a sanitary expectation of those with whom she interacts, she is influenced by normative thinking. The same might be said if she takes off shoes before entering a home to honor the wishes of the homeowner, or the gods, or the community at large. If we begin our theorizing with a focus on *normative* thought and participation understood in this broad way, we can better reconstruct the emergence of moral thinking across and within species – without having to identify this early stage of moral cultural evolution with any particular moral theory. (Andrews, et al, 59)

If this is right, then evidence that other animals imitate each other, or (more tellingly), evidence that “lower status” animals imitate those animals who have more power within their group, is evidence of normative thought. The idea here is that the imitating animal represents the animal she is imitating as an ideal or someone worthy of imitation. To represent someone as a role model is to represent her as being as one ought to be. Of course, this needn’t be a good thing. Especially if the role model in question is cruel or unfair. But that is irrelevant if we’re being clear about the two uses of “moral.” We’re not asking whether the other animals are as good (or bad) as us. Instead, we’re asking whether the other animals engage in the kinds of thought we do when we can be regarded as “moral agents” (as defined above) and so praised or blamed for what we do. And Andrews, Ring and Vincent argue that representing or thinking of some conspecific as a role model and trying to conform to that model through imitation would be a component of the kind of cognition involved in having a conscience.

### **3. Varieties of Normative Thought**

Andrews, Ring and Vincent provide an analysis of the various form of normative thought that the other animals evince in their interactions with one another. Though they claim to be investigating normative thought in general they focus on the “moral domain” as it is defined in broad (non-liberal or extra-liberal) terms by Haidt and others.

We combine the theoretical frameworks of Haidt et al., Iyer et al., and Krebs and Janicki to establish a range of normative practices that we can examine conceptually and empirically.

#### **A. Norms of Obedience**

When the leader of a wolf pack prevents a female member from breeding with a strange male, she is enforcing a *norm of obedience*. When a dog tucks her tail and hides her face because she anticipates a scolding for stealing cake, her guilt evidences her susceptibility to these same norms. Indeed, when an older ape critiques a youngster’s initially unsuccessful attempts at termite fishing, norms of obedience are expressed and taken to heart in the process.

#### **B. Norms of Reciprocity**

When capuchin monkeys protest getting a cucumber after observing a fellow receive a more highly valued grape for the same task, the capuchin has expressed her aversion to injustice, implicating a *norm of reciprocity*. This second group of norms is supposed to guide monkeys’ exchanges of food and grooming services and their expressed dissatisfaction with unfair deals.

#### **C. Norms of Caring**

I’ve pasted in their data on evidence of cognition of these norms above. Animal acts of self-sacrifice and consolation are guided by *norms of altruism* or caring, as when orcas attack ships to save their pod-mates, humpback whales save a seal from the pursuit of these same orcas, or a polar bear mourns the death of a mate. But Andrews et al also include norms of revenge or targeted malice, presumably because these are the flip side of targeted benevolence. In each case the animal concerns itself with helping or hurting another animal as an end in the absence of any clear benefit it derives for itself.

#### **D. Norms of Social Responsibility**

*Norms of social responsibility* are manifested in various distributions of goods and divisions of labor. One example might be the sentinels among a scurry of Belding field squirrels, who draw danger upon their own heads by whistling warning of a hawk’s approach. In this vein, Vincent et al. report a chimp in the Kansas City Zoo who propped a log against the enclosure’s wall to serve as a ladder and then “beckoned to another six chimps to join him” in his escape.

#### **E. Norms of Solidarity**

Finally, the authors posit *norms of solidarity* that reinforce the common identity of the communities in which they live. These norms are invoked to help explain why a group of cetaceans might develop an in-group language of whistles and clicks or beach themselves collectively.

The authors go on to examine the lives of chimpanzees and cetaceans in detail, reporting an array of normative practices, which are in turn supposed to provide evidence of a similarly complex manifold of “ought thoughts” in the minds of those animals enacting them.

**Question:** Do the behaviors Andrews, Ring and Vincent describe provide good evidence that chimps and cetaceans grasp and conform to norms or ideals of obedience, reciprocity, caring, social responsibility and solidarity? Does this provide sufficient evidence that humans inherited our capacity and proclivity to normative cognition and rule guidance from our primate ancestors? Does it provide evidence that chimps and orcas are moral agents?

#### 4. Explicit Norm Guidance in Animals: An Unsettled Possibility

So as not to beg questions against the parties to disputes over the correct answers to these questions, let us use “explicit norm guidance” to refer to the reflective capacity to act from a normative judgment or thought. So understood, explicit norm guidance is necessary for moral agency (as it is classically defined).

A note of caution on the errors of anthropocentrism: An animal may be capable of understanding the expectations of conspecifics (i.e. other members of its species) without being able to grasp the norms that humans might try to communicate to it. Perhaps wolves understand who they’re “allowed” to mate with and perhaps some female wolf out there has refrained from mating with a foreign male out of her understanding that she “ought not” do so. (This crucially depends on what we think is sufficient for ought thought, which remains a matter of philosophical debate.) My point here is that it is compatible with this that wolves and domestic dogs cannot understand the ten commandments, or many of the norms that we might try to teach to them.

**Explicit Norm Guidance:** An animal is explicitly guided by a norm forbidding X-ing just in case: (a) she considered X-ing or was about to X because she was inclined to do so, (b) she judged or all along believed or was brought to understand by others that she ought not X, and so (c) refrained from X-ing **because** she judged or believed or understood that she ought not X.

So if one chimp wants to mate with another and refrains from doing so *because* she represents this as something forbidden—or something she ought not do—we will say that she is “explicitly guided” by the norm in question. But what is it to think of some proposed action as wrong or forbidden?

Recall the analyses of this concept introduced by Kumar as discussed in handout 1 on which a wrong or transgression is conceptualized as a moral wrong just in case it’s thought of as (1) serious, (2) general, (3) authority-independent, and (4) objective, where a claim is conceptualized as objective if it is thought **not to allow** for **faultless disagreement**.

Questions: If we think of conceptualizing a wrong as a moral wrong in the way Kumar suggests, what are the prospects that the other animals think of any wrongs (or forbidden acts) as immoral? Isn’t objectivity defined in terms of the kinds of disagreement that only humans engage in (because it involves disputes over the truth of a sentence or statement and only humans construct sentences)?

**A naturalistic definition of “normative cognition”**: normative cognition is the psychological capacity and proclivity to learn social rules or expectations, conform to those rules, evaluate, modify and revise social rules, to settle on a set of “rules of one’s own,” to react aversely to the breaking of these rules (with blame or shame) and reinforce rule-following by rewarding those who meet or exceed expectations (with love or praise).

**(Note on the Excessive Cognitivism of the Above Characterization**: we needn’t assume that moral psychology is exhausted by normative cognition as defined above. A powerful line of argument from Aristotle to Dreyfus and beyond claims that moral judgment is not the application of rules and in fact a good moral compass or conscience resists formulation in terms of rules. Perhaps the kind of moral thinking utilized by people we judge morally exemplary or virtuous is more a matter of social skill or “know how” than the bringing to bear of propositional knowledge or knowledge that. When we turn to a discussion of altruism, we’ll see that Sober and Wilson allow altruistic actions that are not grounded in principles or rules of any kind.)

At any rate, to assess whether the other animals have “ought thoughts” or normative cognitions in the “naturalistic” sense we have just defined, we must look for evidence that (e.g.) a chimp enforces the mating hierarchy in cases in which she is not personally implicated or that she now complies with mating expectations of conspecifics because of the guilt and remorse she experienced after prior indiscretions. This would be sufficient for the chimp’s thinking (e.g.) that one shouldn’t have intercourse with lower ranked males.

Of course no chimp *says* to others, “You shouldn’t have intercourse with lower ranked males.” But we’ve been assuming with all of the authors we’ve considered so far that the ability to construct and assert sentences is not necessary for “ought thought.” At least we’ve been assuming that it is not *definitive* of the phenomenon.

Vincent, Ring, and Andrews do not argue that explicit rule guidance (so understood) is manifest among populations of nonhuman animals, but they also don’t rule it out, and there is some intriguing evidence in favor of the hypothesis. De Waal, for example, argues that other animals exhibit “willpower,” as when they forgo a present reward to secure more remote advantages (2016, 221–229), and willpower would seem to implicate explicit norm guidance of a sort. To be fair, when an animal suppresses an experienced appetite for one grape in the hopes of therein securing ten, she is explicitly guided by prudential rather than moral norms. But when these norms implicate others, suppression of appetites and aversions in their service might be thought to constitute genuinely “moral” norm guidance. And this is a possibility to which Vincent et al. remain open.

## **5. Possible Animal Norms Against Incest**

Andrews, Ring and Vincent hypothesize that chimps and orcas cognize, follow and enforce norms against incest. Let’s focus on the orcas.

The resident orca communities are one of only two mammalian species where neither sex disperses from their natal groups; the other is the long-finned pilot whale. In other species, including chimpanzees, dispersal is likely an incest avoidance adaptation. Using DNA analysis, Barrett-Lennard (2000) determined that the norm for residents is outbreeding and found no evidence of inbreeding. Individuals always mate within their community, sometimes within their clan, but never within the same pod. Barrett-Lennard posits that individuals are sexually attracted to others with a similar—but not too similar—dialect. We have classed this manner of incest avoidance as aversion (see

Figure 3.4). We cannot make the empirical claim that orcas have social taboos regarding incest, but considering how many facets of their lives indicate normative participation (e.g., dialect, diet, foraging), it stands to reason that their incredibly successful incest aversion mechanisms include normative practices around mating. (Andrews, et al, 2019, 71)

**Task:** Consider the various definitions of “normative cognition” we have considered and the observations of orca life reported by Andrews, et al and assess the case for and against the hypothesis that orcas observe norms prohibiting incestuous intercourse.