Sounding Depth with the North Atlantic Right Whale and Merleau-Ponty: An Exercise in Comparative Phenomenology

Jen McWeeny[1]

The North Atlantic right whale is an endangered species whose current population size is estimated to be between 350 and 400 individual animals.[2] North Atlantic right whales are primarily found off the coasts of the North Eastern United States and Eastern Canada for the majority of the year, but in the winter they migrate south to the waters off of Florida and Georgia to give birth. Their dangerously small population size is a direct result of the whaling industry, which hunted the right whale almost to extinction until an international ban was instituted against harvesting them in 1935 (Kraus and Rolland, 2007: 5). The industry also gave the species, whose scientific name is *Eubalaena glacialis*, its common name; it was well-known among hunters that these animals were "the right whale to kill" due to their high concentrations of blubber, their slow swimming speed relative to other whales, and the fact that right whale bodies float when dead.

The North Atlantic right whale population has been slow to rebound from its decimation for several reasons, including the animal's reproductive biology and low levels of genetic variation within the remaining members of the species. Female right

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1 Jennifer McWeeny is Associate Professor of Philosophy at John Carroll University where she regularly teaches courses in epistemology, Continental philosophy, feminist philosophy, early modern philosophy, and Asian and comparative philosophy. She received her Ph.D. in Philosophy from the University of Oregon in 2005 and her M.A. in Philosophy from the University of Hawai'i at Manoa in 2000. Her research interests are in the areas of phenomenology, epistemology, embodiment, feminist comparative philosophy, and environmental philosophy. McWeeny's articles have appeared in Hypatia and Simone de Beauvoir Studies, among other venues. Her current projects include co-editing Liberating Traditions: Essays in Feminist Comparative Philosophy and writing articles on intersectionality theory and the emotions, respectively.

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whales do not reach sexual maturity until they are about ten years of age, after which they will only reproduce once every three to five years with gestation periods of approximately twelve months (Kraus et al., 2007: 179-184). At birth, right whale calves are between four to five meters (13-16 feet) long and weigh up to one ton (Kraus et al. 2007: 178). They will soon grow to lengths of eleven to eighteen meters (36-59 feet) and weigh between 36 and 72 tons (Kraus and Rolland, 2007: 14). Like most large cetaceans, full-grown right whales have no known predators except humans, although calves are sometimes preyed upon by pods of killer whales.

Another factor in the slow recovery of the species is an increasing number of right whale mortalities caused by ship-strikes and entanglements.[3] Pregnant females and females with calves are especially in danger of ship-strikes because they are slower-moving than other individuals in their species and more likely to stay close to the shore. Indeed, the lives of North Atlantic right whales are so affected by ship-strikes and entanglements that they have recently been dubbed "the urban whale" by scientists Scott D. Kraus and Rosalind M. Rolland in their book of that title (2007). As these researchers write,

> Between shipping, fishing, ocean noise, pollution (including sewage effluent and agricultural and industrial runoff), the coastal zone of Eastern North America is one of the most urbanized pieces of ocean in the world. And right whales, many of which live within that zone for most of their lives, are thus a new phenomenon in the marine world—a truly urban whale. (2007: 4)

Kraus and Rolland argue that the North Atlantic right whale is afflicted with what they call "the urban whale syndrome," the symptoms of which are increased mortality from human activities, decreased reproduction, poor body condition including scars and skin lesions, and habitat loss (490). North Atlantic right whales are not the only cetaceans manifesting symptoms of this syndrome. Kraus and Rolland also cite inland killer whales in the Pacific Northwest, Beluga whales of the St. Lawrence River, and

[3] For overviews of the problems of entanglements and ship-strikes in regard to the North Atlantic right whale population see respectively Johnson et al. (2007) and Knowlton and Brown (2007).

the Indo-Pacific humpbacked dolphin as populations that are showing signs of decline due to their proximity to human industry (498-501). The insight behind Kraus and Rolland's moniker for the North Atlantic right whale is that just as the health and survival of humans have been shown to diminish when they live in urban areas for prolonged periods of time, so too with nonhuman animals whose habitat has become thoroughly and in some cases irrevocably urbanized.

My philosophical interest in the North Atlantic right whale has to do primarily with what the lived whale body can teach us about a phenomenology of depth. As those already familiar with phenomenological literature will likely be aware, Maurice Merleau-Ponty's analysis of depth in *The Phenomenology of Perception* constitutes a crucial moment in the formation of his ontology. Most importantly, Merleau-Ponty's articulation of depth as "the most 'existential' of all dimensions" (1945/1962: 298) provides us with a way to conceptualize our involvement in the world without the Cartesian frames that separate subject from object, mind from body, and human from nature. As such, Merleau-Ponty's notion of depth is an apparent precursor to his famous description of "the flesh of the world" in his final work, *The Visible and the Invisible* (1964/1968). By thinking embodied whale experience together with Merleau-Ponty's early discussion of depth, I hope to generate a description of that phenomenon that is richer than that which could be developed in the absence of this juxtaposition. Focusing on the lived bodies of North Atlantic right whales can help to enhance our understanding of Merleau-Ponty's claim that depth is a relational phenomenon of mutual envelopment that is tied to an organism's practical orientation toward the world. Centering the endangered bodies of North Atlantic right whales in our study of depth also encourages us to envision an environmentalist future that is grounded in our recognition of the sensuous cartography of human/nonhuman relations in which we are always already positioned participants.

I. Depth as an "Existential Tide"

When we begin to consider how depth is present in our everyday experience, we often conceive of depth as a corollary dimension to height and width. According to this standard view, depth is both a way to measure one "side" of an object and a property

of that object. For example, a book seen straight on can appear flat and two-dimensional, but the same book seen from an angle has "depth"—a third way of extending in space, a thickness that stands out against flat surfaces. In Bishop George Berkeley's analysis, which parallels the standard view, depth is a series of points lined up end to end and seen straight on. For this reason, Berkeley believes that depth is invisible; we see objects in the world but we never see depth unless we look at it from the side.

In the "Space" chapter of the *Phenomenology of Perception*, Merleau-Ponty criticizes Berkeley's conception of depth for failing to accommodate our actual experiences of depth and for falsely equating depth with "breadth seen from the side." In contrast to Berkeley's approach, Merleau-Ponty aims to describe depth phenomenologically—not as the object of abstract thought and calculation, but as it is experienced by a lived body. To this end, Merleau-Ponty writes that "whereas breadth can, at first sight, pass for a relationship between things themselves in which the perceiving subject is not implied" (1945/1962: 298), depth "announces a certain indissoluble link between things and myself by which I am placed in front of them" (298). Depth is thus a relational phenomenon that becomes visible whenever a body is put into contact with a world. We do not participate in the dimension of depth only as observers and measurers, but our experiences of depth instead implicate our whole being and our inescapable involvement with the world. Merleau-Ponty tells us that

> More directly than the other dimensions of space, depth forces us to reject the preconceived notion of the world and rediscover the primordial experience from which it springs: it is, so to speak, the most 'existential' of all dimensions, because (and here Berkeley's argument is right) it is not impressed upon the object itself, it quite clearly belongs to the perspective and not to things. (298)

Depth emerges in experience out of our concrete relationships with the world; it is not a property that inheres in the object and would stay the same regardless of who perceives that object. When we encounter depth, we can no longer maintain that the world exists independent of my relations with it; insofar as my orientation toward the world changes, then so does my experience of depth.

Merleau-Ponty explains that those self-world relationships that are contained within our experiences of depth are not those of mere juxtaposition (1945/1962: 308). Whereas breadth and height measure distances between two objects, depth "is the dimension in which things or elements of things envelop each other" (308). The envelopment that Merleau-Ponty speaks of is one in which a person's gaze "takes hold" of objects in the world and experiences their thickness, density, and size in relation to himself. When I peer over the edge of the Grand Canyon, I am enveloped by the void below at the same time as my stare attempts to embrace the void. For Merleau-Ponty, determinate experience emerges out of a person's practical, existential orientation toward the world, an idea that is succinctly captured in his famous phrase that "consciousness is in the first place not a matter of 'I think that,' but of 'I can'" (159). An experience of depth is thus an awareness of how well we can hold an aspect of the world "in our grip." In Merleau-Ponty's words,

> When we say that an object is huge or tiny, nearby or far away, it is often without any comparison, even implicit, with any other object, or even with the size and objective position of our own body, but merely in relation to a certain 'scope' of our gestures, a certain 'hold' of the phenomenal body on its surroundings. (311)

Depth is our implicit recognition of our proximity and distance to that with which we are in relation; "depth immediately reveals the link between the subject and space" (311).

Throughout his analysis, Merleau-Ponty encourages us to construe depth, not as a property of objects, but as that originary orientation that makes our experience of objects possible. As such, depth is "primordial" in the sense that we experience depth before we perceive objects and distances such as height and breadth. Primordial depth is "the thickness of a medium devoid of any thing" (1945/1962: 310). Our sense of depth is thus as acutely attuned to our emotional and existential possibilities as it is to our physiological and structural capacities:

> The bird which hovers, falls, and becomes a handful of ash [in my dream], does not hover and fall in physical space; it rises and falls with the existential tide running through it, or again it is the pulse of my existence, its systole and diastole. The level of this tide at each moment conditions a space peopled with phantasms, just as, in waking life, our dealings with the world which is offered to us condition a space peopled with realities. There is a determining of up and down, and in general of place, which precedes 'perception.' (332)

In this passage, Merleau-Ponty suggests that we are always already oriented by our bodies and by the relationships that we create in virtue of being situated in a particular environment, even before we have perceived aspects of this environment as definitive objects and have articulated and measured the contours of them. Depth is this "existential tide" that contracts and releases at regular intervals in proportion to our proximities and distances to various aspects of the world. When we perceive depth, we are perceiving that sensuous cartography of dynamic relationships that is the mutual envelopment of self and world.

Up until this point we have been speaking of depth only as a marker of one's *spatial* location, but we must remember that Merleau-Ponty also claims that experiencing depth necessarily involves a temporal dimension. He writes, "perception provides me with a 'field of presence' in the broad sense, extending in two dimensions: the here-there dimension and the past-present-future dimension" (1945/1962: 309). Both of these temporal dimensions are experienced in terms of proximity and distance; some memories feel "far away" while others feel as if their contents are happening anew. Like two beings moving in relation to one another, the passing of one instant to the next involves mutual envelopment, as the "thickness" of each temporal moment engulfs the thickness of the moment before (309). According to this analysis, each experience of depth will be nested by its successor so that concrete relationships spread out in time as well as in space. More accurately, Merleau-Ponty would say that spatial proximity is a function of temporal proximity. He writes, "Things co-exist in space because they are present to the same perceiving subject and enveloped in one and the same temporal wave" (321).

Although I agree with Merleau-Ponty's critique of the standard view of depth and with his idea that our experiences of depth rest on the co-implication of self and world, I believe that his description could be further developed. Despite the sound logic of Merleau-Ponty's analysis, it is often difficult for us to immediately find the elements of depth that he ascribes to it in our everyday experiences. Human experience is so replete with levels of abstraction and sedimentation that the task of returning to what Nietzsche called "the fiery liquid" of experience (1873/1979), that is, experience that has yet to be categorized and petrified into words and objects, can feel foreign and counter-intuitive. For example, I experience the lamp on my desk as an object separate from me that has an existence independent of mine whose properties could be measured by me. The lamp can be more or less in my reach, but I am not consciously aware of our mutual envelopment in any direct way, nor am I necessarily aware of my complete immersion in an irrevocably relational milieu. Put differently, I must undertake significant amounts of philosophical reflection in order to see how it is that my practical orientation participates in my experiences of determinate objects and depth. Merleau-Ponty does offer plausible explanations of how we come to experience this kind of objectivity in spite of the fundamental ambiguity, liquidity, and thickness of the world.[4] However, I am left to wonder whether there is a way to describe primordial depth so that its characteristics are grasped with more immediacy than they are in Merleau-Ponty's discussion. It is my contention that this enhancement to Merleau-Ponty's theory presents itself when we shift the subject of his phenomenological analysis from a human body to a whale body, and specifically to an endangered whale body that is in precarious relationship with its environment.

II. Sounding Depth

Before attending to the ways that North Atlantic right whales experience depth, allow me to say a few words about how this move from human body to whale body, which at first glance appears to be a radical departure from the phenomenological method, could actually be consistent with Merleau-Ponty's embodied phenomenology.

[4] See especially Merleau-Ponty's essay "The Primacy of Perception and Its Philosophical Consequences" (1947/1964).

Merleau-Ponty's predecessors, Franz Brentano and Edmund Husserl, focused their phenomenological studies on attributes such as intentionality, consciousness, and thought in the hopes of expanding our knowledge about the structures of the human mind. Brentano's interest in intentionality, for example, was largely due to his thesis that such directedness toward objects was "the mark of the mental" (1873/1974: 88). Insofar as nonhuman animals were thought to lack these attributes, it made sense to look to human experience to generate rich phenomenological descriptions. However, Merleau-Ponty's insistence that mental phenomena are derivative of bodily experience and not the other way around provides an opening for undertaking phenomenologies of nonhuman animal bodies.

Merleau-Ponty's account of intersubjectivity in *Phenomenology of Perception* is especially useful for theorizing the mutual suitability of humans and nonhuman animals for being the subjects of phenomenology. Here, Merleau-Ponty does not equate subjectivity with having the capacity for reflective thought, language, or self-consciousness. Instead, Merleau-Ponty believes that being a subject is coincident with being a body, as is evidenced by his repeated use of the phrase "body-subject" to describe beings that put their practical, operative intentions in contact with the world. According to this view, "intersubjectivity," or the shared experiences between two beings, is not a matter of having the same ideas, possessing the same capabilities, seeing the same things, or being simultaneously affected by the same stimuli in the same manner. Instead, *intersubjectivity is intercorporeality*; it is about being in proximity and at a distance to another body that is not identical to my own, but is similar enough so that I *pre-reflectively* recognize it as a body like my own. As Merleau-Ponty writes,

> Just as my body, as the system of all my holds on the world, founds the unit of the objects which I perceive, in the same way the body of the other—as the bearer of symbolic behaviors and of the behavior of true reality—tears itself away from being one of my phenomena, offers me the task of a true communication, and confers on my objects the new dimension of intersubjective being or, in other words, of objectivity. (1947/1964: 18)

Although Merleau-Ponty is explicitly referring to intersubjectivity between two human beings in this passage and although communicative speech figures centrally in their interaction, the ways that this analysis could be extended to include human-animal relations are clear. The body of the right whale is the system of all of her holds on the world just as Merleau-Ponty's body is the system of his. However, since right whales do not have hands and fingers, we would do well replace the primate-centric language of "holding" and "grasping" with "sounding," which is a word that is applicable to a wider variety of species and that evokes activities of diving, measuring, and investigating. If it is the fact of having a system of relating to the world—a body—that allows for the possibility of intersubjectivity, then the right whale body-subject is potentially just as worthy of our phenomenological gaze as human-body subjects like Schneider, the war veteran with brain damage whom Merleau-Ponty returns to again and again in the *Phenomenology of Perception*. Let us see if this suspicion gains credence as we position the right whale body at the center of our descriptions of depth.

When we begin to think depth through the right whale body, we first notice that whereas humans most often navigate depth forward and backward through the horizontal movement of bipedal land experience, the right whale experiences another kind of depth in the verticality of the water column. In one study of North Atlantic right whales in the Bay of Fundy, the median dive depth for right whales was calculated to be roughly 120 meters (394 feet) and the median dive duration was approximately twelve and a half minutes (Baumgartner and Mate, 2003: 128). The Bay of Fundy, a body of water between Maine and Nova Scotia where large numbers of right whales can often be found in the summer and fall, is one of the deepest known feeding habitats for right whales with maximum depths estimated to be about 213 meters or 700 feet.[5] Researchers in the Bay of Fundy and elsewhere report that right whales will frequently surface from a dive with their heads covered in mud from the bottom of the ocean (Kraus and Rolland, 2007: 508), although there is much speculation as to what right whales are doing on the ocean floor since their food sources often aggregate several meters above those depths. Right whale diving

[5] Personal correspondence with right whale scientist Amy R. Knowlton, April 11, 2011.

behavior is tracked using an instrument called a "time-depth recorder," which is attached to the whale at the surface with a suction cup and then measures the various depths that the whale is frequenting over a period time, at the end of which the suction cup releases and the recorder floats to the surface for retrieval.[6] When time-depth recorders are attached to whales, they produce graphs that provide visual depictions of a whale's diving behavior over periods of time.[7] Such graphs indicate that the rhythmic vertical movement from the surface of the water to great depths and back again is a characteristic feature of the right whale's experience. As mammals, right whales are tied to the surface because they must breathe at regular intervals. And, as cetaceans with anatomical structures highly adapted to swimming and diving, right whales have the ability to explore the bottom of the ocean and all of the points in between.

Experiencing depth within the water column, rather than on land, involves living through significant changes in atmospheric pressure. At a depth of ten meters (32 feet) the ambient pressure is twice as great as it is on the surface. Beyond ten meters below the surface, the ambient pressure doubles every time that the depth doubles (Nowacek et al., 2001: 1813). At 120 meters down, the ambient pressure is roughly 176 pounds per square inch or twelve atmospheres. This means that at this depth there would be more than 25,000 pounds bearing down on each square foot of the whale's body.[8] The air in the whale's lungs collapses to half its original size every time the ambient pressure doubles (Nowacek et al., 2001: 1813), indicating great pliability in the whale's rib cage and lungs. Rising to the surface after a dive, the right whale again experiences a considerable change in atmospheric pressure, whereupon the air in the whale's lungs expands until it is exhaled through the blow hole when the whale surfaces. In contrast to other large cetaceans like blue whales and fin whales, right whales are positively buoyant near the surface of the ocean partly due to their thick

6 As a phenomenologist, I am drawn to the surrealist vision of humans being fitted with "time-depth" recorders that are appropriate to their anatomy and activities. Such recorders could measure the varying distances that a person occupies vis-à-vis particular objects over time and, if we really wanted to push the surrealist, science-fiction reverie, the emotional proximities and distance that a person has with other beings and objects over time.

7 For examples of such studies, see Baumgartner and Mate (2003) and Nowacek et al. (2001).

8 This calculation was inspired by a discussion of the diving capabilities of sperm whales on the website "The Flying Turtle: Ask Dr. Galapagos," http://www.ftexploring.com/askdrg/askdrgalapagos2.html.

stores of blubber. This means that right whales must expend more energy than other large whales to reach depth and they expend less energy than those whales coming to the surface (Nowacek et al., 2001: 1811). The positive buoyancy of right whales likely makes them more susceptible to "the urban whale syndrome" because it may take them longer to dive to avoid ship-strikes and other urban activities that occur on the surface of the water (Nowacek et al., 2001).

In general, the larger an animal is, the longer it should be able to dive because larger animals have greater oxygen stores and lower mass-specific metabolic rates than smaller animals (Croll et al., 2001: 798). However, researchers have hypothesized that the unique feeding behavior of right whales allows them to stay at depth longer than even larger cetaceans, such as fin whales and blue whales, whose feeding habits expend more energy and require greater oxygen stores in the muscles. As Mark F. Baumgartner, Charles A. Mayo, and Robert D. Kenney tell us, "right whales are carnivores that feed without manipulating their prey or their environment in any way. Right whales simply open their mouths, swim forward, and feed on whatever happens to fall in. They rely utterly on the environment to organize their prey into mouth-sized aggregations of millions to billions of organisms" (2007: 140). A species of zooplankton which measures about two to three millimeters long and is called *Calanus finmarchicus* is the primary prey of North Atlantic right whales. An individual right whale must eat approximately one billion of these copepods per day to sustain its body weight (Baumgartner et al., 2007: 165). Because right whales are filter feeders, rather than lunge feeders like blue whales, fin whales, and humpback whales, they must find places where ocean tides have amassed large quantities of their prey, who are generally weak swimmers and therefore unable to overcome strong currents. Such high densities of organisms can be distributed anywhere in the vertical water column, not just near the surface. Scientists are still unsure of how and why right whales are so skilled at finding these aggregations. Baumgartner and Mate believe that right whales detect their prey without opening their mouths and without recourse to vision, both because of the lack of light at depth and because *C. finmarchicus* do not bioluminesce as do some other species of copepods (2001: 133). Instead, right whales find their prey by relying on indications from the environment, such as experiencing changes in velocity, temperature, turbulence, or salinity during their dives (2001: 133).

In addition to locating prey in their immediate vicinity, right whales are also capable of finding prey aggregations from up to thousands of kilometers away (Baumgartner et al, 2007: 166). Maternal teaching, memory, and instinct are possible explanations for this capacity. Researchers have found that right whales display remarkable site fidelity to feeding grounds where their mothers brought them as calves (Frasier et al., 2007: 209). If a mother-calf pair is sighted in the Bay of Fundy, it is highly likely that the calf will bring her offspring there when she reaches maturity. An interesting twist on site fidelity is evidenced in the case of Porter (Eg #1133), a North Atlantic right whale who was sighted in the Norwegian bay of Lopphavet in 1999 (Kraus and Rolland, 2007: 488-490). Whaling records indicate that there were large numbers of right whales in Lopphavet in the 1600's, but none had been seen there for hundreds of years until Porter showed up. As Kraus and Rolland write, "It seems unbelievable that there is a cultural memory of Lopphavet that was passed on to [Porter], and yet, there he was, in a location where his ancestors over thirty generations ago went and were killed by our ancestors" (2007: 489).

Porter's ability to find Lopphavet suggests that North Atlantic right whale bodies congeal memories of the ways that those bodies interact with their environment on multiple levels. In contrast to the pristine bodies of their sister species, the Southern right whale, the bodies of North Atlantic rights whales are covered with scars and scrapes that are the residue of entanglements and propeller collisions in their urban environment. The bodily memories that are implicated in a whale's site fidelity and scars encourage us to consider depth's temporal dimension in a way that is inextricably bound up with its spatial aspects. A particularly poignant example of the temporal dimension that right whale bodies entails is found in the story of a whale by the name of Eg #1045, whose story is described in Kraus and Rolland's *The Urban Whale* (2007: 1-3). In March of 1935, Eg #1045 was feeding her newly born calf in right whale calving grounds off the coast of St. Augustine, Florida. A group of men who were sportfishing for tuna spotted the mother-calf pair and decided to hunt the calf. They harpooned the calf and shot at it with high powered rifles. After six hours of pursuit, the calf finally died. Eg #1045 would not leave her calf during this time and so the men shot more than 100 rounds of bullets into her flesh. Only after her calf was dead did she flee the scene. A *New York Herald Tribune* reporter was present that

day and documented the event in its entirety. This was the last right whale "intentionally" killed in the United States. Later in 1959, researchers at the Wood's Hole Oceanagraphic Institute took photographs of a solitary right whale in Cape Cod Bay for a study that they were conducting. By matching photographs in the *Herald Tribune* with these photographs taken in 1959, scientist Amy Knowlton discovered that the whale seen in Cape Cod Bay was Eg #1045. Eg #1045 was sighted again in 1980 in Cape Cod Bay and then a few more times after that off the coast of New England, but never with a calf, which indicates to researchers that her reproductive capabilities were damaged during the 1935 attack. Eg #1045's last sighting was in August of 1995 when she was seen with a massive propeller wound on one side of her head. She has never been seen again. Even though it is probable that right whales can live to more than a hundred years of age as do bowhead whales (Kraus and Rolland, 2007: 22), this longevity is severely compromised by the facticity of urban whale life—a facticity that is inscribed and embedded in the bodies of these animals. The way that the longevity and endangered nature of a right whale body holds time and place indicates that the whale's own practical possibilities are bound up with their experience of depth.

III. A Comparative Phenomenology of Depth

After having opened ourselves to thinking the ways that North Atlantic right whales experience depth, we are now in a position to ask how placing these nonhuman bodies at the center of our analysis furthers and enhances Merleau-Ponty's theory of depth. What do right whales teach us about depth that we may not have found had we only considered human bodies and experiences?

In the first place, the right whale's liquid habitat evokes an experience of depth that begins, quite literally, in the mutual envelopment of self and world. The watery world surrounds the whale and presses down on her body and is the medium by which she relates to other beings. The whale-subject is always already implicated in the experience of depth in this liquid milieu because the other beings and features present in the environment are known to her by changes in her own body. The bodily movements of the whale likewise reverberate throughout the ocean and affect other

beings therein even if they are not in close enough proximity for direct contact. Humans who have ever been caught in a current or been close to marine animals while swimming will likely be able to relate to this phenomenon. For example, when I was in college, I had the good fortune of swimming with a whale shark that was about nine meters in length off the coast of Western Australia. Although I was at least twenty feet away from the whale shark in the water, I would get sucked in toward the animal and then pushed out somewhat violently every time that it moved its tail. In my experience, the water played the role of a connective tissue, linking my experience of my own body to the movements of my enormous swimming companion even though we never touched. Sounding depth alongside the right whale body thus beckons us to conceive of depth as a complete immersion in a thoroughly relational milieu in a way that Merleau-Ponty's theory does not. Without considerable analysis, it is difficult to picture the objects in my life as the other end of those intentional threads that emanate from my desires and orientations. But the right whale's relationality with the other aspects of her environment is immediately obvious.

The different kind of involvement that the right whale has with his environment is emphasized by the inadequacy of the activities of vision and grasping to explicate a whale's experience of depth. According to Merleau-Ponty, the kind of relationship between self and world that depth indicates is one "by which I am placed in front of them" (1945/1962: 298). Thus construed, the self is implicated in our experiences of depth by our ability to see and capacity to grasp. As Merleau-Ponty writes, "depth is born beneath my gaze because the latter tries to see *something*" (306, original emphasis). He tells us further that the distance that we experience in depth is "the situation of the object in relation to our power of grasping it" (305). The diving and foraging behaviors of right whales suggest that they navigate and come to know their environment, not so much through vision or lunging (a kind of taking "hold" of their prey), but by being attentive to subtle changes in their own relationships with their surroundings such as variations in swimming speed, pressure, and water temperature. There is a sense in which the right whale knows where he is in the ocean because of how he feels there, whereas a human being is more likely to search out visual cues

and landmarks to glean her location.[9] Merleau-Ponty's reliance on vision and grasping to illuminate primordial depth exacerbates our tendencies to think depth in terms of the separation between self and world since both activities necessarily involve our being at a distance from what is at the end of our gaze or grasp. In other words, Merleau-Ponty's illustration of depth through vision and grasping emphasizes the ebbing of the existential tide—the separation of self and world—at the very moment when his theory is pointing to its flow, that is, to the mutual envelopment of self and world. In Merleau-Ponty's later work, the relationship between touching and the tangible begins to replace that of seeing and the visible as the primary example of a relational ontology for precisely this reason (1964/1968: 133).

The mutual envelopment of the right whale and her or his environment helps us to better understand how experiencing the spatiality of depth is connected to the practical orientations of the body-subject. Merleau-Ponty tells us that "[t]he perception of space is not a particular class of 'states of consciousness' or acts. Its modalities are always an expression of the total life of the subject, the energy with which he tends towards a future through his body and his world" (1945/1962: 330). For the right whale, depth is not a measurement of distance from the surface of the ocean, but a felt awareness of the presence of food, other animals, safety, play, communication, and the lack of these things. Thus understood, the changes in atmospheric pressure that right whales experience in their bodies during their dives are possibilities for familiar and different ways of being. In a similar vein, humans experience pressure in relation to depth in the context of emotional encounters. For example, depression is often experienced as a weight that is pressing down on one or as a kind of drowning—an inability to get to the surface. By contrast, elation is often described as a "lightness of step" that enables freedom of movement. Like the severely entangled right whale who cannot dive, the depressed person experiences spatiality as narrow, enclosed, and hindering. In both cases, different depths and pressures designate varying practical possibilities. Since it is difficult to imagine a whale treating depth as an objective measure, shifting our focus from human to whale bodies demands that we think depth as "lived depth" (1945/1962: 300), namely,

[9] I am grateful to my colleague, Ian Carlstrom, for pointing this out to me.

something that belongs to the perspective itself and emerges out of a being's practical possibilities in relation to her or his environment.

The bodies of North Atlantic right whales not only enhance our conception of depth in virtue of their ocean habitat and their unique physiological structures, but also due to their status as endangered. The species' small population size, slow and arduous reproductive capacities, lack of predators, and susceptibility to ship-strikes and entanglements highlights its tenuous relationship with the world more so than would our consideration of non-endangered bodies. Moreover, that right whale bodies are endangered is immediately evident when you see their scars, propeller wounds, lesions, and markings from the trails of rope and fishing gear. The palpable vulnerability of the right whale body spurs us to think about the self-world relation in more intimate terms and to visualize how bodies hold their temporal and spatial possibilities within them. Right whales bodies quite literally manifest "the differentiations that produce and are produced by the materiality of the urban, that is, by urban flesh" (Weiss, 2006: 149). It is not unsurprising then that we gain an immediate sense of the relationality and temporality of depth when we engage their experience.

IV. De-Centering the Human Subject

It is not uncommon in the field of environmental philosophy to treat Merleau-Ponty's phenomenology as an apt resource for rethinking human-nonhuman relationships. In particular, philosophers such as David Abram, Monika Langer, and Ted Toadvine argue that Merleau-Ponty's later notion of "reversible flesh" reveals an ontology where human and nonhuman, nature and culture, organism and environment are not separate from one another, but inextricably intertwined (Abram, 1988, 1996; Langer, 1990; Toadvine, 2007). In other words, these environmental philosophers believe that Merleau-Ponty's ontology can show us how to relate to the more-than-human world without attitudes of domination and exploitation.[10] Although I am in wholehearted agreement with the idea that non-dualistic ontological presuppositions and

[10] The phrase "more-than-human world" is David Abram's.

environmentalism go hand in hand, the comparative phenomenology of depth that I present here juxtaposes Merleau-Ponty's phenomenology with nonhuman experience from the opposite direction. Rather than rely on Merleau-Ponty's ontology to elucidate and articulate our relationships with the nonhuman, I rely on the North Atlantic right whale to explicate a notion that is crucial to the development of Merleau-Ponty's ontology. This reversal challenges many of our assumptions about what does and does not constitute a proper subject for phenomenology and the limits of phenomenological philosophy, more generally.

The project of human/nonhuman comparative phenomenology is likely to elicit three primary objections. First, insofar as phenomenology must necessarily begin in first-person experience, it seems that "comparative phenomenology" is a contradiction in terms. According to this line of thinking, any attempt to engage the experience of nonhuman animals would entail a rejection or substantive revision of the phenomenological method. Second, the lived experience of nonhuman animals is *de facto* inaccessible to humans. Endeavoring to think this lived experience therefore invites projection, second-hand observation, and ungrounded speculation. Finally, since humans are philosophers, the practice of phenomenology necessarily implies a human subject. As a result, even philosophical considerations of other species will be irretrievably self-referential, that is, entirely about humans after all. Although a complete defense of human/nonhuman comparative phenomenology is beyond the scope of the present study, allow me to say a few words in the hopes of allaying and/or complicating these concerns.

One reply to the objection that phenomenology must necessarily begin in first-person experience is that human/nonhuman comparative phenomenology is a useful technique for enhancing our awareness of our own first-person experiences. In asking what depth is for the right whale, our own experience of depth comes into greater relief than it would have had we considered it in isolation through the process of identifying similarities and differences between human and nonhuman experiences. Another response is that if phenomenological philosophy necessarily begins in first-person experience, then any phenomenology that considers experiences other than those of the philosopher himself is subject to the same criticisms as comparative phenomenology. For example, on what grounds can we say that Merleau-Ponty has

greater access to the experience of Schneider or the participants in Stratton's inverted vision experiment than he could have of that of the right whale? In both cases, the philosopher is gaining insight into the structures of experience using scientific data gathered through his own or another's observation.[11] If we condone one but not the other then we are allowing speciesist interests to guide our inquiries without having good reason for doing so.

This observation leads to the questions of whether we can access the lived experiences of nonhuman animals at all and of whether we can access the lived experiences of other humans better than those of nonhuman animals. What is our basis for thinking that the bodies of all individuals in a species are more similar to each other than the bodies of individuals across species? Moreover, what is our basis for believing that two humans are sufficiently similar to be able to access each other's viewpoints? The most obvious answer to these questions involves recourse to anatomical structure; those bodies that are judged by scientists and other humans to be anatomically alike are better able to access each other's experiences than those that are not. But, this answer begs the question of whether and how one gains access to another's lived experience because it claims that insofar as objective bodies are similar then so are the phenomenal bodies to which they refer. By pointing us to the lived body—the body as it is lived and experienced by the being whose body it is—Merleau-Ponty's philosophy opens upon the possibility that lines of similarity and difference between beings may be more a function of the body schema, or of what is possible for two organisms, than anatomical structure. If intersubjectivity is intercorporeality then we must at least admit of the possibility that I may have better access to my dog's lived experience than to the experience of a human whom I have never met. And, we must likewise admit of the possibility that the experiences of other humans (especially those from different cultures and social locations) may be just as inaccessible to me as the whale's experience. In a separate but related point, we should also note that our access to the meaning behind other's reports of their

11 Emerging fields in phenomenology such as embodied cognition theory and neurophenomenology that rely heavily on data about human-subjects from the cognitive sciences are open to the charge of unwarranted anthropocentrism as well.

experiences and our access to our own perspectives for that matter may not always be as unencumbered as we think they are

The third objection about the inescapably self-referential nature of phenomenology does not seem to ward against undertaking comparative phenomenological projects. If we stopped ourselves from engaging in any inquiry that was potentially self-referential we would never create any philosophy at all. What the specters of self-referentiality and anthropocentrism do seem to demand is a rigorous comparative methodology that is cognizant of the epistemological dangers of assimilating, exoticizing, and ignoring nonhuman subjects.

The methodological considerations that are illuminated by human/nonhuman comparative projects give us pause to ask which bodies are the proper subjects of phenomenology and why. The answer that lurks in the phenomenology of depth presented above is that we should not posit our subjects in advance of our inquiry according to general, assumptive rules about which kinds of experience can be accessed by the phenomenologist, but rather we should choose our subjects according to the content of our inquiry and make the justification of our choice central to our methodology. Such a practice would not only provide an opening for us to reach beyond our anthropocentric experiences to that of other species, but also to consider kinds of human experience that have often been marginalized in the history of philosophy such as that of women, people of color, non-heterosexuals, and differently-abled people. In this way, a rigorous phenomenology that does not make assumptions about the universality of experience may necessarily be a comparative phenomenology. Merleau-Ponty tells us that philosophy must "install itself…in experiences that have not yet been 'worked over,' that offer us all at once, pell-mell, both 'subject' and 'object,' both existence and essences, and hence give philosophy resources to define them" (1964/1968: 130). By de-centering ourselves from our inquiries thereby leaving our tendencies to categorize and solidify off-balance, we may be better able to explore the pell-mell, liquid ambiguity of experience. In thinking depth through the nonhuman, endangered bodies of right whales, we may be better positioned to realize that "experience gives us access to being and should not be treated as a by-product of being" (1945/1962: 301).

V. Endangered Bodies, Waves of Flesh

I would like to conclude with a brief allusion to Merleau-Ponty's concept of reversible flesh in order to illustrate our precarious relationship with the North Atlantic right whale, both in terms of treating the whale as a subject for phenomenology and in terms of our co-habitation of this world. In *The Visible and the Invisible,* Merleau-Ponty describes "flesh" not as a substance or a thing itself, but as a connective "tissue" that exists between things, nourishes and sustains them, and lines their insides and their outsides (1964/1968: 132-33). Flesh is a relationship, a "possibility," and a "latency" (1964/1968: 133); it is "the formative medium of the object and the subject" and an incarnation of a deeply relational "manner of being" (1964/1968: 147). Flesh is not only that which is coincident with individual bodies; flesh also inhabits the spaces between bodies and makes their experiencing of one another possible. For Merleau-Ponty, reversible flesh is not Spinoza's "Nature"—a grand unified substance that merely appears to be differentiated but is in actuality "one." In flesh the differentiation between two beings is real; it is given in the impossibility of one being transcending its body and inhabiting another, which is also the impossibility of experiencing flesh from the side that is other to the one we are on. However, in Merleau-Ponty's view, this real differentiation does not limit connections between beings, but rather constitutes the very ground from which their relations are possible.

Current research on the decline of North Atlantic right whales estimates that if their reproductive and mortality rates continue as they are that this species will be extinct in fewer than 200 years (Caswell et al., 1999; Fujiwara and Caswell, 2001). What will we lose, ontologically speaking, when the right whale's style of being enfleshed no longer participates in the flesh of the world? The possibility of extinction beckons the image of a stark future where there is nothing for the seer to see, the listener to hear, and the toucher to touch—where the nonhuman aspects of the flesh of the world have been thinned to oblivion and the human sides flounder in an opaque thickness of self-referential sensibility. Although we cannot know a whale's experience perspective in the sense of knowing what it is like to transcend our own bodies and perceive the

world from a body of a different kind, we can know right whales because we are always already in relationship with them as shared inhabitants of the environment and the possibility that is the flesh of the world. Just as the right whale detects her prey by experiencing changes in her own swimming speed and temperature, we can find the experience of the right whale within and in excess of our own bodily experience. Only in affirming the depth of our relationships with other beings and our dynamic position in the swelling and receding existential tide that is the world's flesh, will we be able to envision a different future where the continued existence of the North Atlantic right whales is a consciously desired reality.

Attending to the bodies of North Atlantic right whales calls us from our sedimented styles of being to the fluidity of existence. The North Atlantic right whale enhances Merleau-Ponty's analysis of depth by emphasizing the relational aspects of existence that are often latent in human experience: the subject's immersion in a relational medium, the way depth is organism/environment relationships, and depth's temporal dimension. Most importantly, the fact that right whale bodies are endangered—and specifically that they are endangered *by us*—brings into stark relief the relational nature of all of our existences. By heightening the visibility of these endangered bodies, this human/nonhuman comparative phenomenology asks us to change our anthropocentric orientations so that North Atlantic right whales will continue to sound the depths of the world's existential tide long into the future.

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