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Toward a Philosophical Understanding of TEK and Ecofeminism

Joan McGregor

Life on Earth as we know it is in trouble: global climate change, resource depletion, and biodiversity loss all threaten us. Searching for solutions to these problems, we should pay attention to Albert Einstein's famous advice: "We can't solve our problems with the same thinking we used when we created them." The global environmental crisis is arguably a result of the predominantly Western industrialized nations' distorted conception of nature and humans' relationship with the natural world. Western industrialized nations have conceptualized the natural world at least since the Scientific Revolution as a machine – the "other," lesser, inert commodity to be dominated by man [sic] and used for his purposes. One consequence is that the natural world has been exploited to the brink of destruction (Merchant, 1990: 100-05).

Not everyone shares the view of the natural world as a resource to be used and abused as a commodity. Indigenous peoples' conception and relationship to the natural world is antithetical to this exploitative oppressive conception. Looking for routes out of the environmental crisis, well-known environmentalist David Suzuki argues for "the power and relevance of their [Indigenous peoples'] knowledge and worldview in a time of imminent global ecocatastrophe" (Suzuki, 2001: xxxv). Traditional Ecological Knowledge (TEK) embodies "the culturally and spiritually based way in which indigenous peoples relate to their ecosystems" (LaDuke, 1994: 127). TEK is *not merely* descriptive knowledge about the natural environment, knowledge gained by experience in a place, but also prescriptive – that is, it provides an account of how people *ought to act* in relationship to nature. TEK is then a blend of science, spirituality, and ethics. In this way (and in many others), it differs from

traditional Western scientific accounts of nature that merely describe nature (Mendelian genetics, for example) but say nothing about how we morally ought to treat nature (see Peirotti, 2010: 274–87).

Confronted with the problems of sustainability, Indigenous views of the proper relationship with the natural world are a rich source of knowledge that might help build a sustainability ethics. In order to understand the underlying theoretical and philosophical rationale of TEK, we will look to a philosophical school of thought called “ecofeminism,” which has affinities with Indigenous views, sharing some assumptions about humans’ relationship to the natural world. Ecofeminists reject Western industrial society’s conceptual framework premised on the separation of humans *from* nature, and the domination of nature *by* humans. They argue that the domination of nature is connected to the domination of women by men and the colonization of nonwhites, both of which ecofeminists see as supported by what they call an “oppressive conceptual framework.”

The philosophical literature on ecofeminism outlines a robust account of what is wrong with the dominant worldview about our relationship with nature, and provides a new worldview and practices, which are not premised on domination. I’ll use ecofeminism to elucidate theoretical foundations similar to that of TEK and in particular consider TEK as a source of moral knowledge and prescription about our relationship with nature. TEK embodies important moral lessons that provide the larger society a path out of our sustainability crisis. The philosophical underpinnings of TEK, that is, the ontology, epistemology, and ethics, haven’t been fully explored by non-Indigenous scholars. This chapter, through the lens of ecofeminism, will attempt to explain the major theoretical commitments of TEK.

I will explore these two frameworks – ecofeminism and TEK – and their relationships to one another, as well as their mutual critique of the dominant Western industrial worldview. TEK has a long and rich history that can’t be adequately explained in this short chapter (see the other chapters in this book for more background and examples). Nevertheless, even in this truncated account, exploring TEK through the lens of philosophical ecofeminism, the underlying theoretical structure will become more apparent. Furthermore, by explicating how TEK is different from and in opposition to, for example, Western Baconian science’s approach to nature as mechanistic and dead, a critique which feminists highlight, TEK should become more understandable to a non-Native audience. The first and second sections briefly explicate TEK and ecofeminist frameworks.

In the remaining sections, I explore the concepts and approaches that are critical to both TEK and ecofeminism – namely, the conception of self, the approach to ethics, the role of the affections, how moral theorizing is done, the epistemological approach, and finally the role of power relationships.

Traditional Ecological Knowledge

One disclaimer must be made about Indigenous views of the natural world: there is no monolithic Indigenous belief system dictating the correct treatment of nature. Hundreds of tribes exist in the United States alone, not to mention the many Indigenous peoples around the globe, with their own views about their relationship to nature. It is dangerous to essentialize the “Indian view” about any subject matter (for an early version of the tensions between these views see Deloria, 1994: 31). Furthermore, I want to avoid the stereotypes of “American Indians as nature lovers” or as children of the wild who worship a Mother Earth goddess, which has its own pernicious implications. The “special relationship” that Native people have to the land is the subject of robust debate (see, for example, Booth and Jacob, 1990; Johnson, 1992; Kapashesit and Klippenstein, 1991; Tsosie, 1996). Nevertheless, some general similarities in worldviews, conceptions, values, and epistemic approaches in Native views about their relationships to the earth exist, and they can provide fruitful ways of thinking about humankind and nature. As Deborah McGregor notes in “Coming Full Circle: Indigenous Knowledge, Environment, and Our Future,” there is a growing “recognition that Indigenous people all over the world developed sustainable environmental knowledge and practices that can be used to address problems that face global society” (McGregor, 2004: 28).

Many scholars are exploring Native American ideas about our relationship to nature and TEK in general, Ronald Trosper being one of them. After cautioning against a facile assumption of a monolithic Native American view, Trosper articulates a number of remarkable similarities among the frameworks of Native views. What he calls the model of “traditional Indian worldviews” is premised on four basic principles, which he argues support “an ethic of respect”:

- 1) “Community: Human beings are part of a community that includes all beings; each has its proper role, and each has obligations to others. The sacred aspect of this assumption is that all beings have a spirit. The political aspect is that human-to-human relationships

are similar to human-to-animals and human-to-plant relationships. The economic aspect is that reciprocity in exchange must exist" (Trosper, 1995: 67).

- 2) "Connectedness: While the idea of community provides sources of responsibility and a guide to proper behavior, the idea of connectedness is a description of how the world is" (Trosper, 1995: 67). This principle also cautions that we cannot treat entities in isolation, and that our actions have far-reaching consequences due to nature's connectedness, much like the "butterfly effect" from chaos theory.
- 3) "The Seventh Generation: Past human generations left a legacy and we have a duty to pass on that legacy as far as the seventh generation" (Trosper, 1995: 67). In the Iroquois Nations Constitution, for example, dating from AD 1000, they required that "In every deliberation, we must consider the impact on the seventh generation."
- 4) "Humility: Humility dictates that in taking action, humans should be humble. The natural world is powerful and will be able to cause trouble if not treated properly" (Trosper, 1995: 67). Nature is intricately connected in complex relationships that we can't fully understand, which argues for a culture of humility as opposed to arrogance in the face of our limited knowledge.

These four principles describe TEK and provide a worldview or, using the German word, a *Weltanschauung* – a philosophy of life based on one's conception of the world. TEK is not only a body of knowledge about an ecosystem that is known in a particular community after living in a place for millennia: "TEK is not just knowledge *about* the relationship with Creation, it *is* the relationship with Creation; it is the way one relates" (McGregor, 2004: 394). Further, McGregor explains that Indigenous people view "the people, the knowledge, and the land *as a single, integrated whole*" (McGregor, 2004: 395). As opposed to Western science, TEK is holistic and cannot be compartmentalized into different types of knowledge (chemistry, biology, etc.). Also, it is inseparable from the people. TEK is "a way of life, a relationship that requires *doing*" (McGregor, 2004: 396). This underscores the ethical dimensions of TEK; it is a good way of living life, what we might call the "virtuous life," and not merely a body of knowledge about the natural world. Western science doesn't say anything about *how* we should live; it merely describes the world. We see the divide playing out when climatologists author dire reports about human-caused climate change, but their facts about the

world don't usually prescribe how people *ought* to behave in light of them – a divide between facts and values.

Ecofeminism

"Drawing on the insights of ecology, feminism, and socialism, ecofeminism's basic premise is that the ideology that authorizes oppression based on race, class, gender, sexuality, physical abilities, and species is the same ideology that sanctions the oppression of nature" (Gaard, 1993: 1). Ecofeminists argue that some conceptual frameworks are oppressive since they explain and attempt to justify relationships of domination and subordination (Warren, 1990: 125). The dominate Western conception of nature, for example, explains and justifies the use and destruction of the natural environment for human purposes on the basis of the superiority of humans to nature. This oppressive relationship emerges in European modernism, which sees nature as a machine to control rather than a living organism to nourish. Founders of modern science and philosophy – namely, Francis Bacon, William Harvey, René Descartes, Thomas Hobbes, and Isaac Newton, justify humans' role as the "masters and possessors of nature" (Merchant, 1990: 297) through the use of reason. Further, traditional philosophical and scientific work neglected women's experiences, perspectives, and ways of knowing, which were not thought "rational" (Jaggar, 1992: 363–64). Feminists objected to the disregard of women and nonwhite experiences, perspectives, and ways of knowing, including Indigenous perspectives. Even when women's and nonwhite experiences are acknowledged, they are treated as inferior and not sources of knowledge – referred to as "epistemic oppression" (Dotson, 2014: 115–38). Traditional Western philosophical ethics overvalues traits such as "independence, autonomy, intellect, will, wariness, hierarchy, domination, culture, transcendence, product, asceticism, war, and death," while it undervalues "interdependence, community, connection, sharing, emotion, body, trust, absence of hierarchy, nature, immanence, process, joy, peace, and life" (Jaggar, 1992: 364). (This is not to claim that every culture constructs these traits in these ways.) Finally, traditional Western ethics prioritizes what are thought to be "male" ways of moral reasoning that emphasize rules, rights, universality, and impartiality over "female" ways of moral reasoning that emphasize relationships, responsibilities, particularity, and partiality" (Jaggar, 1992).

Ecofeminism is a family of theories, all of which reject the domination of women and nature. The ethics of ecofeminism involves a "shift from

a conception of ethics as primarily a matter of rights, rules, or principles predetermined and applied in specific cases, to entities viewed as competitors in the contest of moral standing, to a conception of ethics grounded in what Jim Cheney calls 'defining relationships,' i.e., relationships conceived in some sense as defining who one is" (Warren, 1993: 267). *How* we are in relationships with others, humans and nonhumans, is centrally important – not merely that we *have* a relationship with the other (Warren, 1993: 267). Relationships form our identities, our communities with the human and nonhuman world. Storytelling and narrative are central to understanding ourselves and our relationships with others and nature.

Ecofeminism is "inclusivist"; it draws from the stories of women and men around the globe, including Indigenous stories, which recount the destruction of the earth fueled by a conception of nature as separate and dead. Ecofeminists reject the notion that they are providing an "objective" view of the world. Rather, they acknowledge that the "twin dominations of women and nature as social problems rooted both in very concrete, historical, socioeconomic circumstances and in oppressive patriarchal conceptual frameworks which maintain and sanction these circumstances" (Warren, 1993: 267).

The value of care is generally central to feminist ethics and so too in ecofeminism, which adds values important to relationships – those of love, friendship, trust, and reciprocity. The dispositions of care, empathy, and kindness are resurrected as central to the moral life. Feminist authors initially focused on relationships between humans, but ecofeminists expanded the concept to include caring relationships to animals and the rest of nature (see, for example, Donovan and Adams, 1996). Feminist scholars such as Stacy Aliamo and Susan Hekman (2008) are refocusing feminist thought on the human body, as well as the natural and material worlds, through a theoretical frame called "material feminisms." Gender-power differentials are systemic, as are racial ones, shaping our institutions, practices, and principles, and they need to be exposed and reformed for substantive moral change to occur.

Feminist theorists reject the traditional Western philosophical focus on universal principles, particularly the importance of justice and rights. Universal principles, whether utilitarian or deontological, generate obligations to any person similarly situated. These theories (for example, those of Immanuel Kant, Jeremy Bentham, and John Rawls) take what is claimed to be the impartial perspective. According to feminist ethicists, traditional philosophical ethical theories have not paid sufficient attention to the relationships people have as parents, children, spouses,

friends, and workers, as well as how those relationships, including gendered and environmental ones, shape specific moral responsibilities. Often the responsibilities within those relationships, such as childcare in parenting relationships, are unequal, with women bearing a greater burden. Foregrounding relationships, particularly gendered ones, uncovers the inequalities of women's lives but also articulates a different picture of our moral lives. Not everyone has the same responsibilities; rather, individuals' responsibilities differ on the basis of the roles and relationships they inhabit. More often than not, the relationships and communities that we find ourselves in and are integral to who we are, and not ones that we choose to accept and thereby cast off if we desire. The notion of "self" differs for feminists, rejecting the traditional Western philosophical notion of the atomistic self and adopting relational conceptions of self.

These are general outlines of TEK and ecofeminism. The core philosophical concepts that elucidate TEK are: a relational conception of self, an ethic of responsibility, the role of care and affections in moral life, how moral theorizing is done (specifically the place of naturalistic epistemology in ethics and the role of narrative), and the role of domination and subordination in maintaining oppressive conceptual frameworks of nature.

Conception of the Self

Two dominant views of the self define the Western philosophical tradition: the Kantian view and the *homo economicus*. Both conceptions emphasize the individual as a free and rational chooser, an autonomous agent. There are, however, differences in emphasis:

The Kantian ethical subject uses reason to transcend cultural norms and to discover absolute moral truth, whereas *homo economicus* uses reason to rank desires in a coherent order and to figure out how to maximize desire satisfaction. Whether the self is identified with pure abstract reason or with the instrumental rationality of the marketplace, though, these conceptions of the self isolate the individual from personal relationships and larger social forces. For the Kantian ethical subject, emotional bonds and social conventions imperil objectivity and undermine commitment to duty. For *homo economicus*, it makes no difference what social forces shape one's desires provided they do not result from coercion or fraud, and one's ties to other people are to be factored into one's calculations and planning along with the rest of one's desires. (Willet et al., 2014)

Both views of the self negate the role of context in which a person finds him or herself, as well as how that context shapes the conception of self. Both also negate the role that others – one's family, friends, and

community – play in creating the conception of self. Both Western traditions believe we are fully autonomous in our creation of the self, views that have been problematic for feminist philosophers. For instance, Virginia Held writes that “[a]mong the characteristics of the ethics of care is its view of persons as relational and as interdependent” (Held, 2006: 156), unlike most dominant Western normative ethical perspectives, which view individuals as rational, isolated agents.

Emphasizing only the importance of reason, for example, Thomas Aquinas states, “the intellectual nature is alone requisite for its own sake in the universe” (Pegis, 1997: 220). Prioritizing rational thought creates a sharp divide between humans and nonhumans, with humans deemed superior because of their ability to reason. Historically, only white men were thought to exercise reason, while nonwhite men and women were thought not to be rational. Indians were considered to be “central feature of the wilderness [the uncivilized, irrational] ... conquest of the wilderness entailed conquest of the Indian” (Utley, 1983: 34). This notion of the superiority of man over nature dates back to Plato and Aristotle’s idea of “The Great Chain of Being,” a worldview that justified sexist and racist beliefs, as well as oppressive systems of conquest and control.

The view of self that privileges reason over other capacities, such as the emotions, is problematic for feminist philosophers and many Indigenous peoples, but it explains the dominant theory that claims men are separate and superior to nature. The mind, the intellect, and reason are not material; they are separate and superior (in the Great Chain of Being) to the material world. Decontextualizing the self from the environment and others makes impossible the intimate connection with nature that is necessary for a deep moral understanding of the nonhuman world. Seeing oneself as self-created, not a product of one’s physical and social conditions, alienates one from others and community. Indigenous peoples and ecofeminists reject the dualism of the reason/emotion divide and the mental/physical, arguing that humans have all of those characteristics. Ecofeminist theory conceives the self in connection to others, as do Indigenous conceptions. The self is defined in relation to one’s tribe and family, as well as one’s land or place; all are intrinsically connected, and one cannot understand oneself outside of those relationships. Those features are not accidental but essential to who one is, creating a strong “sense of place” in Indigenous communities. Those facts, including who is one’s family and tribe and where one is from, are constitutive of an individual’s self. The role that tribal affiliation plays in Native Americans attitudes about themselves, for example, bears this out. TEK is built

upon this conception of the self in intimate connection to a place and knowledge of that natural community. As Annie Booth and Harvey Jacob elaborate in their work, “The Ties that Bind: Native American Beliefs as a Foundation for Environmental Consciousness,” the land plays a significant role; it is “important in determining a perspective of self”; Indigenous people see themselves as “part of the land, they consider the land to be part of them” (Booth and Jacob, 1990: 521).

How Indigenous peoples conceive of themselves is significant and stands in contradistinction to widely accepted Western views. Conceiving oneself as part of a place, intimately connected with the place and the people, will shape one’s moral attitudes about treatment of the land and animals in that place. By despoiling the place one lives, one destroys and damages oneself. The notion of the self as intimately connected to a place and a community of people with shared values can be seen in the different ways Native communities and Western governments define risk assessment for toxic substances. Mary Arquette et al. (2002) in “Holistic Risk-Based Environmental Decision Making: A Native Perspective,” describe a project in Mohawk territory of Akwesasne where the community-defined model of health comprised of individual and community indicatives, and traditional cultural practices, recognizes vulnerable populations, including animals. Here “health” has a different understanding than the one used by the EPA guidelines for risk assessment.

Responsibility Ethics

Feminist ethicists argue that the overemphasis of traditional philosophical ethics concerning justice and rights, which goes hand in hand with the view of the atomistic self, excludes “communal values” such as care, responsibility, interdependence, and trust. Feminists have tended to develop an ethics of *responsibility* that is distinguished from, for example, what Margaret Walker calls a “theoretical-juridical model” (Walker, 1998: 18–19). The theoretical-juridical model focuses on universal rights, duties, and abstract principles of justice that transcend culture, history, and material conditions. As opposed to thinking of ethics in terms of impersonal, abstract moral principles (with right and wrong answers), feminists view ethics in terms of personal moral responsibilities, acknowledging the conflicts in those relationships that might need to be resolved to sustain ongoing interpersonal relationships. This form of ethics is based on care and a sense of responsibility as well as obligations to others.

Trying to understand the structure of responsibility, feminist ethicist Claudia Card (2002) distinguishes two perspectives: (1) the "backward looking" or evaluator's perspective, and (2) the "forward looking" or agent's perspective. The backward-looking perspective is the one articulated in most contemporary ethical and legal theory – looking back to some previous action in order to judge it. This perspective is concerned with attributions of praise and blame, punishment and reward, regret, excuses, and mitigation. The forward-looking perspective, on the other hand, "embodies a perspective of agency" (Card, 2002: 26). It involves taking on, or choosing, responsibility, "which can be for what has not yet occurred or has not yet been done" (Card, 2002: 25). Margaret Walker explains the structure of responsibility as follows: "[s]pecific moral claims on us arise from our contact or relationship with others whose interests are vulnerable to our actions and choices. We are obligated to respond to particular others when circumstances or ongoing relationships render them especially, conspicuously, or peculiarly dependent on us" (Walker, 1998: 107). Walker's account that we are obligated to respond to the particular claims of others embodies the forward-looking notion of responsibility. We must choose to take responsibility for those who are vulnerable. These two perspectives are not, of course, mutually exclusive, and one can suppose that both are important.

Responsibility ethics, based on caring for others and nature, accurately characterizes Native American ethics where, for instance, responsibility to care for the earth and community are central themes. Responsibility to community, which includes future generations of that community, is also basic to Native views. In *Other Destinies*, Louis Owens writes: "Native American writers are offering a way of looking at the world that is new to Western culture. It is a holistic, ecological perspective, one that places essential value upon the totality of existence, making humanity equal to all elements but superior to none and giving humankind crucial responsibility for the care of the world we inhabit" (Owens, 1994: 29). Native American writers such as N. Scott Momaday, in "An American Land Ethics," pay tribute to the responsibility ethic:

In Ko-sahn and in her people we have always had the example of a deep, ethical regard for the land. We had better learn from it. Surely that ethic is merely latent in ourselves. It must now be activated, I believe. We Americans must come again to a moral comprehension of the Earth and air. We must live according to the principle of a land ethic. The alternative is that we shall not live at all. (Momaday, 1997: 49)

McGregor points out that "Aboriginal people in Canada understood their relationship with Creation and assumed the responsibilities given to them by the Creator" (McGregor, 2004: 388–89). These are not ethics that conceptualize the land or animals as having rights granted by humans, for which we have abstract obligations or duties, but rather that we have a particular responsibility for taking care of them. Often Indigenous relationships with animals are thought of in terms of kinship, writes Bill Neidjie (1985) in *Kakadu Man*, where humans are not separate or superior to nonhuman persons such as animals, plants, or other natural elements, but are instead related to them.

Native American worldviews are generally focused on communal values, not individualistic ones. As discussed earlier, the Indigenous conception of self can't be understood in isolation from community; hence the community becomes an important locus of value and the source of responsibilities. We understand ourselves through the relationships we find ourselves embedded in, as family and as community members. Those relationships shape and define our moral responsibilities. TEK is something we "do" according to McGregor (McGregor, 2004: 391), not merely something we know; it is a "way of living" (Battiste and Henderson, 2000: 42). The "doing" is normative, shaped by what is proper or correct for *that* person to do. Different people have different responsibilities under TEK, and the "doing" is acting based on your responsibilities. Kyle Whyte's discussion of Indigenous women's view of their responsibilities illustrates how the responsibilities are specific to them, as well as how they are constitutive of those women's identities: "the specific responsibilities they perceive themselves to have within the systems of responsibilities that matter to their communities. Such responsibilities can range from acting as custodians and teachers of local ecological knowledge to serving as conveners of political movements promoting respectful coexistence with neighbors" (Whyte, 2014: 600). The knowledge is specific to a people and cannot "be separated from the people who hold and practice it, nor can it be separated from the land/environment/Creation" (McGregor, 2004: 38).

TEK does not appeal to abstract universal moral principles of justice or universal welfare for conclusions or prescriptions for action. Instead, it relies on an understanding of how the complex interdependent relationships we have with other human beings, animals, and the land (being connected and thereby in a community with them) generates a web of responsibilities to those entities. That knowledge has been developed over eons. Community has different scales and natures – namely, local

and global, human and nonhuman, physical and metaphysical, temporal, past, current and future, and social and cultural; hence our responsibilities are varied and complex.

TEK understands that our relationship with the natural world needs to be reciprocal; the world is not just here for human purposes – we have responsibilities to the natural world. Shay Welch discusses the idea of “gifting” in Indigenous cultures as an analog to reciprocity in feminism. “The practice of gifting,” Welch says, “mirrors the feminist practice of reciprocity since both generate and maintain relationships with others and engender responsibilities to them” (Welch, 2013: 213). Reciprocity and balance extends to relationships among humans, including future generations, and between humans and the natural world (see Kapashesit and Klippenstein, 1991). N. Scott Momaday describes “the necessary relationship as an act of reciprocal approbation, ‘approbation in which man invest himself in the landscape, and at the same time incorporates the landscape into his own most fundamental experience’” (Momaday, 1976: 80). Not only do Native American and feminist views share the focus on responsibility and the interdependence of communal values, they also share the notion that the particularities of a specific context are relevant to moral responsibility: “Native American traditions ... are embedded in a particular context. The impact and meaning of a tradition stems from lifelong conditioning, preparation, and participation. It is built into the language, into the way life is lived and experienced, and within a specific physical/social context” (Booth and Jacob, 1990: 525). Responsibility is built from the particularities of the context in which one lives, not deduced from general abstract principles.

Care and the Role of Affections

Feminist theorists have drawn our attention to the role of care and feelings in moral relationships. Nell Nodding, for example, says that morality requires the “sentiment of natural caring. There can be no ethical sentiment without the initial, enabling sentiment” (Nodding, 1989: 79). Though not new to moral philosophy, over two centuries ago David Hume and Adam Smith argued for “social sentiments” to motivate morality. Today feminists bring the sentiments into morality in a concrete and particular fashion. For Nodding, caring for the well-being of others is “based on experience and encounter.” The affections to the land and living things are not abstract and general as in Hume and Smith, but

concrete and particular to embodied experiences of nature. Ecofeminism emphasizes concrete embodied experiences as “a source and a result of perceptive appreciation and greater receptivity to nature’s wonders” (Norlock, 2011: 497). Those values of perceptivity and receptivity are central practices to the ethics of care.

Lived experiences in particular environments, a perceptive and visceral appreciation of land and receptivity to its nuances, are central to TEK and most Native American accounts of caring for nature. These views are illustrated in Native American literature, from Vine Deloria (1994), Louise Erdrich (1988), Linda Hogan (1996), and Simon Ortiz (1977), to Leslie Marmon Silko (1977) and many more. Having an acute, perceptive appreciation of and relationship to one’s environment (one’s place), as well as receptivity to the natural world, play an essential role in Native accounts of the moral connection to the land. The affections of care and love are central elements in Indigenous approaches to the treatment of land. Many have argued that the current environmental problems of Western industrialized societies are a result of not perceiving nature as a subject of our attention as moral beings – not caring for it and only treating it as property for economic ends. That attitude has resulted in the destruction and despoliation of nature. Ecofeminist approaches that find a central role for the *moral* attitude of care were thought revolutionary, but care has been central to the moral attitude of the Native land ethic for millennia: “Care and respect extended beyond the land to other living beings, a ‘kinship’ with other living beings” (Booth and Jacob, 1990: 522).

Another theme that characterizes Native views perceives the earth as an animate being; sometimes, as with the Nez Perce, the earth is described as a mother since the people come from her. Black Elk, a Lakota, said, “Is not the sky a father and the earth a mother and are not all live things with feet and wings or roots their children.” The status of “mother” makes the earth worthy of respect, care, and love. You don’t do things for your mother because she has a “right” to them; you do them out of respect, care, and love. It is because of an emotional connection that you treat your mother in a loving and respectful manner. The centrality of the affections of care and love for the earth position TEK in a vastly different relationship with nature than the approaches shaped by Western views. Western science and technology values nature as something to be used, a resource for human purposes, irrespective of its effects on nature. In Western science there are no affections to

nature, only description, supposedly value-free, for the instrumental use of nature's resources.

How Moral Theorizing Is Done and Naturalistic Epistemology

Feminist theorists believed the methodology of ethics should be revolutionized, and their approach was to naturalize ethics. Alison Jaggar notes: "Naturalizing ethics requires that the development of ethical concepts, ideals, and prescriptions should occur in collaboration with empirical disciplines such as psychology, economics, and the social sciences" (Jaggar, 2000: 459). In seeking to transcend the whole of science and history, most Western philosophical ethical traditions have rejected naturalism for universal and timeless moral truths sought through reason. These so-called universal perspectives, feminists have pointed out, are often the perspectives of men in privileged positions who have endorsed and furthered the unequal status of women and nonwhite peoples, while, at the same time, denigrating their values. These "universal" perspectives also support the subjugation of nature and the colonization of so-called "primitive" cultures.

"Naturalized moral knowledge," writes Margaret Walker, "begins with the best of what we think we know, morally and otherwise, and proceeds by comparative and typically piecemeal justification in which we continue to help ourselves to moral understandings and other beliefs that have stood firm up to that point" (Walker, 1998: 264). According to Walker, moral change occurs when there is pressure and demands on old practices, or when they are applied to different people. This occurs within society and not in some abstract realm of moral truth. In Walker's account, ethics is a continuing negotiation among people, a practice of allotting, assessing, or deflecting responsibilities; and those responsibilities adjust based on our understanding of particular practices and pressures that force change.

Native conceptions of TEK and the moral understandings that frame it are developed from traditional knowledge (from generation to generation), empirical knowledge (gained by observation), and revealed knowledge (acquired through spiritual origins and recognized as a gift) (McGregor, 2004: 388). And all of this knowledge evolves over time. The way nature should be treated is a result of this complex mix of sources, creation stories, rituals, and experiences. TEK is not general and universal knowledge; it is specific to a place and known by the people in

that place. Our moral understandings – how we should behave toward others, animals, and plants – are developed from experiences over time. It is a naturalized moral knowledge that can be valuable to non-Native populations attempting to understand sustainability in a particular place.

Ecofeminists have also been concerned about the sources of knowledge; for example, they argue that knowledge can originate from situated sources and that expertise comes in many forms, not merely from science and reason. Until recently, TEK wasn't acknowledged by non-Native groups as a source of knowledge about ecosystems and resource management because its "pedigree" wasn't the expertise of Western science. Feminist theorists have been championing the argument that knowledge "is that of a situated knower, and hence of situated knowledge: knowledge that reflects the particular perspectives of the subject" (Anderson, 2017). Expanding what counts as knowledge opens a space for the authority of TEK in the non-Native world. Indigenous peoples have been subjects of "epistemic oppression" – the "persistent epistemic exclusion that hinders one's contribution to knowledge production" (Dotson, 2014: 115). That epistemic exclusion is an "unwarranted infringement on the epistemic agency of knowers" (Dotson, 2014: 115). Indigenous peoples' ability to be epistemic agents participating with others in knowledge production has been undermined due to this oppression. Indigenous knowledge did not count as knowledge in the dominant society; rather, it was treated as inferior to the knowledge of Western science. Today, however, there is a growing recognition of the importance of local knowledge of ecosystems and resources management. Though the epistemology differs from Western beliefs, "Native Science," to use Gregory Cajete's (2000) term, provides a wealth of significant knowledge about environmental change that is necessary to ensure the sustainability of ecosystems and cultures (for example, see Ford and Martinez, 2000: 1249–50; Gómez-Baggethun et al., 2013: 72).

Both ecofeminists' and Native peoples' ethics, and TEK in particular, rely on the use of narratives to better understand morality. Explaining moral reasoning, Walker says it "takes the form of narratives, specifically narratives of identity, relationship, and value. It presents moral problems in terms of histories and relationships of the parties involved and their shared understandings of what is important" (Walker, 1998: 264). Native peoples tell stories – narrative accounts that describe relationships and responsibilities to other people, animals, and the land. Rather than start, as many philosophers have done, from ideal theory – abstract, universal norms such as those of Immanuel Kant or Jeremy Bentham – and "apply"

them to problems, Native accounts, similar to feminist ones, start with historical, cultural, and empirical circumstances, a bottom-up approach to develop normative understandings. This approach evaluates and critically reflects moral understandings through narratives in order to determine whether the way we characterize moral understandings is intelligible and coherent. We tell our children and each other how we should behave in the world; for example, the responsibility for the seventh generation in decision-making prescribes a responsibility to future generations. Through narrative we understand what we can do to each other, what we can do to the land and animals, and what we must do, as well as who is responsible and who is not. Gregory Cajete in *Native Science* says:

The metaphoric mind underpins the numerous ecological foundations of Native knowledge and has been specifically applied in creating the stories that form the foundation of the complex and elaborate forms of Native oral traditions. Realizing that the greatest source of metaphor comes from nature, these stories are filled with analogies, characters, representations drawn from nature, metaphors that more often than not refer back to the processes of nature from which they are drawn, or to human nature, which they attempt to reflect. Because Native science is thoroughly wrapped in a blanket of metaphor, expressed in story, art, community, dance, song, ritual, music, astronomical knowledge, and technologies such as hunting, fishing, farming, or healing, rationalistic scientists, its 'younger brothers,' have difficulty understanding its essence of creative participation with nature. (Cajete, 2000: 30-31)

Power Relationships, Particularly Domination and Submission

Ecofeminists have been centrally concerned with the oppressive conceptual framework that presumably justified the domination of women, Indigenous peoples and other colonized peoples, and nature. Those relationships of domination and submission have been supported by supposed empirical and moral differences between men and women, white men and nonwhite men, and humans and nature. Women were thought to be the intellectual and moral inferiors of men, thereby justifying structures of social and political systems where men dominate. The subordinated role was justified because women were associated with the physical, with nature, as were purported "primitive peoples," whereas men were associated with reason, the mental, and the mental was superior to the physical, as Thomas Aquinas and others stated. Nature was dominated by man and considered subordinate because it wasn't rational. But not all men qualified, notably Indigenous men: "Indians and their works did not qualify as human in the same sense as Spaniards or Englishmen" (Utley,

1983: 33). Further, "in the Indian, whites saw the lower order from which they themselves had progressed" (Utley, 1983: 34).

Domination of nature, conceiving nature as inferior, leads to a Western distorted, alienated relationship. The manner in which scientific research is practiced in America fuels this attitude, "almost exclusively [at] the creation and exercise of power" in seeking industrial and economic progress. According to Aldo Leopold, scientific research should be "the creation and exercise of wonder, of respect for [nature's] workmanship" (Leopold, 1940: 343). Rather than see ourselves as "conquerors" of nature, Leopold cautions that we should humbly acknowledge ourselves as another member of the "land community." Reconceptualizing the West's relationship with nature calls for a profound shift in our view of nature, from valuing it as property to be used as a commodity, something to dominate and subdue, to seeing ourselves as "fellow members" or kin of a community. This notion is integral to the Indigenous views embedded in TEK, which reject alienation from the natural world, and see humans as part of and dependent on nature. Moreover, TEK rejects the dualism that has been a predominant framework in Western thought, which considers nature as different, separate, and lesser than man. TEK appreciates that we are part of a particular environment.

Feminist theorists recognize the full range of power relationships – men over women, rich over poor, and first world nations over colonized nations. Feminists foreground power relationships, the particular identities and relationships in which individuals find themselves, and how those contexts and relationships of power shape moral relationships. Native peoples – along with their views, traditions, and knowledge of the environment – have been discounted or ignored by the dominant culture because Indigenous systems do not, for many reasons, fit the paradigm of Western mechanized science. Some critics claimed, and still claim, that Native environmental knowledge is not scientific, and therefore it is dismissed as not truly a source of expertise and knowledge. Foregrounding the role that power plays in marginalizing certain ways of knowing exposes this system of oppression and might lead to reforms in social and political systems where we share expertise and knowledge about particular places and, importantly, the proper way to treat them.

Conclusion

The values that define TEK have a long and successful history of supporting Indigenous peoples' relationship with particular ecosystems. This chapter outlines a philosophical understanding of TEK by drawing

on the insights of ecofeminism. In so doing, the chapter exposes the metaphysical underpinnings of the nature of the self, the epistemology of TEK, how knowledge is gained and by whom, and value theory, in particular its focus on the affection of care and responsibilities to particular places, people (including future people), animals, and natural elements. Essential to both TEK and ecofeminism is a worldview that denies we are separate and superior to the natural world, replacing this view with one that sees humans as part of nature, which necessitates its care and respect. We should not dominate the world and treat nature solely instrumentally any more than we would dominate and commodify our family. TEK is a responsibility ethic; we have responsibilities to each other, the land, plants, and animals – for now and the future. Care and love are essential attitudes to help determine and shape our relationship to the earth. Both sets of theories find an important place for narratives to develop moral understandings of our responsibilities to specific ecosystems and communities. Feminist philosophers have developed the underlying philosophical foundation for many of these concepts, which can explain and provide a philosophical account of TEK. This is not to imply that TEK can be fully understood through the lens of ecofeminism; rather, some of these concepts have significant affinities and can mutually support one another. The globe is sorely in need of new frameworks and values to solve environmental and cultural problems. The world's peoples can learn about sustainable living from TEK since "Indian peoples, who traditionally interpreted their relationship with land and the future generations as holistic, cyclical, and permanent, sustainability was the natural result, if not the conscious goal of deeply rooted environmental ethics and traditional land-based economics" (Tsosie, 1996: 286–87). The rest of us need to learn those lessons.

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Wolves and Ravens, Science and Ethics: Traditional Ecological Knowledge Meets Long-Term Ecological Research

Michael Paul Nelson and John A. Vucetich

After many years of studying the relationship between wolves and moose on Isle Royale we learned there is a special relationship between wolves and ravens. The presence of ravens influences the size of wolf packs: wolves living in larger packs each get more food because they lose less food to scavenging ravens. They do this by eating a moose so quickly that ravens have little time to scavenge. The details are fantastically complicated, and while wolves in larger packs must share their food among their brothers and sisters, parents and offspring, that sharing is not so costly as losing food to scavengers. So ravens have something to do with explaining why wolves live such intensely social lives – a trait otherwise rare among carnivores. What an astonishing connection. The value of a connection like this lies in its ability to generate wonderment and care for nature. When we decide that the purpose of science is to generate wonder about nature, rather than to control nature, we will not be far from a relationship with nature that can flourish for all time and generations.

Adapted from Vucetich, 2010

Similar to other academic disciplines, philosophy is divided into subdisciplines, specialties. Epistemology is the study of the nature of knowledge, the various ways we might come to know something, and the explanations for why some bit of information might be true or false. Metaphysics is the study of the nature of being and our assumptions about what humans are in relationship to nature, as well as what nature is in relationship to humans (for example, are humans and nature one and the same, related, distinct, something else – and why?). Ethics focuses on questions of value, proper conduct, right and wrong, good and bad, arguments about what we ought to do, how we ought to live, who or what possesses direct moral standing, and what constitutes a good life.