



I have always been interested in epistemology and the nature of knowledge, and the inspiration for this piece came from that space. As a science major, I think it is incredibly important to understand our own inherent biases and underlying prejudices against alternative knowledge systems, much of which are byproducts of hundreds of years of colonialism. This piece aims to analyze the impacts of colonialism on modern thought and to challenge Eurocentric ideas on the validity of alternative ways of knowing, namely Indigenous Knowledge.

What is knowledge? Is it grounded in facts and reason, or is it malleable and changing? Knowledge itself is tricky to define, but the extensive acquisition of knowledge is pervasive throughout history and modern society. I am sure that many of us have heard the old adage, “knowledge is power” at some point in our lives. As a child, before I understood power structures and subjugation, I would repeat this to myself as a mantra to help further my academic success. Now, however, the insidious nature of this adage stares me in the face. Knowledge is a form of power, in that it has been defined by those in power, extracted from subjugated populations during colonization, and used against these populations for hundreds of years (Smith, 2012b, p. 58). This essay argues that knowledge is a colonized space by exploring Western colonization of knowledge, Indigenous ways of knowing, and efforts based on decolonizing knowledge through respectful collaboration.

### **Colonized Knowledges**

The world in which we live today is the product of roughly 500 years of Western imperialism and colonial expansion (Smith, 2012a, p. 21). Just as lands and resources were there to be “discovered” and extracted, so too was knowledge to be appropriated and distributed outward for Western scientific advancement under the project of modernity (Smith, 2012b, p. 58). Modernity sparked the rise of reason and rational “science,” and provided the catalyst for organizing bodies of knowledge, rational rules of law, and the pursuit of economic self-interest (Smith, 2012b, p. 59). What classifies knowledge as such, and which types of knowledges are valid? The discovery of new types of knowledges and ideas as to the nature of knowledge itself became commodities sought out, like other extractable resources (Smith, 2012b, p. 59). The classification-based ways of knowing for Western colonials exploited Indigenous peoples by labeling them as flora and fauna, non-human, or sub-human (Smith, 2012b, p. 60). Westerners labeled this practice as a type of

scientific research and saw Indigenous peoples as objects for study. Wilson (1996) points out that Western history excludes Indigenous interpretations, contributions, and perspectives (p. 23). The dehumanizing categorization of Indigenous peoples plays a role in this phenomenon, as Western scientists would not acknowledge an object of research as having any contribution to scientific thought, since objects had no life essence or humanity. As Smith (2012b) puts it, “To acknowledge their contribution would be, in terms of the rules of research practice, be as legitimate as acknowledging the contribution of a variety of plant” (p. 60). Because Indigenous peoples were not seen as fully “human,” their knowledges became “new discoveries” commodified as properties of and for the West (Smith, 2012b, p. 61).

As Western science progressed, classifications of Indigenous peoples progressed as well. Indigenous peoples were eventually seen as human through Western eyes, however, they were also seen as weak. As the survival-of-the-fittest aspects of Darwinism became more popular, it was believed that Indigenous peoples were too weak to sustain themselves in civilized society and that they would begin to die off (Smith, 2012b, p. 62). This Western belief enabled cultural “collecting” to rise, which involved stealing Indigenous cultural items under the implication that these items would decay or be lost as Indigenous tribes died out (Smith, 2012b, p. 61). The practice of “collecting” what the West labeled as cultural “artifacts” for study was actually a system of theft from Indigenous communities, many of which are still attempting to reclaim these culturally significant items (Smith, 2012b, p. 61). Another consequence of this classification of Indigenous peoples was the removal of children from families and their placement in boarding schools in order to learn Western knowledges and ways of living (Smith, 2012b, p. 64). Smith (2012b) expressed this as “positional superiority,” an attempt to remove Indigeneity and impart Western colonial knowledges on the youth for cultural eradication (p. 64). This cultural eradication included the removal of Indigenous knowledges.

A theme throughout Western colonial history of knowledge persists today: the West views itself as the creators of civilization and the source of knowledge itself. The West posits itself as having the final say on what knowledge is and what it is not and, generally, knowledges that are not grounded in quantitative data and cannot be continually reproduced or written down are not included in the West's definition of knowledge (Wilson, 1996, p. 29). Take, for example, the importance of storytelling and oral tradition in many Indigenous communities. As Wilson (1996) points out, these forms of knowledge are often dismissed by Western scientists for reasons such as "oral histories cannot be validated and are not trustworthy," or "oral accounts change with each generation" (p. 24). The Western critique that oral accounts change with new generations is interesting, as one of the most pervasive criticisms of oral traditions is that these traditions are archaic and have no place in modern science. "Tradition" in Western thought implies old and static, thus by this view, new materials are not allowed in oral accounts as it removes the "traditional" aspect (Wilson, 1996, 29). This creates a bit of a conundrum, as according to Western knowledge, oral tradition is not trustworthy as it is archaic, yet if it updates and changes with new information, it is not deemed as grounded in fact and is thus not trustworthy due to these generational changes. The Western manipulation of knowledge validity shows one way that knowledge gained through Indigenous colonization has been used, in turn, to colonize Indigenous minds, as many Indigenous scholars had to overcome the idea that their knowledge bases were not valid enough to contribute to their fields (Smith, 2012b, p. 59). Despite the effects of colonization, Indigenous peoples have held their knowledges and ways of knowing. Indigenous knowledges contrast Indigenous peoples with the West, and as Smith (2012b) expresses, it is a part of themselves that the West cannot yet decipher or control (p. 74).

### Indigenous Knowledge and TEK

What is Indigenous Knowledge and Traditional Ecological Knowledge (TEK)? This is a question that the West has begun to ask in light of growing environmental sustainability issues. As McGregor (2004) puts it, “although TEK is a construct of non-Indigenous origin, the knowledge or way of life to which it refers is very real and originates with Indigenous people” (p. 395). These knowledges and ways of life did not need to be defined within Indigenous communities, and thus, the definitions imposed have been almost entirely from the West, with little regard as to whether Indigenous peoples agree with the definitions (McGregor, 2004, p. 390). Western knowledge is generally able to be separated from the people – it is a noun, a thing, with which people can read in texts, learn from videos, and replicate in scientific experiments. Indigenous Knowledge, however, cannot be separated from the people and places in which it originates (McGregor, 2004, p. 390). Nadasdy (1999) calls Indigenous Knowledge a “way of life” rather than a body of knowledge, and expresses, like McGregor, that Indigenous knowledge cannot be separated out from the cultures that give them meaning (p. 5). McGregor (2004) frames Indigenous Knowledge as the knowledge and relationships with Creation and the natural world, including the relationships themselves (p. 391). “It is something one does, rather than simply something one knows” (McGregor, 2004, p. 391). TEK can be thought of as a subset of Indigenous Knowledge, by Western standards of thought.

There is a movement in the ecological and sustainability spheres to integrate TEK with Western science to create better solutions to our growing list of environmental issues. While this may seem like a step forward at first, there are a few underlying problems that need to be addressed. Nadasdy (1999) brings to light the power disparity between those who have TEK and those who want it (p. 9). Western society has had the final say on what constitutes knowledge, and

during times of disagreement, Western thought has prevailed. As described by Nadasdy (1999),

Scientists and resource managers usually do not even acknowledge, much less attempt to make use of, the stories, beliefs, and values which inform the hunters' view of the world and specify the proper relationship between themselves and the animals in question. Since these non-quantitative understandings cannot really be 'translated into the language of TEK,' they tend to 'drop out of the database.' ( p. 9)

This shows one way in which Western science holds power over Indigenous science, through what Nadasdy (1999) refers to as distillation (p. 5). In an attempt to "integrate" TEK into Western science, TEK researchers have had to distill and compartmentalize it (Nadasdy, 1999, p. 5). Distillation of TEK refers to the specific pieces of information that Western scientists attempt to collect, while ignoring seemingly "unnecessary" aspects or types of information (Nadasdy, 1999, p. 7). Information is distilled out and only that which can be worked into graphs, numbers, and other quantitative data is deemed suitable for scientific use. Compartmentalization refers to the subdivision of knowledge due to the perceived need to classify types of knowledge, which has a profound effect on the ways people can talk about knowledge (Nadasdy, 1999, p. 5). Modern science is highly compartmentalized, particularly science related to biology and life. Look at one ecosystem, such as the Sandy River, and you will find a multitude of scientists studying one small subset of the whole – geomorphologists, hydrologists, wildlife biologists, ornithologists, microbiologists, and so on. Nadasdy (1999) expresses that this compartmentalization will not work with TEK, because the whole system matters, and its individual parts cannot be separated from one another (p. 6). Integration cannot continue to focus on the separation and picking apart of

TEK, or the attempted reshaping of TEK to fit within Western science. With all of this on the table, how do we move forward together in solidarity with each other and our environment?

### **Moving Forward in Respectful Collaboration**

Working together to provide solutions for environmental issues does not require an integration or melding of bodies of knowledges, but rather the beginnings of decolonization of knowledge. Indigenous people need the power to decide what knowledges to share, how to share them, and with whom they share. Equal footing for Indigenous peoples is imperative in developing respectful collaboration between communities. Berkes (2010) suggests that we frame the “science versus traditional knowledge” debate as a collaborative science and traditional knowledge dialogue and partnership (p. 151). He expresses that knowledge is a dynamic process, and that Western researchers and Indigenous peoples are “co-producers of knowledge” (p. 153). I believe that the idea of co-producers of knowledge is key, as it implies a shared responsibility to one another as opposed to a power relationship. Losing the power dynamic as it relates to knowledge is possible and is happening in our time.

One case study that shows the respectful collaboration between Western science and TEK is the effort to protect Maine’s black ash trees from emerald ash borers (EAB). “In the Northeast, work is underway to involve tribes in Emergency Response Planning efforts with invasive species such as the EAB” (Voggesser et al, 2013, p. 621). Collaborative efforts have shown key areas of research and actions to be taken to ensure the survival of the black ash, which is vital to Maine Indigenous tribes (Voggesser et al, 2013, p. 621). Memorandums of Understanding (MOU) have been important in strengthening government-to-government relations and consultations in conjunction with other federal policies aimed at protecting

Indigenous rights (Voggeser et al, 2013, p. 621). Respectful federal and tribal relationships are key to engaging in collaborative efforts as co-producers of knowledge. “Collaboration, knowledge-sharing, and joint action by tribes and nontribal stakeholders can lead to more effective and sustainable planning efforts around climate change and invasive species” (Voggeser et al, 2013, p. 622). Collaborations such as these shift the paradigm and allow for the decolonization of thought and knowledges. The environmental challenges facing each of us are daunting, and ignoring the continued effects of the colonization of minds will not serve any of us well in developing solutions for a more sustainable future.

### **Conclusion**

Western colonization permeates through our history and our present. Recognizing how colonization of knowledges has taken place and how respectful collaboration can begin to decolonize our knowledges provides a path forward to a more environmentally just future. Knowledge is power, and for much of colonized history, the West has held that power unyieldingly. Not only has the West held the power in the extraction, appropriation, and assimilation of knowledge, but in the defining of knowledge itself. Indigenous knowledges, or ways of knowing, are not the West’s to define, compartmentalize, distill, or forcibly integrate into an overarching idea of a “valid” knowledge system. Respectful collaboration with Indigenous peoples is crucial in today’s climate and does not require assimilation of knowledges, but rather, a co-producing mentality that challenges colonial power dynamics and begins the decolonization of minds and knowledges across the globe.