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## "The thing is, to adapt is traditional": Environmental Change and its Effects on Traditional Ecological Knowledge in the Eastern United States

Alecia Bassett

### **Introduction**

"I didn't know if you'd be interested in this," Judy Dow, a Vermont Abenaki tribal elder told me, pushing a thick, leather bound journal across the table to me at our first meeting. "I write to my granddaughters in it every day; just little notes about the weather, what I did or saw that day, something for them to learn from." (Judy Dow, personal interview, 2014). As I flipped through the pages, I found exactly what Judy had described to me, a journal of notes and drawings dedicated to her granddaughters. Yet, I also saw something else, a wealth of knowledge concerning the seasons, different uses of plants, ways to identify animals, and so on. It was the embodiment of her culture: learned patterns of behavior and thought pertaining to beliefs, institutions, and other values. This knowledge Judy had learned from her family and her community, and was now passing it down for posterity. The journal that Judy kept was the literal embodiment of traditional ecological knowledge – traditional knowledge that is handed down generations by cultural transmission.

The World Intellectual Property Organization defines traditional knowledge as the: "know-how, skills and practices that are developed, sustained and passed on from generation to generation within a community, often forming part of its cultural or spiritual identity" (<http://www.wipo.int/tk/en/tk/>. Accessed May 13, 2014). In this thesis, I use the terms "traditional knowledge" and "traditional ecological knowledge" interchangeably to refer to the body of knowledge that specifically deals with the "know-

how, skills and practices,” or cultural adaptations, that pertain to interactions between culture and the environment. The notes that Judy writes down in the journal for her granddaughters falls into this category; the information about how to identify the changes in seasons, what plants are edible, and when bears come out of hibernation are pieces of knowledge that have been continually passed down in Judy’s family because such adaptations were important to surviving in the environment where their culture was present. Now, knowledge of such adaptations is essential in reshaping and reaffirming their Abenaki identity.

In this essay, I examine the transformation of traditional ecological knowledge, particularly that concerning plant knowledge pertaining to medicine. I argue that this transformation is a result of an environmental history influenced by the presence of a colonial population. When the Europeans began to arrive in the Eastern United States in the sixteenth century, they created a domino effect of environmental change. This change occurred because the Europeans had different cultural adaptations when interacting with the environment than the natives did; in other words, they drew from a differently developed form of ecological knowledge. When the colonists utilized this knowledge to interact with their new environment in the Eastern United States, they altered the environment in ways that contradicted how the natives interacted with the same environment. The ecological changes occurring as a result of such alterations fostered changes in native traditional knowledge, because there were now new plants, animals, and people to interact with, as well as transformations of the landscape to contend with.

By comparing those changes with contemporary native knowledge, such as that provided by Judy, I propose that it is possible to pinpoint how environmental changes are

reflected in changes in native traditional ecological knowledge. To exemplify this proposition, I take the environmental history I compiled from a variety of secondary sources, and look for similarities between an ecological change that occurred, such as the introduction of the apple tree, and a cultural adaptation, like the making of cough syrup from apple tree bark. Because Judy has knowledge of these practices and skills that she gained from her elders, her know-how is evidence of the cultural transmission of traditional ecological knowledge that has spanned many years. While the apple tree is essentially European, due to the fact it was cultivated in Europe before it was cultivated in North America, her utilization of it is native, showing variation in traditional ecological knowledge.

Therefore, I argue that because of the influence that environmental and cultural changes have on each other, cultural adaptations that promote variations in traditional ecological knowledge become a traditional process by itself. Consequently, changes in traditional knowledge should not be seen as a disruption of that knowledge, but rather as its expansion and continuity. Part of preserving traditional knowledge lies in understanding how it came to be traditional and how it has changed throughout generations. Judy considers the knowledge she is passing down to her granddaughters to be traditional, and one day they will consider that same knowledge traditional. Yet, Judy also knows there are differences between what she is teaching the younger generation and what was taught to her forebears.

Cultural transmission is essentially the process through which culture is passed on from one generation to the next. The basis of this process is enculturation, which, Kottak (2004) defines as "the process where the culture that is currently established teaches an

individual the accepted norms and values of the culture or society where the individual lives. The individual can...fulfill the needed functions and roles of the group” (Kottak 2004, 201). As is the case with many indigenous peoples, the Abenaki exchange traditional knowledge by means of oral transmission, utilizing stories and experiences in exchange for written processes. Judy Dow told me that much of her own cultural knowledge came from learning orally. She learned what she knew from her family members, by listening to their stories and watching them. She also explained that this method was how she taught her own children; in order to have more land for their children to explore, she and her husband decided to move away from their family group (Judy Dow, personal interview, 2014). As she cannot visit with her granddaughters everyday, and teach them in the same manner she and her children were taught, she uses the journal she keeps as a reflection of oral knowledge. It has become a more convenient way for Judy to keep track of what she has to share with them; for Judy has a lot to share, and she is truly a fountain of knowledge.

### **Wellbeing and the Apple Tree**

One of the most shocking pieces of information that Judy shared with me was the fact that the apple tree is not indigenous to New England. Personally, due to their commonality in the region, I had assumed that apple trees had always been part of the ecological landscape of North America. However, this was not the case. Apple trees are actually native to Asia, and upon their arrival in Europe, were not cultivated until the seventeenth century. At that time, European colonists brought the seeds to New England, and the first tree was planted in Boston in 1625 (Smith 1997, 39). Less than two hundred years later, by the early nineteenth century, there were already around three hundred and

fifty varieties of apple trees present in North America (Lawrence 1980, 122). Despite the timeline for the spread of the apple tree, natives took advantage of this environmental change in a much shorter time frame.

According to Judy, within two years of the introduction of the apple tree to New England, the Abenaki were already utilizing it for medicine. The bark of the apple tree can be dried and then boiled in water to make a tea that works as a fever reducer and a cough syrup. Interestingly, the Europeans did not utilize apple tree bark in the same way; instead, they mostly focused on harvesting the fruit itself. This shows two different cultural adaptations to the same ecological circumstance, and despite the shorter exposure to that circumstance, the Abenaki still found a new way to exploit it. Judy said it best when she said, "as quickly as something is introduced, adaptation occurs" (Judy Dow, personal interview, 2014).

I argue that the way in which the Abenaki reacted to the introduction of the apple tree showcases the fact that adaptation to environmental change is a traditional process. Instead of negatively reacting to the presence of the apple tree, whose growth, especially in orchards, resulted in the destruction of native plants, the Abenaki manipulated it in a positive manner. This highlights a cultural mechanism that promotes variation in traditional ecological knowledge when environmental change necessitates it. When change occurs, adaptation occurs, and that results in new forms of knowledge. Therefore, the introduction of the apple tree did not disrupt Abenaki traditional ecological knowledge, but instead led to its expansion (see Robbins 2004 for discussion about 'destruction' versus 'production' of nature). Despite the fact that the Europeans introduced the apple tree for an entirely different ecological need, the Abenaki did not

adapt to it in entirely the same way. Their unique adaptation suited their cultural needs in the best way, and the apple tree came to be just as an elemental part of native knowledge, as if it had always been present in New England. While the introduction of the apple tree to New England had the potential to destroy Native American knowledge because its mass cultivation changed the environmental landscape so swiftly, it ended up having the opposite effect. In this case, traditional ecological knowledge was not destroyed or reduced in anyway because of rapid change in the landscape, but rather was enlarged as it became known apple tree bark could be used as a cough syrup. This form of knowledge continues to expand as Judy spreads her wisdom through many generations.

### **“To Adapt is Traditional”: A Conclusion**

Towards the end of our meeting, Judy told me to remember one thing, and that was: “The thing is, to adapt *is* traditional.” (Judy Dow, personal interview, 2014). This simple statement was the one that stuck out to me most, and the one that ultimately became the basis of this paper. I believe that this is the case because most of the stories that Judy told me centered on the theme of adapting as traditional, and she reiterated that throughout most of our interview. With the example I gave above, I argue that adapting is traditional because it helps to maintain the basis of culture. Without the cultural adaptations that occurred in their traditional ecological knowledge, it is likely that the Abenaki would not have been able to maintain preservation of this knowledge throughout the nineteenth century. With the arrival of the colonists, the Abenaki reacted to cultural and economic change the same way they did to environmental change, by adapting. This shows that cultural adaptation is a mechanism that helps to preserve the culture that

utilizes it, and is present in all facets of culture. Therefore, having adaptation as a cultural mechanism for the preservation of traditional knowledge makes it a traditional process.

While researching the effects of environmental change and colonial power on traditional ecological knowledge, I came to a conclusion that Judy Dow was correct in her statement that "to adapt is traditional" (Judy Dow, personal interview, 2014). Culture is always influencing the environment, and in turn the environment is influencing culture, creating a perpetual process of change. In order to ensure cultural survival, it is necessary for culture to adapt, making it a traditional process. In most discourse, when the word traditional is used to describe knowledge or culture structures, it gives the impression that those processes are static. However, in this paper, I argue that the opposite is true. In fact, culture and environment are mutually informative and foster change and continuity within themselves. Judy, by writing the journal for her granddaughters, and by being an active advocate for her culture and the environment, embodies this process.

She herself is adapting to the growing need for Abenaki culture to be disseminated in different forms. In a society that relies more heavily of technology and places a heavier emphasis on the nuclear family, Judy has found a way to continue to pass on her knowledge without doing so orally. By opening up the discourse of traditional ecological knowledge to a broader audience, she is ensuring the preservation of her culture. The Abenaki are only one indigenous group of many that have been affected by ecological change brought on by the presence of colonial structures. I believe that if cultural adaptation to environmental change is a traditional process within these two cultures, then it is traditional within all cultures because every culture must adapt to the environment in which it exists. Therefore, it becomes necessary to understand how



cultures react to ecological change in order to identify the processes by which cultures ensure their own preservation. By understanding this process, my research illuminates the fact that a culture that has changed can still be essentially traditional.

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