**Socioenvironmental Tenets of the Columbian Exchange**

**Tenet 1:**All human groups have relationships with the environment.

We start with the tenet that all human groups have relationships with the environment. All human groups engage with their environment through a cultural lens, through rules and regulations, through expectations of culture. All humans are cultural beings (shaped by their social environments and the ways of life to which they were born or adopted into as children). This is especially important to realize when a group of people face dehumanization and assumptions that a group is “closer to nature” and linked in the ideas of a dominant group to ideas of backwardness, being less cultured, and on the other side of the coin of representations: having “ecological nobility.” There is also in-group diversity within an ethnocultural group which means there is a variety of approaches to sustainability within a group seen as homogenous. Knowledge about the ecology is learned. Carney and Rosomoff (2009) wrote, “The nearly four hundred years since the landing at Jamestown, Virginia, of a boatload of enslaved Africans underscores the significance of the African presence to European settlement of the Americas. Until the second decade of the nineteenth century, Africans crossed the Atlantic in greater numbers than Europeans. Enslaved Africans and their descendants were central to the economic   development of the New World. But their contributions involved far more than providing the muscle behind it. They brought critical skills and knowledge. Under conditions that today are scarcely imaginable, and seldom faced by any other immigrants to the Americas, slaves revitalized familiar foodways that were lost along with their freedom. On many different levels, the transatlantic slave trade represents one of the most important migrations in human history.” (p. 4)

Thought Questions:

1AHow would you describe the range of relationships to the environment being practiced today?

1B How does Rooted in Earth also cover this idea?

**Tenet 2**: The “pristine” landscape is a mythical concept.

The landscape was not “pristine” prior to contact with Spanish, Dutch, English and French colonizers. The land was heavily managed to serve the needs of five hundred Indigenous nations across what some now call the Americas. Management techniques included controlled burnings, weirs and water barriers, irrigation, roads and walkways, gardening and agriculture of “wild” and cultivated plants. You can read more about this in the online essay: “The Pristine Myth: The Landscape of the Americas in 1492” listed in the references (Denevan, 1999). Additionally, land was not an “empty” wilderness “empty” of people, but represented cherished homelands entwined with aspects of everyday and ritual life and identity.

2A) Why are assumptions of a pristine environment appealing for some?

   2B) What does this mean regarding the level of knowledge and hard work that Native communities put into environmental management?

**Tenet 3:** Environments in the Americas were Europeanized.

Colonial environments are transformed to be comfortable and in line with the culture of the incoming human families and individuals. The environments were “Europeanized” or reflective of groups from other continents. Crosby writes that in the context of the Americas this, “refers to a condition of continual disruption: of plowed fields, razed forests, overgrazed pastures, and burned prairies, of deserted villages and expanding cities, of humans, animals, plants, and microlife that have evolved separately suddenly coming into intimate contact.” (Crosby, 1986, p. 292-293).

**Some reasons for introducing new plants and animals:** (See case studies)

Utilitarian and Aesthetic-Food, pest control, beauty such as different ornamental shrubs, European medicinal plants, cattle

Oppressive—Foods from Africa were packed onto ships that carried African individuals for enslavement during the Atlantic Slave Trade. This supported an oppressive, dehumanizing practice.

Nostalgic –longing for another place or time

Accidental- such as house cats that came by ship; a current day example: zebra mussels

Not all ecological newcomers are invasive.

**Three Case Studies**

**Foods that Followed the Exchange of Human Beings in Africa for Money (slave trade) circa. 1600s-1808 (for U.S.0**

On the ships of thousands of ships transporting people enslaved from Africa was food that was domesticated and originated in Africa. This food was thought to be food that could stop large amounts of deaths of the people destined for human bondage. This included millet, sorghum, a type of rice, yams, and black-eyed peas. In addition, mothers often put rice seeds in the hair of their children to ensure the children would have nourishment after their families were separated by the slave trade. Specially bred African-continent originated livestock may have been on-board as well.

These special types of sheep and livestock were part of the exchange networks. Carney & Rosomoff (2009) also describe foods (note: coffee) that originated in Africa:

“The plants they gave the world include pearl (bulrush) millet, sorghum, coffee, watermelon, black-eyed pea, okra, palm oil, the kola nut, tamarind, hibiscus, and a species of rice. Widely known consumer products—Coca-Cola, Palmolive soap, Worcestshire sauce, Red Zinger tea, Snapple and most soft drinks—rely in part on plants domesticated in Africa….[note 3]…In the popular image, Africa is a place of hunger and starvation, a continent long kept alive by food imported from other parts of the world.” (p. 7)

However, Carney points out that the reverse is actually the case that international social and political arrangements have impacted and created such conditions in sections of this continent.

**House Sparrows and Starlings: Late 1800s**

The American Acclimatization Society decided to import all 600 kinds of birds mentioned in William Shakespeare’s work. This included the starling and the house sparrow.   Starlings, set free in 1890 and 1891 in New York’s Central Park have since been termed a nuisance and have even been blamed for the demise of a species of bluebird. “By 1950 starlings could be found coast to coast, north past Hudson Bay and south into Mexico. Their North American numbers today top 200 million.” (Mirsky, 2008, June)

**Source**

Mirsky, S. (2008, June). Call of the reviled. Scientific American, 298(6) 44.

**Alfalfa**

A 1908 government report indicates alfalfa was first domesticated in Persia (now Iran) and brought to the United States. The term itself is of Arabic origin, meaning “the best fodder.” This plant is called Lucerne in Europe. Spaniards brought it into Mexico and South America in the 1500s (in order to grow food for their horses). From there it reached other parts of the Americas. (Westgate, 1908, p. 5) Currently alfalfa is considered an important and monetarily valuable resource for crop rotation and a cover crop. It is also continues to be a source of hay feed for herd animals. In some countries, animals graze in alfalfa fields. This means alfalfa is grown in fields during seasons rotating with cultivation crops like cotton or food crops.   Alfalfa has many useful qualities from preventing and choking out “weeds”, adding nitrogen to the soil, and for its allelochemical properties (chemicals released that discourage certain weeds from growing) (Singh, Daizy, & Kohli, 2003, pp. 244-246).

**Sources**

Singh, H. P., Daizy, R. B., Kohli, R. K. (2003). Allelopathic interactions and allelochemicals: New possibilities for sustainable weed management. Critical Reviews in Plant Sciences 22(3 &4), 239-311.

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**Purple Loosestrife**

This plant came into the United States in the 1800s. Growing in wetlands, it has no plant or animal that limits its spread in the United States so it tends to spread over vast areas from July to September and stop the original vegetation of the wetlands from growing. This plant can be referred to as a “nuisance” (Carrroll, 2000).

**Zebra Mussels**

Zebra Mussels appeared in the U.S. around 1985. They arrived in the ballast of ships and were released in the Great Lakes Area.

Thought Questions

1. How did such introductions of species combined with policies and rules that outlawed Indigenous land management techniques (such as outlawing seasonal burnings that had encouraged several beneficial plants and grasses and created habitats for desired animals) impact Native Peoples’ landscapes?

**Tenet 4:**The landscape was used to find human meaning within harsh living conditions.

Finding meaning to continue on with (a harsh) life and exercising human agency was part of the Columbian Exchange outcomes. Carney and Rosomoff describe the communities of escaped and free Black persons who came from Africa or who had ancestors from the African continent in the U.S (Maroon communities):

“In attributing rice beginnings to their ancestors, Maroon legends reveal the ways in which the enslaved gave meaning to the traumatic experiences of their own past while remembering the role of rice in helping them resist bondage and survive as fugitives from plantation societies. These oral histories offer a counternarrative to the way transoceanic seed transfers are discussed in Columbian Exchange accounts. They substitute the usual agents of global seed dispersal—European navigators, colonists, and men of science—with enslaved women whose deliberate efforts to sequester rice grains helped reestablish an African foodstaple in plantation societies. The stories link plant transfers to the transatlantic slave trade, African initiative, and the dietary preferences of the enslaved. Each narrative sharply contrasts with written accounts that credit European mariners with bringing rice seed from Asia and the initiative and ingenuity of slaveholders in “discovering” the suitability of rice as a plantation commodity in the New World. Importantly, the vessels of European botanical transfers metamorphose into slave ships carrying African peoples and seeds.” (2009, p. 77)

4A) What questions do we have about how other groups besides Europeans used their decision-making and (many times constrained) agency in the Columbian Exchange?

**Tenet 5:** Other non-human beings exercise a form of agency—a way to act on their own.

 Plants, microlife, and animals also exercise their own agency or ecological agency (way to act on their own), meaning they have ways of movement and reproduction independent of human intervention. With regards to the Columbian Exchange this agency was often alongside or after initial human actions. The Columbian Exchange could not have occurred without human involvement. New species can have consequences that reverberate through an ecosystem.

Invasive Species: “An introduced species that out-competes native species for space and resources. Scotch Broom is an invasive species that out-competes local vegetation and results in a monoculture, and hence a decrease in local diversity. (Oceanlink Glossary, 2008, April)

“In the wild, Common Buckthorn outcompetes native plants for light, nutrients, and moisture, degrades wildlife habitat, serves as a host for other pests, contributes to erosion, can dramatically alter nitrogen levels in the soil, and quickly forms an impenetrable layer of vegetation, thereby preventing the growth of native plants and trees. Buckthorn is also the primary overwintering host for the Soybean Aphid, thereby having important implications for agriculture. The spread of Common Buckthorn is facilitated by birds, which have a natural attraction to its fruit. As its scientific name implies, the berries of Common Buckthorn are cathartic and provide a reduced nutritional value for wildlife – encouraging birds to eat more of them to satisfy their needs and thereby rapidly spreading the seeds that quickly leave their digestive tracts. Without any natural means of control, Common Buckthorn has implications for both the natural environment and forestry activities in areas to which it has spread.” (Invasive Plant Species of Minnesota Forests, n.d, p. 2)

5A) How does inquiry on the Columbian Exchange necessitate the need to approach the topic from many angles/subject areas/disciplines?

5B What other examples of “ecological agency” can you think of? How does ecological agency combine with human agency to enact transformations in the socioenvironment?

**Tenet 6:**The interaction of factors or “teamwork” furthered the success of transformation of the Americas. There was more movement one-way of elements from Europe coming to the Americas than the reverse.

Butterflies and Plants:

In 1910, the European Skipper butterfly arrived to Canada through the transport of eggs hidden on the seed head of the Timothy grass seed (used for hay to feed livestock) that was being transported across the Atlantic. The eggs of the European Skipper are able to survive winter through a type of hibernating. This grass is also food for the caterpillar of this butterfly. (Tekiela, 1999)

Plants and Livestock:

The spread of opportunistic plants with origins from Europe occurred from the mutual support of the plowing (the plants grew best in disturbed soil) and the wandering of cattle. “For thousands of years, Old World grazing animals and certain grasses, plus other weeds of Eurasia and North Africa, have been adapting to each other. The Old World quadrupeds, when transported to America, Australia, and New Zealand, stripped away the local grasses and forbs, and these, which in most cases had been subjected only to light grazing before, were often slow to recover. In the meantime, the Old World weeds, particularly those from Europe and nearby parts of Asia and Africa, swept in and occupied the bare ground. They were tolerant of open sunlight, bare soil, and close cropping and of being constantly trod upon, and they possessed a number of means of propagation and spread. For instance, often their seeds were equipped with hooks to catch on the hides of passing livestock or were tough enough to survive the trip through their stomachs to be deposited somewhere further down the path. When the livestock returned for a meal the next season, it was there. When the stockman went out in search of his stock, they were there too, and healthy.” (Crosby, 1986, pp.288- 289)

Birds

 Sparrow and Starling preferred “Europeanized” habitats made by “torch, ax, and livestock.” However, passenger pigeons lost their preferred habitats which were old growth forests with tall trees. (Crosby, 1986, p. 293)

Thought Questions:

6A) What additional layers of complexity does this dynamic contribute beyond just the introduction of new entities?

**Tenet 7:**Movement of knowledge and land management approaches occurred.

This movement of ideas included an example from South Carolina and Georgia after the 1730s:

English planters bought African persons to enslave, who they knew were knowledgeable about the technologies and science of rice agriculture. “[T]he plantations had a complex system of dams and gateways to irrigate the rice.” (Jackson, & Weidman, 2004, p. 21) Carney & Rosomoff (2009) explain, ““Africans were heirs to a body of knowledge that included tropical agriculture, animal husbandry, and the skills to recognize wild plants of food and medicinal value.” (p. 2) Additionally, gardens were forces used to resist slavery,

“The fundamental necessity of food to human life provides the context for understanding the subsistence strategies slaves developed in plantation societies. As European commentaries repeatedly indicate, the African botanical introductions initially gained their New World footing in the food plots of enslaved Africans. In these small and fragmented spaces of food production, Africans realized an alternative botanical vision to the plantation export commodities that were vested with the dehumanizing practices of the plantocracy. Here, slaves organized cultivation for their own purposes, selecting plants that improved their diet, healed their bodies, and provided them spiritual succor in the liturgical practices of Africa-based religions. As informal experimental stations for the transfer, establishment, and adaptation of African food crops and dietary preferences, these plots became the botanical gardens of the Atlantic world’s dispossessed. The apotheosis of this subaltern experience is exemplified in the story of one descendant, George Washington Carver (ca. 1864-1943). Born in slavery in Missouri, Carver gained scientific renown through his work on three seemingly minor crops—okra, the black-eyed pea, and the peanut—each long associated with the African presence in mainland North America and a staple of slave food gardens.” (Carney & Rosomoff, 2009, p. 138)

Thought Questions

7A) Why is the knowledge held and applied by groups other than Europeans often overlooked in historical accounts?

**Tenet 8:** The high stress of the transformations, violence, and uncertainty contributed to the high levels of epidemic disease (that was also present in non-Native communities but with less mortality rates).

Pathogens, suffering, and death from diseases caused extreme decline in the populations of Indigenous communities. Pathogens set off a community health crisis for Indigenous communities and at some points colonizing communities. Stress, upheaval, war among tribal communities and non-indigenous communities combined to make communities susceptible to disease. The high death rates resulted in the loss of knowledge (equivalent to the death of community intellectuals, university researchers and professors, and religious leaders), low birth rates, extinction of communities, and the uniting of Indigenous communities formerly separate.

Epidemic diseases include infectious illness caused by bacteria or viruses that spreads quickly among a group of people through various means and vectors, such as breathing pathogens in or being carried in droplets and in dust or bodily fluids, or through the touching of contaminated objects, or through the transmission from fleas. Many Native nations and groups lost between 90-95% of their communities during the period of European contact. Diseases often preceded the arrival of actual Europeans to a Native group’s particular region. Epidemic diseases were brought to the Americas by the movements of European people and ships and animals. These diseases included typhus, smallpox, pleurisy, diphtheria, bubonic plague, measles, influenza, pneumonia, scarlet fever, typhoid fever, and more types. The simple explanation commonly heard is that Native peoples possessed no bodily immunity to the diseases. However, as in any epidemic the living contexts must also be taken into account. Jones wrote, “They [people who study epidemics] need to replace homogenous and ambiguous claims of no immunity with heterogeneous analyses that **situate the mortality of epidemics in specific social and environmental contexts**.” (bold added, Jones, paragraph 71)

Diseases also spread through the migration of humans and the animals and plants that they bring with them. It is part of the way viruses and bacteria reproduce themselves. Humans then tend to manipulate discourse to understand these biological processes looking at an epidemic through the social meanings and social currents of the times. For example, Puritan writers in the Northeast determined that “providence” and the work of God had caused the illness and death of large numbers of Native peoples so that the Puritans may have the Native people’s lands and agriculture and feel justified in taking it (as if their religion made it acceptable) (Mancall,1998, pp. 339-340).

Thought Question

8A) Why isn’t it enough just to focus on the difference in immunity among populations when explaining the rapid population decline of many Indigenous populations?

8B) How does high illness/death of the people in a community reverberate throughout the ecosystems and social environments?

**Tenet 9:** Environmental justice is linked to identity. As the land was harmed so were aspects of Native identity during the ensuing years of the Columbian Exchange.

“As the places are disturbed and disrupted by environmental impacts, so are the identities of the individuals and communities that make up place. ‘To the extent that we construct our identities in place, whenever the biophysical conditions of a place are threatened, undermined, or radically transformed, we also see these changes as attacks on our identity and personal integrity’ (Peña, 1999, p. 6). “Environmental justice battles are battles for the preservation of the ‘homeland environment’ and the local knowledge and sense of place that exist—in those communities.” (Schlosberg, 2007, p. 63)

Examples of plants linked to identities and identity practices of certain Native communities: Example: basketry

Deer grass is a type of grass used by the Kumeyaay communities to make basketry. This grass was eradicated in the Kumeyaay territories and homelands due to cattle grazing and erosion.

Sedge Grass Root: (special kind: Carex haydeniana) These roots are used in baskets by California Indian communities. In order to be good quality roots, the beds have to be intensively tended for several years. So the basket makers need the plants and need continual access to plants. Destruction of root beds and obstacles to access prevent cultural continuity and the teaching of ecological science and artistic knowledge to new artists. (Peri & Patterson, 1993)

This is a website concerning the many uses of fire for Indigenous communities. Fire affected many aspects of life: providing for families, announcing gatherings, and making sure resources would be sustainable. <http://www.wildlandfire.com/docs/biblio_indianfire.htm>

Native Peoples adapting in the use of plants due to being forced to move also occurred: <http://nationalhumanitiescenter.org/tserve/nattrans/ntecoindian/essays/indianremovale.htm>

Thought Questions

9A) How are places and identities interlinked?

9B) Explain how the attacks on a place are also attacks on identities.

**Tenet: 10**: Generally, newcomers to a landscape do not understand how to best manage a landscape for continuity of the biodiversity.

New communities coming to a new area bring environmental management techniques that are usually unsuited to the new landscape. This means that the newcomers’ environmental practices and attitudes have negative impacts on the ecosystem (land, plants, and animals) transforming it from the way it was before the newcomers’ arrivals. (Stoffle, Toupal, Zedeño, 2003, pp.97-114)

Thought Questions

10A) How does the history of the U.S. contain examples of this? What other factors, other than unfamiliarity, shape the environmental attitudes of colonists? For example consider this statement from Crosby, 1986, (p. 208) “John Winthrop, first governor of Massachusetts Bay Colony and a lawyer by training, noted on 22 May 1634, ‘For the natives, they are neere all dead of small poxe, so as the Lord hathe cleared our title to what we possess.” (linked to note 34, indicating the source at Winthrop Papers 1631-1637 Boston: Massachusetts Historical Society 1943 111, p. 167)

10B) What does Price say is at the base of unsustainable practices? How can we link what she says regarding the power of missed connections to the idea in number 10?

**Tenet 11:**We all live in landscapes and socio-cultural arenas shaped by the Columbian Exchange.

 The Columbian Exchange remains a powerful legacy and continues in the present day with new species arriving every year. Indigenous communities work to restore the plants and animals to the places that are important to them. They work to keep their communities healthy. They also resist land management and uses of land that disrupt their culturally important places.

11A) Why do we need to understand the Columbian Exchange and its legacy and continuing impact, and how does it relate to environmental injustice?

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After reading the materials on the "Columbian Exchange," what were/are two negative impacts on the land and Native Communities in what we now call the Americas?

The two negative and what calling the Americas

Through reading the articles about "Socioenvironmental Tenets of the Columbian Exchange", the significant of American history that impacts each life of people who living in here now aday. Even though, there some positive impacts of Columbian Exchange like, people in Europe to get the benefits of foods from America continent, but there are two negative impacts on this land.

First, the enslavement of African populations, while slavery had some what positive light, it was most negative thing. some slaves from Africa were died between the trip to grow cash crops. And many Africans work with no pay for long time. In the first case of "Three Case Studies" in tenet three that described about foods and slave trade, "mothers often put rice seeds in the hair of their children to ensure the children would have nourishment after their families were separated by the slave trade."

The Second negative impacts to the land is the epidemic disease. In the Columbian Exchange, tenet eight that said about the high mortality rates of Native American from the diseases that come from Europeans, "Pathogens, suffering, and death from diseases caused extreme decline in the populations of Indigenous communities." and "Epidemic diseases were brought to the Americas by the movements of European people and ships and animals.", then because, "Native peoples possessed no bodily immunity to the diseases."

Finally, what we now call in the "Americas". I think it depend on the people background, history and their situation. For Europeans who come for looking a new better life in the new world, they came for make their dream come true. they would call in the "Americas" is the dream world or the new world they found that would change their living. But, for African who were slave trade then came here is a nightmare, and the "Americas" for them should mean negative for them. On another hand, except diseases which come from Europeans killed most of Native American, the war between them have killed Native people too. So for Native American about how they call now the Americas should be complicated and suffering.