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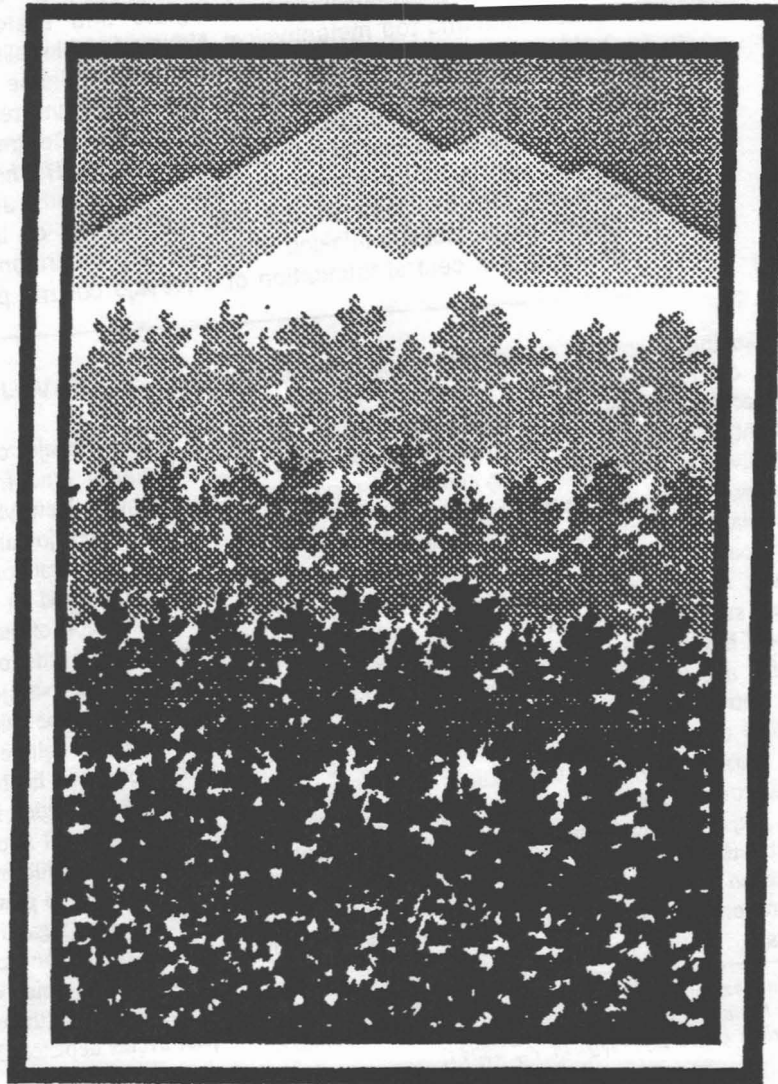
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Conservation Biology, Restoration Ecology, and a Navajo View of Nature

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Abstract — The renaissance of ecologically based forestry over the past decade has led some individuals within the natural resource management professions to incorporate concepts articulated by conservation biologists and restoration ecologists in resource management decisions. However, many within these professions who embrace the traditional western science tradition of natural resource management resist some of the premises advanced by conservation biologists and restoration ecologists as unscientific and too metaphysical. Navajo traditionalists, on the other hand, hold values which strongly support many of these premises. This paper explores key concepts of conservation biology and restoration ecology from the perspective of traditional Navajo culture. Central to Navajo "religion" and culture is the concept of *Sa'a Naghái Bik'e Hózhó* ("walking toward the sacred way"), which expresses happiness, health, and beauty of land as well as the harmony of the interrelationship of individuals with their environment. Holistic thinking in maintaining a harmonious relationship with the land is a central foundation of a Navajo cultural perspective.

An awakening of attitudes toward the quality of the human world and of the preservation of nature has resulted in a broadened ecological approach to man's relationship with his environment. Ecosystem management, new perspectives, biological diversity, sustainable ecosystems, and new forestry are only a few of the phrases used to characterize this changing view. The relationship of man to the environment has been the center of thought for many native people across the United States. These current concepts are not new. In fact, western philosophers such as Henry David Thoreau, John Muir, and Aldo Leopold have long been influenced, in subtle ways, by an understanding and interpretation through lessons of experience founded in Native American cultures.

The attitude of ecological interrelationships is a progression of thought incorporating new observations and adjusting to influence a completely new interpretation. It is through observation, experience, and intuition that these philosophers evolved to this mature attitude toward a dynamic system. This study is intended to examine the key elements of conservation biology and restoration ecology, and those of Navajo philosophy of land ethics.

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NAVAJO PHILOSOPHY OF NATURE

The Navajo, called *Diné* (the People), live in a vast and beautiful land in northeast Arizona, southwest Utah, and northwest New Mexico.

The Navajo culture has survived through an innate sense of "oneness" that compels them to help each other both in times of wealth and in times of poverty. Their concept of family relationships, of man's relation to the world around him and his place in the order of things, is far from that of Anglo-American society. The Navajo concept of religion is so total that, in a sense, it can be said that there is no such thing as religion in the Navajo culture. Everything is religious. Everything the Navajo knows, his home, his fields, the land, and the sky above is "holy." Religion is not a separate entity to be believed in or subscribed to, it is ever present. Inseparable from a traditional Navajo's daily life more than eating and breathing.

An attempt to portray a complete account of the origins, and developments regarding Navajo philosophy is beyond the scope of this paper. Navajo philosophy is built upon traditions that began in oral epics of inanimate earth-surface creatures, and have developed through interpretations and understanding of past events depicted through legends and stories.

In the Navajo pantheon there is no single deity who can be described as a supreme being. The most important deities include Changing Woman, who created human beings and is associated with the Earth, Sun, First Man, First Woman, the Hero Twins (Monster Slayer and Born of the Water), sons of Changing Woman, and her sister White Shell Woman (Changing Woman and White Shell Woman are one entity in some stories). Other entities, or Holy people, occupy less dominant or minor positions without, however, the clear cut divine hierarchy which characterized the Greek and Roman pantheons. The central concept of Navajo philosophy and vital requisite for understanding the whole, is *Sa'a Naghái Bik'e Hózhó*.

According to my Grandmother Tsinnie, "Sa'a is harmonious or desirable destiny or even restoration to youth," the attitude encompasses respect and reverence to nature.

A story that describes the importance of Sa'a Naghái Bik'e Hózhó, is when a deity named First Man left his medicine bundle behind (Sa'a Naghái) in the underworld. Today the process is repeated, both in the sense of the curing achieved through the ceremonial, of which this journey is a necessary part and more generally through knowledge acquisition, where all of us necessarily return to the source or the beginning (Farella 1984).

This doctrine within the Navajo culture stems from the idea that tries to account for everything in the universe, by relating it to man and his activities (Reichard 1974). The activities of man are viewed in the light of the supernatural ventures founded in the stories, and ritualistic explanations in songs used by the medicine men. Navajo "religion" means ritual and the beliefs tied to these rituals, according to Reichard (1974). Each ceremony has its own story from which it derives its authority.

CONSERVATION BIOLOGY

Conservation biology is a science that does not fit into the familiar mold of classic western science. Conservation biology is a crisis- or mission-oriented discipline that deals with phenomena which frequently addresses human sensibilities including, ethics, morality, and the relationship with animal communities and ecosystems as a whole dynamic system.

To paraphrase excerpts from M.E. Soule's (1985) article, "What is Conservation Biology?":

Conservation biology tends to be holistic. Ecological and evolutionary processes must be studied at their own macroscopic levels and reductionism alone cannot lead to explanations of community and ecosystem processes. Second, the assumption is that multidisciplinary approaches will ultimately be the most fruitful.

The Universe, as viewed by the Navajo, is an orderly system of interrelated elements, an all-inclusive whole that contains both good and evil. Hence, the universe is simultaneously good, benevolent, and dangerous. Humans are not seen as having dominion over nature. Instead, nature is seen as powerful and capable of causing great harm if not treated with respect. Thus,

a person's attitude and actions toward nature must be respectful. If not, then harm will come which may only be rectified by performance of an appropriate healing ceremony.

Another distinguishing characteristic of conservation biology is its time scale and view of system components (Soule 1985).

In Navajo culture, past, present, and future are essential for acquiring knowledge, symbolic of the emergence of the Navajo, and shedding the chrysalis of ignorance in the lower worlds. The legends are not only the basis of the complex ceremonies, they are the history of the Navajo.

For decades man has been advancing toward oneness with the universe, the Navajo identifies with all its parts. The Navajo does not separate himself from the natural, he regards himself as a part of something larger rather than having a separate existence. The Navajo accent is on repeated creation which is often, if not always, cyclical. It is to be contrasted with the lineal, progressive view of time that dominated much of western science (Reichard 1974 and Farella 1984).

Postulates of conservation biology as suggested by Soule form two sets: a functional/mechanistic set and an ethical/normative set. The first functional postulate is the evolutionary postulate which states that many of the species that constitute natural communities are the products of coevolutionary processes. The second functional postulate concerns the scale of ecological processes: Many if not all ecological processes have thresholds below and above which they become discontinuous, chaotic, and suspended.

The second postulate is consistent with the dualism which is associated with *Sa'a Naghái Bik'e Hózhó* of good and evil *Hózhó* and *Hochxó*. Everything in the universe, including but not limited to knowledge, people, gods, behavior, ritual, thought, and language are divided into the good and evil, and are points in process that is continual and ongoing (McNeley 1981, and Farella 1984). One portion is not preferred more over the other, rather they are interdependent, that is, if evil were eliminated, there could be no good. In a sense, evil and good are seen as two sides of the same coin.

Soulé (1985) describes the normative/ethical postulates as: value statements that make up the basis of an ethic of appropriate attitudes toward other forms of life. They provide standards by which our action can be measured. Following is a synopsis of these normative postulates:

Diversity is good. A corollary of this postulate is that untimely extinction of populations and species is bad. Natural extinctions are rare events on a human time scale. Ecological complexity is good. This postulate parallels the first one, but assumes the value of habitat diversity and complex ecological processes. This postulate expresses a preference for nature over artifice, for wilderness over gardens (cf. Dubos 1980). Biotic diversity has intrinsic value, irrespective of its instrumental or utilitarian value. In emphasizing the inherent value of non-human life, it distinguishes the dualistic exploitive world view from a more unitary perspective.

This preference for nature over artifice is obvious in Navajo attitudes toward animals. Although for years the tribe has depended upon domesticated animals for subsistence, the religion still emphasizes wild animals. The belief that wild animals are helpers of human beings has not been laid aside now that game has been supplanted by the more easily obtainable sheep, goat, or steer. Domesticated animals have little religious respect (Locke 1992). They are property (economic value) rather than sentient (ceremonial value) beings, such as the feared bear and snake. This view of domesticated animals parallels the conservation biology postulate of a preference for natural systems over artificial systems, and for ecological integrity, or the coevolved diversity of life (Leopold 1949).

The Navajo attitude toward plants is one of appreciation of abundance. Every plant is viewed as an important component of all of the vegetation upon which man and animals depend. Thus, flowers and other plant parts from many species are treated ceremonially and used in healing/curing ceremonies.

Many Navajo medicine men and traditionalists believe that the People live in disharmony today. Medicine men ascribe many of today's problems to being a result of disharmonious and chaotic lifestyles. One explanation of this disharmony is the over abundance of domestic animals that are steadily overgrazing the once plentiful grasslands, and many have migrated into the sensitive riparian zones, decreasing the plants and grasses which are needed both to sustain wildlife and for ceremonial uses.

What are the answers for restoring harmony of man and nature? Aldo Leopold stated, "The first step is to reconstruct a sample of what we had to begin with", similar to the journey of First Man, when he returned back to the beginning and/or source to retrieve his medicine bundle.

RESTORATION ECOLOGY

Restoration ecology is the discipline that provides the theoretical foundation for the practice of ecological restoration. In turn, ecological restoration provides the ultimate testing ground for theories of restoration ecology (Jordan et al. 1987). In a nut shell restoration ecology is the interrelationship of ecological theory and practice.

Restoration ecology, as a central challenge, acquires not only an identifiable goal (understanding the system and being able to demonstrate this understanding in an objective, unambiguous way), but also a mission (being able to heal the system). To heal the system like a form of medicine, a science, and art of healing at the community and ecosystem level (Leopold 1949, Jordan et al. 1987).

Ecological restoration deals with restoring degraded habitats to more nearly natural conditions using research and management experimentation. Restoration ecology traces its forestry origin to Aldo Leopold after he adapted a stance of conserving ecosystem integrity and the concept of coevolution (diversity of life). The history of ecological and evolutionary thought integrate to form a scientific basis for conservation management (Jordan et al. 1987).

"Restoration is more than a step toward a better relationship with the environment and a deeper understanding of it, but one which went hand in hand with it", surmised Aldo Leopold (1949). Such thinking is consistent with the Navajo concept of Sa'a Naghái Bik'e Hózhó, walking the sacred path.

CONCLUSION

The Navajo perception of the land ethic reflects and reinforces the design of the community to which it is correlative. The basic concept of *Sa'a Naghái Bik'e Hózhó* accents and unsurprisingly parallels many premises of conservation biology. A holistic view of nature does not devalue the dynamic dimension of nature but broadens the scope for incorporating management strategies to enhance a self-perpetuating system.

In the Navajo culture, the earth is a sacred component of a family, a revered and respected member called Mother Earth. The mountains are sacred, for the Navajo came from them and depend upon them. The water courses are veins and arteries. They are the mountain's life, as our blood is to our bodies (Reichard 1974).

Restoration to youth is the pattern of the earth. A deity named Changing Woman renewed her youth as the seasons progress. This restoration to youth is something for which the Navajo lives, for he deduces that what happens to the earth may also happen to him. It is taught that the earth should not be injured. If the earth is damaged, the People will suffer.

Sa'a Naghái Bik'e Hózhó sets value to life, living, and the unity of thought and action. It is an understanding of the whole, it is the whole. It is the substance which adds value to life and living.

A change from the inside, from a point of view of the community with evolved moral and ethical sensibilities to inherent value and biotic rights, can dramatically enhance the land use strategies of today not only in Navajo culture but also in Anglo-American culture.

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