

THE PRAIRIE LANDSCAPE: PERCEPTIONS OF REALITY

J. F. DORMAAR and R. L. BARSH

Authors are Emeritus Principal Research Scientist, Agriculture and Agri-Food Canada Research Centre, Lethbridge, Alberta T1J 4B1 and Adjunct Professor, New York University School of Law, New York, New York 10012-1079

Creation Mythology

On October 12, 1492, Cristobal Colón (Christopher Columbus) wrote in his log: “Then, at two hours after midnight, the *Pinta* fired a cannon, my prearranged signal for the sighting of land.” Columbus and his two fellow captains thereupon went ashore in a heavily armed boat and took symbolic possession of the new lands in the name of the queen of Castile and the king of Aragon (Wolf 1996). Momaday (1992) describes that moment as one that changed the history of the world forever. The land, including 162 million ha of prairie blanketing the Great Plains, that had materially and spiritually nurtured the Aboriginal peoples of North America for millennia, was urgently sought by the new arrivals, who had exhausted the resources of their own continent. A new Eurocentric worldview (translation of G. *Weltanschauung* = a comprehensive conception or image of the universe and people’s relation to it) was replacing the Aboriginal one. Land changed from community to commodity, from inhabited to owned.

Creation stories exemplify the inner spirit of a people and are thus good indicators as to how they view the land and their relationship to it. Consider the following sample of indigenous American accounts -

THE MAKING OF THE EARTH (Wissler and Duvall 1995)

During the flood (the concept of a great flood that covered the earth is found in almost every mythology in the world), Old Man was sitting on the highest mountain with all the beasts. The flood was caused by the above people, because the baby (a fungus) of the woman who married the Fixed Star was heedlessly torn in pieces by an Indian child. Old Man sent the Otter down to get some earth. For a long time he waited, then the Otter came up dead. Old Man examined its feet, but found nothing on them. Next he sent Beaver down, but after a long time he also came up drowned. Again nothing was found on his feet. He sent Muskrat to dive next. Muskrat also was drowned. At length he sent the Duck. It was drowned, but in its feet was some earth. Old Man saw it, put it in his hand, feigned putting it on the water three times, and at last dropped it. Then the above-people sent rain, and everything grew on the earth.

NATOSI, SUN MAKES THE FIRST SIKSIKA (Canada Heritage Foundation 1988)

And it is told among the *Apikuni* that in the beginning *Natosi* Sun made people. First *Natosi* made Snake from the mud of Earth. That is why Man has only contempt for Snake. Then he made Man (half of the available versions say that his brother, *Napi*, made the people). *Natosi* mixed earth and clay and dust and water. Then he gathered buffalo bones. He tied these together. Then he poured blood on Man-the-bundle. The Four Winds and *Natosi* blew life into his mouth. Sun sang and burned sweetgrass. Man stirred. *Natosi* cleansed him with sage and juniper. That is why these purify to this day. Then Sun sang the welcoming and honouring song, a special song for *Siksika*: “*Oki*, my son. I give you life. And long may it be. You are first born man. I name you *Siksika*. Your brothers are *Kainai* and *Apikuni*. I name you after blacked-tipped-foot Fox. You are the people with black feet. I give you dreams.

Blood and bone is your birth. You are *Siksika*, the people with black feet.....” Then *Natosi* saw that man needs a companion. *Natosi* gathered bones, earth, clay, dust and water. He tied these together, mixed them and blew life into them. Sun made woman. But just then Coyote came along to help (And you know how it is with someone getting in the way to help out). Coyote also blew his breath into her. That is why women have smaller voices than men.

ACCIDENT IN THE SKY (McFarlane and Haimila 1999)

According to Wendat (Huron) legend, the world began with an accident in the sky when *Aataentsic*, a female spirit, suddenly slipped through a hole in the sky and fell towards the earth, then a watery planet inhabited only by aquatic creatures. Seeing the sky woman falling to the fathomless waters, the great tortoise positioned himself to break her fall, and the other aquatic animals piled mud from the deep on his back to soften her landing. *Aataentsic*, who was pregnant at the time, landed on the earth-covered turtle’s back without injury. Before giving birth to two sons, she made the turtle’s back expand into what became North America, the Turtle island of many indigenous peoples’ mythology. One of *Aataentsic*’s sons, *Iouskeha*, released people and animals on the land, and the various peoples then headed to their appointed countries.

GLUSKAB MAKES THE FIRST *WABANAKI* (The Editors of Time-Life Books 1997)

The Algonquian of northern New England call themselves *Wabanaki*, or the original People of Dawnland. Mythic hero Gluskab, a giant, came from across the sea in a granite canoe. When he reached land and found no people to greet him, he drew his great bow and split open an ash tree. When the first humans stepped from the bark, Gluskab did all he could to make their world a more inviting place. He freed the streams and rivers by slaying a froglike monster who was hoarding the waters in its swollen belly. He captured the mighty Wind Eagle but bound it so tightly that a stifling calm descended. Recognising his error, Gluskab loosened the Wind Eagle’s wings, and cool breezes wafted across the land. Gluskab filled the forest with animals to give people plenty to eat. At first, he made the animals too big and they were a threat to the people so he made the animals smaller, and thereafter, when creatures of the forest saw people approaching, they turned and ran. Gluskab taught the people how to track and snare those skittish animals and where to find wild vegetables and herbs for food and medicine. He showed them how to build houses and canoes and kindle fires, and he taught them the names of all the stars in the heavens. After he had made the world fit for humans, Gluskab left them and went to dwell in the depths of the forest.

Although First Nation creation stories describe the cosmos in many different ways, reflecting on their ecological settings, they share the theme of human’s need to establish constructive relations among themselves and with all the great beings of the cosmos including the plants and animals, that sustain life. There is a clear message in these stories: cooperation, mutual respect, service and self-sacrifice brought spiritual evolution and order into a chaotic universe (Morrison 1994). Contrast this message with the creation stories of the Islamic-Judeo-Christian religions born in the deserts of the Middle East, which focus on an all-powerful, authoritarian God -

The Old Testament (Anonymous 1611)

GENESIS 1

In the beginning God created the heaven and the earth....And God said, Let the waters under the heaven be gathered together unto one place, and let the dry *land* appear: and it was so...And God said, Let the earth bring forth grass...And God said, Let the waters bring forth abundantly the moving creature that hath life...And God said, Let the earth bring forth the living creature after his kind...And God said, Let us make man in our image, after our likeness: and let them have dominion over the fish of the sea, and over the fowl of the air, and over the cattle, and

over all the earth, and over every creeping thing that creepeth upon the earth...So God created man in his *own* image, in the image of God created he him; male and female created he them...And God blessed them, and God said unto them, Be fruitful, and multiply, and replenish the earth, and subdue it: and have dominion over the fish of the sea, and over the fowl of the air, and over every living thing that moveth upon the earth.

GENESIS 2

...And the Lord God formed man *of* the dust of the ground, and breathed into his nostrils the breath of life; and man became a living soul. And the Lord God planted a garden eastward in Eden; and there he put the man whom he had formed...And the Lord God took the man, and put him into the garden of Eden to dress it and to keep it...And the Lord God said, *It is* not good that the man should be alone; I will make him an help meet for him...And the Lord God caused a deep sleep to fall upon Adam, and he slept: and he took one of his ribs, and closed up the flesh instead thereof; And the rib, which the Lord God had taken from man, made he a woman, and brought her unto the man. And Adam said, *This is* now bone of my bones, and flesh of my flesh: she shall be called Woman, because she was taken out of Man.

People are defined by their creation myths. Aboriginal peoples view themselves as partners in an endless struggle of all life-forms to produce relationships and order. Judeo-Christian peoples conceived of order as something created unilaterally by human and divine rulers.

Thesis - Pre-settlement worldview

First Nations have maintained themselves for thousands of years by forming webs of ceremonial as well as utilitarian relationships with the ecosystems in which they lived (Swanson 1991). As a result, they were profoundly oriented to particular landscapes, accumulating a wealth of locally inspired knowledge, symbols, and customs over millennia. They did not see themselves governed by remote metaphysical forces, ruthless predators or impersonal laws of nature; they conceived of a world in which non-human animals, plants, and other forces are conscious, rational beings that are capable of compassion, and, therefore, must be treated with etiquette, consideration and prayer. Grounded in the real world with its everyday threats to their security, they had little choice but to be practical, turning to the non-human animals in their environment to teach them survival skills (Morrison 1994). According to Nelson (1983), the central tenet of their worldview was that “the natural and supernatural worlds are inseparable, each is intrinsically a part of the other,” which is a way of expressing the idea that there is a deeper layer of consciousness and communion among humans and non-humans. Ceremonies at carefully chosen sites periodically connected the seen and unseen realities, and particular landscapes became inseparable from the ceremonial realities which were experienced within them. Humans were self-consciously always part of the landscape equation. Since there were limited opportunities to augment their resources through war or trade, each human community had to discover ways of achieving a dynamic balance with its immediate resources, and to adopt a precautionary resource management strategy.

Uhlenbeck (1912) documented the seasonal round of the South Peigans just after the turn of the twentieth century, illustrating the complex ways that a single people utilized its landscape in tune with the changing seasons -

“How the ancient Peigans moved about...

Far down on Maria's river [literally: Bear Creek], there they stayed till late in spring...They waited for the bulls, that they had shed their hair...We shall move up [away from the river]. Then they moved up. It was in the Battle-coulee that they camped. In the morning the chiefs went around saying: Come on, we shall move. When the buffaloes were far, we overtook them in the Cypress Hills; when they were not far, we overtook them in the Small Sweetgrass hills...Following skinning, when the slices of meat are dry, then we shall move. We shall move down over on Milk river [literally: Little creek]. Close by [that river] are the better buffalo...We shall make a circle [to chase the buffalo]. We shall camp on Bad-water [a lake]. They camped...After the meat and skins were dry, the chief said: Come on, we shall move to the Manyberries [a local name]. We shall camp there. The berries were found to be ripe...When they moved again, the chief said: We shall move. We shall camp at Buffalo-head [a local name]. More berries were collected...Then they moved again. The chief said: The buffalo is near the Seven-persons [a local name], we shall camp there, and there we shall chase elk. And there they camped...When the hides were all good, then [the chiefs] said: We shall move to the mountains [the Cypress Hills]. We shall cut the lodge-poles. Then they started to move. Then they separated [by bands]. Then they would move this way. They camped over there at Long-lakes [a local name]. Then they moved again. The chief said: We shall move to Where-the-Women society-left-their-lodge-pole [a local name]...From there they moved to Green lake where stray-bulls were chased...After the skins were tanned, they moved to Writing-stone [a local name]. There are many berries, [especially] cherries. They camped there...Then the chief would say: We shall move up [alongside Milk river] to Woman's-point [a local name]. We shall camp along the river to hunt buffalo and antelopes...Then the chief said: We shall cut our lodge-poles from Cut-bank river...By that time it was late in the fall...When it snowed [first] in the fall, then they would hurry, that they moved down [to the lower country]. There [down] on the river, there they would be camped about. There they waited, where the buffalo would come the nearest. To that place they would move. They would carefully look, where they [themselves] would be during the winter. Then they camped in different places all along the river. In the beginning of the winter they were all happy.”

Excellent seasonal forecasting was needed to intercept each resource when it was most available (e.g., Nelson 1983). Too much waste and squandering of resources could not be allowed. This is not to argue that hunter-gatherers were intrinsically more moral than present-day agricultural or industrial societies. Hunter-gatherers taught and enforced an environmental ethic because they knew they had to. They had to live off their interest, not capital; off flows, not stocks (Gowdy 1992). Conscious of their environmental limits or carrying capacity, they generally also regulated their own numbers, whether by means of birth control (e.g., seeds of *Lithospermum ruderale* Lehm.), birth spacing, seasonal taboos leading to lactational amenorrhea, induced abortions, infanticide, geriatricide, or ritual warfare (Barsh 1994).

A society's attitudes toward the environment affect patterns and rates of resource exploitation. In turn, patterns and rates of exploitation alter the environment as well as the society's culture. Shay (1984) cites the example of wild rice gathering among pre-settlement peoples of the Great Lakes, which provided a new source of protein-rich food leading to an expansion of the population and a greater level of regional social and ceremonial organization. Communal protection of harvesting sites, and harvesting by shaking selected rice heads, helped expand and re-seed rice stands while altering the population genetics of the rice. What European settlers saw as “wild” rice marshland was in actuality a gently cultivated, highly productive anthropogenic ecosystem.

The fact that Aboriginal peoples viewed the ecosystems in which they lived with caution and respect did not mean that they left their landscapes untouched or in a “natural” state. On the contrary they were active landscape architects, and they used fire extensively to modify plant

communities and the distribution of animals. In forests, undergrowth was routinely cleared and the canopy opened to create clearings, corridors, and edges. Similarly, fire was used throughout the prairies to encourage early spring grass production, and produce larger populations of bison (Barsh 1997a). Fire was not only used to clear land for gardens in maize-growing areas, but also to maintain patches of naturally-occurring medicinal and food plants, such as camas and wild turnip. Travelling through their territories to hunt, or on their daily rounds of cultivated gardens, people stopped frequently to collect plants, making small but continual modifications to promote useful species, such as clearing brush and transplanting shoots or runners. Over long periods of time, every accessible part of the landscape was influenced by human activity, although largely in subtle ways that would not have been obvious to a European visitor. Early European explorers saw a vast, dense “virgin forest” and “oceans of grass,” never suspecting that they were looking at patient, ancient landscaping.

First Nations sometimes drew comparisons between themselves and the beavers. In Blackfoot, Ojibway, and Cree stories, beavers had once been humans, or else humans had once been beavers (Brown and Brightman 1988). Like beavers, humans always transformed the landscape. Beavers controlled water, humans wielded fire. Human nations and beaver nations had to act responsibly and exercise self-restraint lest they modify ecosystems too quickly and eliminate their own food supplies. First Nations could observe the evidence of this truth among both humans and beavers. Among Blackfoot in Alberta, the Beaver Bundle and its songs and ceremonies are regarded as the oldest and most powerful of all knowledge systems: the original source of rivers, food animals, medicinal plants, and the entire world as we know it.

Aboriginal peoples observed and pondered the mysteries of the biotic and abiotic forces around them in order to anticipate changes that might force them to move, switch food sources, or limit their populations. Over time, a vast store of local knowledge was accumulated. In such societies, capital primarily consisted of knowledge. Models of the local ecosystem and the skills necessary for making a livelihood from it were passed from elders to younger generations by example with the help of ceremonies and stories (Gowdy 1992). Although knowledge could not be manipulated in the same ways as physical capital, it could be withheld. Nevertheless, knowledge was largely a matter of public responsibility, rather than private interests. Skilful elders were expected to teach worthy apprentices, and many ceremonial responsibilities associated with specialized knowledge, such as sacred bundles among the Blackfoot, were rotated (transferred) according to a prescribed schedule (Barsh 1999).

Knowledge and the responsibilities that go with it were associated with age and maturity because elders had experienced a great deal of change in the world during their lifetimes, and knowledge of past changes was needed to forecast and adapt to future ecological conditions. Similarly, while a great deal of knowledge was transmitted in the form of stories and ceremonies, orality ensured that stories changed with each re-telling. There was no authoritative recorded text. First Nations’ conceptions of wisdom were dictated by the need for flexibility, rather than simply by a slavish devotion to tradition. Loss of a community’s local knowledge could mean dispersal or starvation.

While some scholars may have tended to romanticise Aboriginal cultures, the notion that today's city-dwellers are the epitome of intelligence is even more romantic (Gowdy 1992). First Nations may have expressed their knowledge in symbolic media and mystical terms, but at the foundation they had to be patient, open-minded empiricists.

People living directly from their landscape by hunting, fishing, gathering, and gardening spent most of their time encountering, observing, and interacting with non-human animals and plants. They not only stalked animals for food and tried to outwit them, but brought some back to their homes and villages as partners and pets. Recent genetic studies suggest that dogs have lived with people for 100,000 years or longer (Vilà et al. 1997). Horses, aurochs (ancestors of the cattle), cats, and raptors, such as hawks and falcons, began living in human settlements, and helping people work, travel, and hunt, at least 8,000 years ago. Visitors to isolated indigenous communities during the 20th Century found children bringing home and "taming" monkeys, birds, peccaries, and many small ungulates, such as gemsbok. Indigenous peoples worldwide retell stories about individual people who enjoyed the power to attract and learn from bears, large cats, even killer whales (orcas). The San peoples of the Kalahari Desert establish individual relationships with wild ostriches in order to collect their eggs. Until the last century or two, most humans were surrounded by non-human animals, and depended on them. Understanding animals, communicating with them, and either outsmarting them, or forming cooperative relationships with them, were crucial survival skills.

Close experiences with non-human animals fundamentally shaped peoples' worldviews. People came to think of the universe as inhabited by many different intelligent species, to think of non-humans as other tribes or nations with their own cultures, leaders, needs and characteristic ways of thinking, rather than simply as unfeeling, unthinking machines meant to be exploited freely by humans. Intimate contact with non-humans such as dogs helped persuade First Nations that all beings are *conscious, possess individual personalities, and exercise some measure of free will*. This cosmological axiom conflicts fundamentally with the basic assumption in Judeo-Christian philosophy and Western science that humans enjoy a monopoly of consciousness, individuality, and free will.

If everything has a spirit and free will, people must be cautious and respectful in their dealing with non-humans, always on guard against the possibility of being tricked, but also prepared to make friends, strike bargains, and stick by commitments. Nothing can be taken for granted; the landscape is alive with countless different forms of intelligence, any one of which may choose to challenge humans at any time. If you have seen *The Wizard of Oz*, remember Dorothy picking apples in the forest. "How dare you pick our apples!" the trees exclaim (Metro-Goldwyn-Meyer 1939). Baum's Oz, in which everything is a potential friend or foe, is not a "fairy tale" from an indigenous perspective.

A corollary of the universality of consciousness and free will is *the chaotic and historical nature of the cosmos*. At any given moment, our reality is the result of a history of decisions made by countless individual beings: humans, animals, and many other forces. There may be a general tendency to events (such as the cycle of the seasons), but broad generalizations, albeit true, offer

little in the way of useful forecasts or guidance. When First Nations people conducted annual “world renewal” ceremonies, it was to remember just how fragile and tentative the world can be, and how changing anything can change everything, often in unintended and unpredictable ways. Indigenous cosmology is therefore inherently *precautionary* (compare the assumptions that give rise to the precautionary principle in contemporary conservation biology).

A second corollary of universal consciousness is *locality*. Just as every human society has grown somewhat distinct socially, linguistically, culturally, and politically as a result of its history, every landscape and ecosystem is presumed to be distinct, and to operate in somewhat different ways than superficially similar landscapes. Travelling in a new territory an experienced hunter may say “the crows speak a different language here” or “the trees do not know me here.” It is not simply assumed that the same ecological relationships or physical forces prevail everywhere. This, too, encourages caution, and the careful study of an untravelled landscape before attempting to use it.

“A man in Anaktuvuk Pass, in response to a question about what he did when he visited a new place, said to me, “I listen.” That’s all. I listen, he meant, to what the land is saying. I walk around in it and strain my senses in appreciation of it for a long time before I, myself, ever speak a word. Entered in such a respectful manner, he believed, the land would open up to him (Lopez 1986).”

Belief in the universality of free will has important implications for the process of empirical observation; that is, for scientific methodology. The observer approaches the study of animals and plants like an anthropologist visiting an unfamiliar human society: as a participant observer who listens and imitates, but avoids manipulation. The observer expects non-humans to attempt to communicate, and pays particular attention to the ways in which non-humans interact socially with human observers. Experiments are conducted (in effect) by experiencing the consequences of mimicking non-humans’ movements or vocalizations, and by trying to influence non-humans’ behaviour socially. Some Western ethologists have developed a similar approach to the study of the great apes (pioneered by Jane Goodall; see e.g. de Waal 1989), and other species that they suspect are highly intelligent, such as ravens (Heinrich 1999). In this investigative process, the human observer is naturally inclined to develop a sense of empathy and emotional attachment to the non-human subject: feelings of kinship, compassion, and personal responsibility, as well as “rational” scientific understanding. Hence the greatest students of nature in indigenous societies are likely to have the strongest feelings of one-ness with all other living beings (Hogan 1995).

Another important methodological implication of a belief in the universality of consciousness and free will is focussing attention on the unexpected and peculiar in nature. In human societies, creativity and change (including social upheavals and political revolutions) tend to be associated with unusual people. A brilliant artist, scientific genius, or charismatic leader is hardly *average*. Statistical means tell us about the ways things tend to exist now, but the *tails* of the distribution tell us more about what may happen next (potentiality). This is true in genetics as well as human cultures. Indigenous peoples conceive of the universe as chaotic, ever-changing, and potentially dangerous, a world of factious, robust, actively conscious beings. Survival therefore depends on scrutinizing and understanding every surprising or unusual sign. Western science tends to focus

on generalizations, and to assume that peculiar, isolated, and non-reproducible observations are errors or frauds. Of necessity, indigenous peoples pay particular attention to the interpretation and possible significance of unusual events. They do not assume that the universe is all precision clockwork. If a fox kills a deer, and no one has heard of that before, something is about to change in the ecosystem, and it behoves peoples to investigate.

Yet First Nations' cultures usually emphasize *harmony*, both as an objective or ideal of human conduct, and as a natural tendency of the universe (a natural law). Is this contradictory? There is a difference between believing that the universe actually *is* harmonious and perfectly balanced, like precision clockwork, and recognizing that all physical and biological systems tend towards dynamic equilibrium, lower energy states, and greater order. Life itself represents an increase in energy states and disorder, albeit with an inescapable upper limit determined by thermodynamics. This understanding appears to be shared by indigenous cultures. As Farella (1996) concludes in a synthesis of Navajo (Diné) philosophy, harmony represents the middle path between death and utter disorder; that is, "the edge of chaos," in terms used by physicists. When disorder increases, people must take steps to mitigate it.

First Nations' conceptions of harmony arise from their conviction that everything in the universe is somehow directly connected in a way that every action, no matter how small, has the potential to affect other people and objects over great distances. In a unified, interrelated universe, caution and self-restraint are always advised. Any careless word or act may "come back" in unanticipated or unpleasant ways. This is not merely a moral proposition. The physicist David Bohm (1980) proposed that the matter scattered throughout the universe is more "implicate" (physically interrelated and simultaneously reciprocal) than what is represented in classical mechanics, quantum mechanics, or relativistic physics. Some contemporary physicists are converging on the models of the universe held by indigenous peoples (Peat 1995).

If survival depends on harmony, and harmony means seeking a dynamic balance between death and life, stasis and change, it clearly follows that selfish, stubborn, manipulative people threaten existence itself. Extreme arrogance and egocentrism are characteristics that many First Nations historically associated with witches. In two widely acclaimed novels, *Ceremony* and *Almanac of the Dead*, Laguna Pueblo poet Leslie Marmon Silko (1977 and 1992) suggests that the Europeans who colonized the Americas were witches who destabilized every place they settled. It is easy to see how First Nations would have interpreted the behaviour of European settlers as witchery: reckless, hasty, selfish transformation of landscapes they had not even taken the time to try to understand.

Nelson (1983) gives us some idea of what European settlers might have been able to learn from Native Americans if they had been prepared to listen. Reality is not simply what we consciously perceive, but what our worldview has taught us to notice and appreciate in a universe that is very complex and extremely dense with potentially relevant data. A particular worldview may include spiritual and ethical dimensions, as well as biophysical models. As hunter-gatherers, Aboriginal peoples of the prairies embraced a worldview that drew their attention to the minds and suffering of animals, and the seasonal physiological cycles of medicinal plants. The ethical

dimensions of their worldview encouraged them to be keen observers of changes in animals' behaviour, and to observe carefully the ways that animals responded to their presence and activities. Settlers from Christian countries were more drawn to the geophysical aspects of landscapes (minerals and soil chemistry) and to the challenges of controlling extracting biophysical resources: "be fruitful and multiply." It has taken more than a century for Euro-American scientists to begin serious studies of the ecological processes that First Nations deemed most important to them.

Columbus believed, as many people still do, that those humane qualities usually associated with religion - ethical behaviour, moral leadership, a search for justice - could not be achieved outside the God-given European institutions of church and state (Morrison 1994). Conversely, the Native American worldview tolerated relatively individualistic beliefs. Each member of the community was expected to receive a personal revelation (i.e., the vision quest = seeking a direct relationship to spiritual forces without the benefit of a human intermediary), thereby maintaining a collective, evolving knowledge base within the framework of broad local traditions. In ceremonial dances, as well as the modern-day pow-wow, you will see each dancer dress and move differently, while the overall flow of the dance as a whole is circular. By virtue of their individuality and distinctly personal revelations, all the members of the community shared in the process of discovering and transforming human relationships with other beings in the landscape. Religion was not based on a single historical revelation, but on a continuous process of countless revelations; it was not an isolated or segregated activity (i.e., church on Sunday), but part of most everyday activities such as hunting and travel (Grant 1984).

William Blake's visionary image of God as an all-powerful patriarch has remained an archetypal symbol of the Judeo-Christian worldview to the present day. Christianity emphasized obedience to preordained, godly commandments to earn personal salvation in the next life. Nelson (1983) contrasts belief in the universe as the indivisible product of a single act of creation, with belief in a complex, interdependent universe in which everyday miracles - thunder, food, birth, healing - supply evidence that a multitude of different creative forces are continuing to invent the world. For First Nations living on the prairies there was no universal, absolute truth centred in a single godhead, but rather many complementary and overlapping truths. Compare the Gothic cathedral with its stone walls, lofty spires reaching skyward and the long, narrow spaces in which a huge congregation focuses all its attention on the priest at the altar, embodying a concept of God, of power, of the written word, and of revelation fixed in dogma, with the sweat lodge built on bent branches and skins on bare earth, in which a small group sits together in a circle reflecting on the interdependence of all beings and their shared dependence on the earth (Eastman 1911, DeLoria 1974).

Anti-thesis - Eurocentric worldview

The classic 'world religions' originated in local religious conceptions. Islam and Christianity both developed from the worldview of the same nomadic tribal people, the Jews. By the time Europeans arrived in the Americas, however, they had inherited a witches' brew of Egyptian, Babylonian, Assyrian, Greek, Roman, Germanic, and Celtic mythologies and magic as well, all

distilled into a Christian elixir which, in the process of Roman empire-building, was imposed on a growing number of peoples as ultimate metaphysical truth. When Judeo-Christian beliefs in an omniscient, omnipotent, and omnipresent God melded with the rational traditions of the Greeks, the landscape lost its spirituality. Nature became “fallen,” passive and material, governed by the will of God through immutable mechanical “laws.” In this way, Europeans divorced themselves spiritually from their ecological roots in Old World forests and deserts, and recreated themselves as the Deity’s exclusive agents of temporal history (Irwin 1998; Shlain 1998).

Of course, Europeans were not always that way. At one time, they held the same beliefs, and engaged in much the same kinds of ecological practices, as First Nations did in the Americas. Many Celtic and Teutonic tribes fought for centuries against the Roman Empire to preserve their own ways of life, and in many isolated parts of Europe remnants of the Old Religion were still practised until the late 19th or early 20th Centuries. Christian missionaries tried to stamp out the Old Religion by arguing that it was Devil-worship, and sometimes by burning practitioners as witches and warlocks. The image of the Devil as a horned half-human, half-animal being was a deliberate attack on tribal Europeans’ beliefs in the so-called Horned God, a deer-man who died each autumn, and was reborn each spring as the consort of the Earth Mother. The sacred places of the ancient Europeans were groves of old trees, springs, caves, and mountain peaks, some of which are still in use, for example in the Alps and in the Basque region of northern Spain. Most of the old sacred groves were cut down by Roman soldiers or Christian bishops, however, and Christian churches were built on top of the ancient springs and caves (Pennick 1996; Low 1996).

The First Century Roman poet Lucan, himself born to Celtic parents in Spain, has left a vivid account of the felling of a sacred grove by Caesar’s legions at Marseilles in his epic *Pharsalia*. Here, in the modern English translation of the Welsh poet Robert Graves (1956), is a part of Lucan’s description of the grove: “*Superstitious natives believed that the ground often shook, that groans arose from hidden caverns below, that yews were uprooted and miraculously replanted, and that sometimes serpents coiled about the oaks, that blazed with fire but did not burn. Nobody dared enter this grove except the priest; and even he kept out at mid-day, and between dawn and dusk—for fear that the gods might be abroad at such hours.*” Caesar ordered the grove felled by his engineers, “*yet the loneliness and solemnity of the grove awed his very toughest soldiers; they shrank from their task, convinced that if they struck at the sacred trees the axes would rebound, turn in the air, and chop off their legs.*” Finally, Caesar himself “*snatched an axe and swung it fiercely at the nearest oak*” telling his men that they had more reason to fear him than the Celtic gods. Thus began the obliteration of Europeans’ age-old beliefs in a Nature that is more powerful and precious than Man alone.

The Hebrew Bible provides a profoundly symbolic account of the act of creation, the beginning of life on earth and the origin and role of humankind. It must be noted that the first two chapters in the Book of Genesis actually give **two** accounts of creation. There are contradictions between these two versions, in particular with respect to the role assigned to humans in the scheme of life on earth. One version (Genesis 1) contains the oft-quoted phrase “be fruitful, and multiply, and replenish the earth, and subdue it...”, which can be construed as a divine order for humans to dominate the earth and use everything on it for their own purposes (Hillel 1991).

The act of creation and divine injunction to man are described quite differently in Genesis 2:15. “God Yahweh formed man out of the soil of the earth and blew into his nostrils the breath of life, *and man became a living soul*. And God Yahweh planted a garden in Eden in the east and placed the man therein *to serve and preserve it*.” “To serve and preserve it” is Hillel’s (1991) translation of the Hebrew words *l’ovdah ul’shomrah*, rendered “to dress it and keep it” in the more familiar King James version of the Old Testament. In the original Hebrew text, Adam is not given license to rule the environment and use it for his own purposes, but rather is charged with responsibility to nurture and protect God’s creation.

Aboriginal ways of living in intimate contact with the earth and experiencing its powers firsthand over thousands of years reinforced an awareness of the indissoluble link between humans and the soil. The same powerful forces were experienced by early Jews in the deserts of the Middle East; they bore the lash of hailstorms and gale-force winds, witnessed the fury of flash floods and fires, and suffered from severe droughts. Hillel (1991) explains that “Adam” is derived from *adama*, a Hebrew feminine noun meaning earth or soil. Adam’s name represents humanity’s inception and destiny: our livelihood flows from the soil, to which we are tethered throughout our lives, and to which we are destined to return at the end of our days. Adam’s mate is *Hava* (rendered “Eve” in translation) which literally means “living.” In the words of Genesis: “And the man called his wife Eve because she was *the mother of all living*.” Thus Adam and Eve collectively signify “soil and life.” Likewise, the ancient Greek term *homo*, is alliterative of *humus*, the stuff of life in the soil. These powerful metaphors suggest a very early European realization of a profound truth that humanity has since disregarded to its own detriment (Hillel 1991)!

Accordingly, the Bible, as one of the main founts of Western Civilization, presents two opposing perceptions of human destiny (Hillel 1991). One is anthropocentric: man is not part of nature but set above it as its absolute master, since nature was created for his gratification. The other view is more earthly and modest. Man is made of soil and is given a “living soul,” but his role is that of a humble steward. No mention is made of man being “the image of God,” nor of his being placed above nature. This view of humanity accords better with the modern ecological principle that no species can live in isolation. Its survival depends on its integration with nature. The very language we use today betrays a disdain for soil by referring to it as “dirt” (G. Dreck = dirt, filth, dung; ON. drit = excrement). Soil is thereby devalued, de-sanctified, and treated as unclean, rather than being recognized as the basic mechanism of purification in which wastes are decomposed and primary productivity is continually restored. As long as people remained hunters, herders, or subsistence farmers, they depended on their knowledge of the soil for their sustenance. People could not take the earth for granted.

For generations, the arrogant and narcissistic worldview implied in Genesis 1 has been dominant. It has repeatedly been deployed as a justification for unbridled and relentless human exploitation of the environment. In fact, our alienation from nature bred ignorance (Hillel 1991). Out of our ignorance eventually developed the delusion that our civilisation had risen above nature and set

itself free from resource constraints. Our daily habits of action are dominated by an implicit faith in perpetual progress, development, improvement, and a linear history that has both a beginning and even more glorious end. In the Judeo-Christian tradition the drama of life is teleological; it has a final purpose – human perfection - towards which it inevitably tends. By comparison, the worldviews of Aboriginal peoples (including early Europeans) tend to view history as an infinite spiral. The eternal cycle of nature returns us endlessly and inevitably to approximately the same starting conditions (Keen 1970).

It seems strange that any religion would sanction humans' right to unlimited mastery over nature since such a right necessarily includes human authority to destroy God's creation (Hillel 1991). "I own this land under God, hence I can do with it what I want" implies that God has abdicated responsibility for His own Creation, and that Man has become greater than God. First Nations have long been puzzled by the contradictions that exist within the Judeo-Christian theological tradition – amongst them, the contradiction that an all-loving, omnipotent and omniscient God would condemn and torment His Creatures. "Thou canst not but charge God with Tyranny," the Huron chief Adario reportedly argued with French visitors three centuries ago, "if thou believest that he Created but one single Man, with the intent to render him eternally Miserable amidst the Flames in the Centre of the Earth" (LaHontan 1703). Would God have condemned humans to suffering by commanding them to destroy the earth?

Although they observed precepts of faith and prayer, European settlers struck the prairies like a storm. They imported farming practices and farm animals best adapted to the moist forests and meadows of northern Europe, and struggled to make North American landscapes and ecosystems more European. Many came expecting to make their fortunes quickly, moreover, leading them to plough marginal lands, divert the region's meagre streams, overgraze pastures, over-utilize soils and wildlife, and over-extend themselves financially (Stewart 1936). An unusually severe winter struck the southern prairies from Kansas to Texas and New Mexico in 1885-86; in the wake of a generation of over-stocking the range and mining its soils of productivity, 85% of the cattle in the affected area perished in a few months.

British settlers had been led to believe that it was their duty to 'civilise' the country (Bailey and Bailey 1994). They read in books by European explorers that Native Americans lacked religion, law, or government; that they were indolent, unproductive, and neglected the land. Native plants, animals, and people represented a wilderness of chaos and savagery. The land must therefore be divided, fenced, and cultivated to tame it, and make it valuable. The same kind of fear, disdain, and arrogance had been expressed by the Roman legions as they conquered ancient France and Britain 2000 years ago. Latin civilisations disliked nature in the raw.

Another bias brought to the New World was "The Magic of Property" (Parker 1980). In 1492, feudalism had been the dominant system of European political organization for seven centuries, and many Europeans emigrated to North America to free themselves from feudal estates where their families were peasant farmers or serfs, condemned to perpetual landlessness and the caprice of feudal landlords. Later, as the Industrial Revolution began in Europe, the conditions in which many Europeans lived grew worse: they moved to factory towns and cities where they worked at

hazardous jobs for 72-hour weeks and lived in squalid and overcrowded tenements. For refugees from feudalism and industrialization, the idea of individual land ownership was intoxicating and addictive. A great many European settlers had little experience managing a farm, but very strong emotional reasons for demanding complete managerial independence once they owned one.

Reaction against feudalism and the excesses of early European industrialisation promoted ideals of individual freedom: the freedom of men to own their own bodies and the fruits of their labour, and the freedom to do what they pleased with lands they had wrested from Nature or from other men by their own labour. On the prairies, the Aboriginal cultural landscape of winding trails and stone circles quickly succumbed to a rectangular grid of fences and roads. Survey lines replaced mountains and rivers as spatial reference points. Prairie land became economic space – *acreage* - rather than a web of ecological relationships, journeys, stories, and sacred sites.

With time, new myths developed, including the myth of the frontier. Frontier mythology fed on the promise of riches the new land afforded, and idolised individual success (Nellis 1998; Donahue 1999). Even reckless, selfish, and cruel behaviour was admirable when it furthered the course of empire and bolstered profits. Although few settlers survived without some help from neighbours, churches, and government, depending on community cooperation and generosity was regarded as evidence of personal failure (Dick 1989). European settlers' search for individual freedom from Old World feudalism and poverty had evolved into a fetish of individual self-importance and alienation.

Settlers with their sedentary authoritarian social order replaced the nomadic, mobile social order of prairie First Nations. Relatively autonomous individual land ownership with fixed boundaries replaced more flexible communal governance of shifting and seasonal patterns of land use; exotic grasses replaced native grasses; fenced-in imported livestock replaced free-roaming bison; linear growth of production and exports replaced the sustainable seasonal round of resource use; Gross National Product replaced ecological sustainability; the Swiss bank account replaced neighbourly sharing, bartering and hospitality; the Big Bad Wolf of Little Riding Hood replaced the Medicine Wolf of the Blackfoot; singing in a quick shower with perfumed deodorant soap replaced praying for hours in the sweat lodge with sage and sweet grass. Modern-day prairie dwellers have moved away from a very personal, emotional, and local experience of the prairie landscape to living in a fabricated global reality seen on television.

Synthesis - A new prairie mythology

“The reality of any observed thing is a function of the frame of reference through which it is observed”

G.
Youngblood

“Every view that we take of the world is simply one way of looking at things and there are infinite ways of looking”

A. Watts

Western education predisposes us to think of knowledge in terms of written, preferably “digital” or mathematical information that can be systematized and passed on through lectures, books, and programmed courses. Knowledge is seen as something that can be purchased and accumulated by almost anyone if they have the resources to acquire books, attend classes, or browse the Internet. Among Indigenous peoples, by contrast, becoming wise requires a personal transformation. The knower and the known become irreversibly linked and changed in a fundamental way; they form a relationship (Peat 1995). It is possible to know the names, structures and chemical composition of all of the dominant prairie grasses without knowing their feeling under your bare feet, the way their smells change with temperature and humidity, or how their movements in the breeze can be interpreted as warnings of changes in the weather and the movements of animals. The immediate sensory experience of grass is practical as well as emotional and spiritual, yet it cannot be learned in books or in classrooms. It is described as **tacit, empathic** or **analog** knowledge (Barsh 1999), because it can only be discovered non-verbally through direct experience, using all of our senses: the whole of our being.

It has become increasingly clear from neurophysiological studies that our brains do not accumulate information in digital form, like the storage media used by computers, but rather by growing new synapses. Since the wiring of the brain grows more dense and complex until we are quite old, we apparently learn by forming more associations, and co-processing more sensory inputs. Although human language and mathematics are plainly very powerful tools for modelling the world around us and communicating our observations, our ability to think consciously in words and symbols is probably only a small part of our processing capacity. Indeed, recent studies using tomography to map the processing centres of the brain confirm that language use engages a rather small domain on one hemisphere of the cerebrum.

Every worldview is a story about the world and everything in it, a world in which human beings are deeply and inextricably interrelated with all other beings. Each worldview is tied to a unique locality and filled with its own spirituality. Within each locality, furthermore, much sophisticated knowledge evolved from years of collective experience, speculation, and trial and error, such as the insight that an extract of ground *Lithospermum ruderale* Lehm. seeds is effective to suppress the surge of hormones that ordinarily trigger human ovulation (Stone 1954). A large proportion of the plants used by Indigenous healers have exhibited the properties claimed in clinical and in vitro experiments (Barsh 1997b).

The scientific method relies on statistical analyses of the results of **replication** under controlled conditions. Valid scientific inferences can certainly also be derived from observations collected over very long periods of time. Time is a kind of replication; given enough time, most conditions will have been repeated often enough to distinguish their effects reliably. Much of the knowledge Indigenous peoples recorded in their oral traditions was derived from long-term observations and is genuinely scientific: it is empirical, experimental, and systematic (Barsh 1999). It may be true that Indigenous knowledge systems are skewed towards particular activities such as hunting and gathering, and may have limited reliability outside the particular landscapes in which the peoples concerned have been living. Nevertheless, for those particular

landscapes and species, Indigenous knowledge is the only baseline available to help us understand human ecological relationships in the past - and to fashion a new prairie mythology appropriate to the environment.

To Christians, the world as we know it is provisional; it is merely preparatory to a new order that will fully reveal the ultimate meaning of history (Grant 1984). Christian beliefs and practices aim to prepare humans for their passage, through death and resurrection, into the world that is to be. For First Nations, the meaning of existence was already fully revealed in the world we perceive, and the aim of religious practices and even prophetic movements was to maintain or restore the equilibrium inherent in nature. Religion in aboriginal America has been in the service of life, not of death. Christianity calls upon the faithful to repent for their participation in the present world, and to prepare for the next world (Grant 1984). First Nations sought a better alignment with the cosmos so that the world might continue: so that the sun would rise, moose would appear in due season, and fish swim and take the lure.

Hillel (1991) noted that we live in an age and culture that is very sensitive to human rights, but does not grant equal weight to human responsibilities. We insist on our human prerogatives, and neglect our obligations. One manifestation of this imbalance has been our tendency to separate religion from land, which enables us to pray for ourselves whilst declining responsibility for the care of the earth that actually feeds us. The belief that landscapes can be sacred remains virtually incomprehensible to most Euro-Americans. It is also a potential threat to the assumptions of an endlessly expansive materialist economy (Snyder 1990): if even small parcels of land are sacred, then they are forever removed from sale, exploitation, taxation. In addition, “the Canadian West was never opened so that poor Europeans might have a better life through having land of their own, although poor Europeans might be led to believe this. [Rather,] the West was opened for purely political and financial reasons: to keep the Americans from taking over this so-called empty area and to provide markets for eastern interests” (Butala 2000). Where do we go from here? Is the prairie simply a commodity belonging to us, or is it a community to which we belong?

Modern physics has shown that the concepts we use to describe nature are not actual features of reality, as we tend to believe, but reflections of our senses, our minds, and our languages (Capra 1975). They are parts of maps, and there can be many different ways of mapping the same “real” territory around us.

In the past, anthropologists imposed a variety of theoretical constructs upon the realities of First Nations to advance their own beliefs. Characterizing and classifying Indigenous cultures merely to debate different theoretical points of view within the academic elite of the Western world has been criticized as intellectual colonisation and expropriation (Swanson 1991). Conversely, anthropologists have often argued that they must retain their external theoretical perspectives in order to remain “scientific” and “objective.” Although they are seeking internal knowledge, they remain outsiders, pretending that they are not becoming subjectively (emotionally) involved with the peoples they study. The very act of going to another culture and using other human beings as

objects of arms-length study and analysis is quintessentially Western, and implies a position of superiority and dominance (Swanson 1991). Anthropologists have nonetheless helped document other worldviews that are legitimate, intelligent, and ethical on their own terms (Nelson 1983). Despite their pretensions of scientific objectivity, moreover, anthropologists have been moved by their experiences with Indigenous cultures to question many of the assumptions held tenaciously by their own culture.

Environmental policy and education are currently based on Western *beliefs* about nature, rather than empirical reality (Gómez-Pompa and Kaus 1992). Within the Euro-Canadian community a new worldview has developed that is centred on urbanism. Developing in a plastic, concrete and glass environment far removed from rural life on farms or ranches, it minimizes direct functional ties to - and spiritual bonding with - the natural world. Environmental education programmes are often strongly biased by elite urban perceptions and give priority to urban issues (Gómez-Pompa and Kaus 1992). The countryside is sacrificed to the growth and health of the city. Of course, the separation of city and country, or of culture and nature, is purely conceptual and cannot actually be achieved in biophysical terms!

What European settlers found in 1492 was an anthropogenic landscape in a relatively steady state with abiotic and biotic forces, including its human architects and stewards. The settlers then took their arrival as time zero, and superimposed their European economy on their own terms without suspecting that this might result in an ecological imbalance. The effect on the prairies was severe. Prairie grasses had survived lightning fires and human fires for thousands of years, and provided sustenance for millions of bison and as many as a million humans by dividing their stored energy between edible leaves and stems above ground, and fireproof perennial roots and runners below (Eisenberg 1998). Yet within two generations, European settlers needed to give a jolt of specious life to dying soil through injections of non-renewable energy in the form of fertilisers and fossil fuels. If somebody robs a store, Franklin (1990) argues, it is clearly a crime and the state is eager to punish the criminal. However, if somebody steals from the commons and from the future, it is rewarded as entrepreneurial activity: the state cheers and distributes tax concessions.

A Hopi living in Santa Fe, asked for his opinion on visiting tourists, replied that “life in general is a mystery. In the ceremonies as in life’s journey, there is a mystery beyond every door. We request the outsider to sit and watch and just experience the event, and in time they may come to understand” (Laxson 1991). The descendants of European settlers eventually began to understand what First Nations had already believed for hundreds of generations: the prairie landscape has a steady state of its own. Respect for this insight is gradually evolving as many farmers, ranchers, and other prairie people take steps to appreciate and protect plants, animals, and other resources. At a conference of Native American leaders and activists in Bozeman, Montana, Snyder (1990) heard a Crow elder say something like this: “You know, I think if people stay somewhere long enough - even white people - the spirits will begin to speak to them. It’s the power of the spirits coming up from the land. The spirits and the old powers aren’t lost, they just need people to be around long enough and the spirits will begin to influence them.”

Simmons (1997) notes that, “given the complex nature of human interaction with the natural environment, human valuation of land ethics is bound to be a complex phenomenon,” then asks: “Can we place an intrinsic value on land as an essential part in the life of each and every citizen? If so, how can we increase that value and encourage each citizen to embrace an ecosystem-based ethic?” Perhaps the greatest mischief of scientific materialism and explanation-by-reduction lies in its marginalisation of ethical concerns (Rowe 1989). By conceiving all things mechanistically and seeking meaning in the disassembled parts, modern science strips away all sense of intrinsic value; that is, the importance of things for their own sake, independent of their parts.

Non-agricultural peoples conceived of their home as an ecosystem or a web of ecosystems, not as a house or a bounded parcel of land. This has important ethical consequences, chief of which is a keen awareness of the existence of biophysical limitations (Downtown 1983). The rediscovery of our *place* within ecosystems must be introduced into the processes by which we govern ourselves and our activities. Burrowing owls and prairie dogs do not sit in our legislative councils, but we should deliberate as if they did; we must go beyond decision making based on the “dollar value” of grasslands as agricultural rent. Decision making that began by assigning a value to grasslands as whole functioning ecosystems would incline us to recreate an ecology that suited the land and climate. Downtown (1983) goes so far as to suggest that farmers’ accumulated debts be forgiven in exchange for their adoption of more ecologically balanced practices. A new vision grounded in the full realisation of *place* must replace the current interplay of human politics and vested interests that tend to make us short-sighted and, ultimately, ecologically self-destructive.

The present ecologic crisis will only worsen unless we abandon the Judeo-Christian axiom that nature has no purpose but to serve humans. This may be difficult as long as Canadians proudly display the territorially possessive motto *a mari usque ad mare*, and the United States cherishes its supposed attainment of its “Manifest Destiny.” White (1967) hypothesised that since the roots of our distress are largely religious, the remedy must also be essentially religious. Can Genesis 2 be wedded philosophically to Aboriginal creation stories? It is of particular interest that White’s (1967) article has inspired a new generation of Christian theologians and secular philosophers to explore the moral dimensions of the environment. Theologians in other religious traditions have also turned growing attention to environmental ethics (e.g. Timmerman 1990).

Just as Aboriginal peoples conceived of living in a particular place as one of many cooperating and competing beings, and European settlers imagined that they could separate themselves from the biosphere, we now seem to be moving towards a shared appreciation of our planet as a single complex organism: Gaia (the earth goddess of ancient Greece). In the wake of changing climates and catastrophes (such as the eruption of Mt. St. Helens) we see evidence that ecosystems can be adaptable and self-renewing – if we give them a chance (Dormaar and Smoliak 1985; Dormaar et al. 1990). If it is wrong to see the world as minute pieces, with people alone important, then what is right is to re-discover the world as a vastly complex organic whole, and to orient our decision making towards the maintenance of the whole (Rowe 1989).

A new relationship between human society and the prairie landscape is needed that will not only

be economically and ecologically sustainable, but morally, ethically and spiritually sustainable as well. Hence it is time to find a new story. We need to develop a myth for the 21st Century, that embeds us once again within a world of intricately connected forces and beings (Suzuki and McConnell 1997). If myths are traditional stories that tell us how we should live, we now need a myth of community, cooperation, tolerance, harmony, and interrelatedness based upon grounded experience, in which to acknowledge each other for our differences, and accept that landscape is more than a backdrop for the human drama. We need a culture that connects rather than devours.

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