



PRAIRIE ENVIRONMENTAL SERIES

SHIFTING REALITY PERCEPTIONS OF THE ENVIRONMENT

Slide 1 Overview Shifting Reality is the fourth of a six part series dealing with environmental resource management challenges in prairie Alberta.

Slide 2 Shifting Reality This talk sets out to illustrate how our beliefs and perceptions affect our actions toward the environment. The presentation uses examples from the works of others to show how our economic and religious beliefs affect how we look at the world. Some of the economic arguments draw on the work of William Rees, Professor and Director of the School of Community and Regional Planning at UBC. The historical landscape art interpretations present some of the work of Eugene Hargrove, Chair of the Department of Philosophy and Religious Studies at the University of North Texas.

The presentation will also show how our perception of the natural world has changed through time as a function of the technological and intellectual advances of our civilization.

Slide 3 Doh! With a few notable and well known exceptions, humans are an intellectual species. How we view ourselves, each other, and the world we live in is a function of what we think and believe.

Slide 4 Landscape with filters 1, 2, and 3 Its like using coloured filter lenses on a camera, we may be looking at the same object, but it sure seems different.

Slide 5 Tool Users Underlying our beliefs and perceptions, humans may have inherent propensities as a result of our long evolutionary history. Homo sapiens evolved as a tool user.

Slide 6 Hunter Gathers For tens of thousands of years we subsisted in hunter gatherer and patch disturbance societies. Using tools and disturbing landscapes may be 'hard wired' characteristics that underlie our beliefs and perceptions and influence our behavior at a fundamental level.

Slide 7 Homo Sapiens Economist Lets fast forward the evolutionary clock to the present. The economy permeates our modern consciousness. Every hour, on the hour, the latest breathless reports on the vagaries and fluctuations of the Dow and Nasdaq are given. On these fortunes hang dreams and hopes – jobs, homes, security, savings. The market report has joined the weather report as an indispensable barometer of our daily fortunes. Yet economics has always struggled with handling environmental considerations; things like waste disposal are considered 'externalities', sometimes also called 'market failures or leakages' an annoyance, external to the market transaction that detracts from the market's ability to perfectly allocate everything.

Slide 8 Economy and Environment In the economic worldview, the throughput growth economy assumes a growing economy and an infinite environment. Because the market perfectly allocates everything and because there are always substitutes, resource depletion is not a problem. Technology or substitution will ensure that depleted resources are no longer needed. And because the indicator of scarcity is price, the depleted resource will become more available than ever.

Slide 9 Economist's Conclusion This leads logically to the economist's conclusion.

Slide 10 Circular Economy To all intents and purposes the economy is a closed, circular system; self generating and self perpetuating, not especially connected to the rest of physical reality.

In the economic worldview, the environment is an “externality” – an inexhaustible source of resources and an inexhaustible sink for wastes.

Slide 11 Ecological Worldview Now, in the ecological worldview. We see the earth, which is (a.) a non-growing, finite body with only one input (b.) solar energy and one output (c.), heat loss.

Slide 12 Ecosphere and Economy When we put the two together we see that the economy is in fact embedded in the ecosphere; the human economy in fact is the way humans now interact with the ecosphere. What the ecosphere is predominantly doing through the photosynthesis of primary producers is taking simple, dispersed low grade chemicals (water and CO₂) and using the energy of the sun to produce complex resources that the economy runs on. The human economy is one of secondary production, extracting great quantities of high grade energy and materials and converting them to goods and services at tremendous thermodynamic loss.

Slide 13 Rees Quote Given this disconnect between economy and environment, it is not surprising that at a global scale, we are constantly assailed with depressing news about the various effects the human economy is having on the ecosphere.

Slide 14 Two Points So Point #1 is that modern market economies and economic growth, are poorly reconciled with our natural environment. Things were okay only so long as economies were small and the world was a big place. Point #2 is that the market economy is a human construct—it is one kind of ‘reality’, our natural environment is another.

Slide 15 Adam Smith The father of the modern economy, Adam Smith was himself the product of the Enlightenment, a period of history, sometimes also called ‘The Age of Reason’ which extended from about 1650 – 1800.

Slide 16 The Enlightenment Here are some of the key figures in the Enlightenment. All of the core values and beliefs that underpin modern secular society were forged during the Enlightenment: the power of reason, science, technology, progress, human rights.

Slide 17 Humanism Perhaps the most fundamental legacy of this period is our enduring commitment to humanism—a belief in the power of our own reason to solve all our problems.

Slide 18 Humanism (Descartes) The Enlightenment was ushered in by the 17th century French philosopher and mathematician Rene Descartes who proposed in his Discourse on Method, 1637 that mind and matter were ‘dual realms’, noting that humans have made special claim to the realm of the mind, and indeed were destined to be ‘masters and possessors of nature’. This helps explain the uncomfortable relationship between economic and ecological systems; its also a valuable caution to us in our humanistic arrogance not to forget that we are living in the realm of matter, even when we are operating in the realm of the mind.

Slide 19 Why Smart People I came across a great example of this in the Journal of Ecological Economics. Herman Daly quotes the response of three leading economists to the issue of the potential effect of climate change on agricultural productivity.

Slide 20 Belief Lets move on to spiritual beliefs. This is dangerous territory at any time, especially in southern Alberta, and especially for me, whose only outstanding credential to speak to the subject is to be a fine example of fallen, broken, suffering humanity. There is a huge and growing body of writings that deal with humans and nature in many different faith traditions. I want to take a quick look at Christianity, especially the creation stories in the Book of Genesis, as Christianity was the dominant faith tradition at the time of the European conquest and settlement of North America.

Slide 21 Go Forth This is the ball and chain inherited as the “go forth, subdue and dominate” mandate of the Judeo-Christian tradition. When this is taken at face value and put together with the views of the Enlightenment about the separation of man and nature and the dominance of man over nature (views that came into currency in Europe at the time of the beginning of the rural - urban migrations and the Industrial Revolution and the beginning of the settlement of the New World) then we have a combination which provided potent theological and humanistic justification for the exercise of human domination over nature. It is also important to recognize honestly that the Bible is predominantly concerned about human beings and their relationship to God, not about nature or peoples’ relationship to nature.

Slide 22 And God Saw But the Bible does present a God who delights in nature.

Slide 23 Psalm Who visits the earth in the rain.

Slide 24 Psalm Whose creation sings with joy.

Slide 25 Job Whose animals can teach us wisdom.

Slide 26 Proverbs and Isaiah Who rejoices in the work of Creation *and* covenants with humankind to safeguard it.

Slide 27 Matthew And who clothes the lilies in more grandeur than Solomon in his royal splendor.

Slide 28 The Good Shepherd Likewise, Jesus was very much in tune with the natural world. He taught using parables relating to seeds, growth and harvest, sparrows, fish and trees. Most references to the ministry of Jesus in the gospels have him out of doors—in the hills above the sea of Galilee, on the mountain, in the wilderness, in the garden: his entire life and teaching was filled by the world of nature.

Slide 29 Adam and Eve Modern biblical understanding of the creation passages in the first two chapters of Genesis see the ‘subdue and dominate’ verse as a bestowment of responsibility and a charge to stewardship; not a license for exploitation and destruction.

The very word Adam means ‘soil’ in Hebrew and Eve means ‘living’. So Adam and Eve are ‘Soil and Life’—our physical lives are tied to the soil, to which we are bound throughout life and to which we return at the end of our days.

Slide 30 Creation of Stars and Planets The Creation story is all about God creating light and *dark*, water and land, grasses, herbs and trees, stars and seasons, sun and moon, mammals, birds and fishes and people. And rejoicing in all of it, individually and collectively.

Slide 31 Christ in the Desert Throughout the history of the church, wilderness has played a special role as a backdrop for events of extreme spiritual significance. It can be difficult to find God in the clutter of cultural and urban settings. Immediately following his baptism, Jesus entered the Judean wilderness to be tested. In the harsh and unforgiving wilderness, tormented by Satan, Christ’s allegiance to God’s will survived temptation.

Slide 32 Christian Monasticism Early Christian hermits practiced asceticism in the Egyptian Desert, beginning in the 3rd century; a practice that led to the founding of Christian monasticism. The ‘desert fathers’ tradition has a long history in the Middle East.

Slide 33 Christ in the Desert The tradition remains very much alive in North America.

Slide 34 Radium Even today, it is not uncommon to see Scriptural quotations in front of majestic views. For Christian theologians involved in biblical scholarship, the bottom line is that God created, and loves his Creation. The earth’s bounty was given to humans as an act of God’s grace, not as booty to be plundered. We are custodians; charged with the stewardship of God’s Creation. Despoiling nature and abusing each other are opposite sides of the same coin; both demonstrate our unworthiness, brokenness and need for God’s redemptive grace.

Having shown that peoples' perceptions of nature are strongly linked to our evolution and economic, humanistic and spiritual beliefs, let's now look at how these perceptions have changed dramatically over time.

Slide 35 British Isles I will focus predominantly on North America, but will start with the UK because it was from Britain and Europe that North America was settled. At that time these Old World landscapes were already tamed, modified and lived in. In Britain:

Slide 36 Moorlands In the 18th century when the Americas began to be settled, moorland dominated the landscape in the wetter, upland parts of the British Isles. These landscapes are a product of Neolithic clearings on poor soils followed by an increase in precipitation leading to the development of peat bogs, acidification and leached soils that were unable to sustain woodland cover. The moors expanded...

Slide 37 Field systems The development of field systems for settled agriculture through a series of enclosure movements which lasted up to the 1800's marked a change from subsistence to commercial farming. Although these enclosures transformed the native landscape; the stone walls and green fields that were created are to our eyes today one of the most aesthetically pleasing features of the English landscape and hedgerows are now one of rural England's primary sources of biodiversity.

Slide 38 Clearing Woodlands The native mixed woodlands which dominated the vegetative cover of most of the British Isles were cleared over the course of many centuries to establish subsistence agriculture, to provide wood for fuel and timber for ships to fight a long succession of French and Spanish wars.

Slide 39 William Wordsworth It was also close to my own home place, the English Lake District where the Lake Poets William Wordsworth, Samuel Taylor Coleridge and Robert Southey were central figures in the Period of Romanticism (1798-1832) (sometimes called the Age of Passion), which followed and in some ways was a reaction to the Enlightenment.

The Romantics were the first to express joy and delight in unspoiled scenery. They saw people as part of the organic world and saw nature as an expression of the Divine.

Slide 40 Medieval Landscape Painting Appreciation of nature as an aesthetic was not common before the Romantic period; people eked out their existence in the landscape and saw no great beauty in it. Medieval aristocratic landscape painters often presented forests as dark, grim, unpleasant places.

Slide 41 Rustic Human Landscapes Even the rustic "naturalist" landscape artists of the early 1800's were painting cultural, civilized landscapes. In these works, the aesthetic comes from the 'perfect' arrangement of features – house, trees, fields, wagon, boat. These works extol the handiwork of man, not nature.

Slide 42 New England Coast All of this historical baggage, which affected how people perceived the landscapes that they lived in, came to America on the 'Mayflower'. The Puritans dubbed New England's rocky coast and tangled forests as 'the Lord's waste'. They brought their European perceptions with them on the 'Mayflower'.

Slide 43 A Moral and Physical Wasteland Uninhabited forests and vast open arid plains were threatening environments and the North American ones held the added risk of being full of primitive, heathen savages. Civilization would be brought to this continent only by conquering this moral and physical wasteland.

Slide 44 Walled Paradise People saw nature as fierce and cruel, whereas European landscapes had been tamed and civilized. The very word 'paradise' is a Persian word meaning walled enclosures. Putting walls around a garden to tame wild nature created paradise.

Slide 45 Capability Brown Landscape architecture and formal gardens were another early European export to the Americas.

Slide 46 Unfathomable Modern Art I will use art to illustrate my next points because up until the 20th century when everything changed, a very good way of ascertaining how people perceived landscapes is to look at the pictures they painted.

Slide 47 New Place, Old Thoughts Little art survives from the early colonial period and many painters, had a hard time getting European images out of their minds.

Slide 48 Theme Pointing by Robert Cole

(Cole, *Expulsion from the Garden of Eden*) They also engaged in a lot of theme *painting*—note the light and dark, the ‘paradise’ garden and the jagged wilderness.

(Cole – *Pilgrim at end journey*) At the end, out of dark and disorder, and into life and order. What we are seeing in these pictures are sublime landscapes. Sublime was not a word used in a very favourable restaurant review, rather the word carried connotations of terror and excitement; jagged rock formations and stormy skies.

(Cole, *The Voyage of life: Manhood*) Not an easy journey through life.

Slide 49, Taming North America Waging against the sublime was the civilizing influence of settlement, slowly transforming a wild landscape.

Settlement and light replacing wilderness and dark. And Daniel Boone, bravely leading the settlers through a terrifying land.

Slide 50 Manifest Destiny These views are tied up with the American ideal of Manifest Destiny. The painting “Manifest Destiny” is not a great piece of art, but it marvelously captures the mid 19th Century American worldview.

Slide 51 Liminson Painters of Hudson River School struggled to interpret a new and strange landscape, but it would be wrong to say they did not appreciate it, or even come to love its wildness, and so romantic and spiritual elements find their way into North American art:

(Peale, *Noah and the Arc*) Peale, *Noah and the Arc* – the beam from heaven indicates the presence of God in the Natural World. Luminism finds its way into landscapes.

(Cole – *A Wild Scene*) Cole – *A Wild Scene*. Note the sublime elements, but also light on the waterfall.

(Bierstadt – *Sierra Nevada Morning*) Bierstadt – *Sierra Nevada Morning* – God is present in and one with nature.

(Gifford – *Kauterskill Falls*) Gifford – *Kauterskill Falls*—and eventually even wilderness begins to look pastoral and dreamy.

Slide 52 Early Industrial Footprint Ultimately artists began to struggle with depicting human transformation of the landscape in sympathetic terms. This 1855 painting was commissioned by the Lackawanna Valley Railway Company. Innes wasn’t thrilled by the commission and although he tries to render a pleasing image; he clearly struggled with the task.

Slide 53 Canadian Missionaries (Luc, c1675) A similar pattern repeated itself in Canada. The earliest Canadian art was religious in theme. These pictures were painted to help the missionaries teach the faith to the Indians. Note the European features on the face of the native kneeling before the queen-like figure wearing the Fleur de Lys gown, and the idealized landscape.

Slide 54 Beaver City (Moll, 1917) Other early art was often completely fanciful as in this engraving of the beaver nation busy at work building dams in the vicinity of Niagara Falls. Work like this was based on explorers’ accounts and intended to satisfy the appetite of a curious and amazed European audience.

Slide 55 Portaging (Portaging a Canoe and Baggage, National Archives) New Canadian artists also often saw their country and its inhabitants through European eyes.

Slide 56 Canadian Wilderness (Raphael, 1870) We also have our fair share of depictions of the wild, sublime and dangerous characteristics of this immense wilderness that people found themselves in.

Slide 57 A Settled and Ordered Landscape (Cockburn, 1833; Whale, 1853; Petitot, c1870s) The virtues of a settled and ordered *landscape* were commonly depicted in the mid-1800's.

Slide 58 An Inspirational Landscape (Verner, 1973 O'Brien, 1880 Kreighoff, 1963) But we also see diverse images of this wild land that are wistful, suffused with light and emotional appeal.

Slide 59 New Perceptions (Davies, 1789) We also have a rich legacy of art by people who struggled to interpret and appreciate this vast wild land on its own terms, starting with the work of the British army topographer Thomas Davies. Absent from Davies' landscapes are any European sensibilities regarding the harshness or terror of North American views. *Davies* saw this new land with sharp, clear eyes and had an eye for detail and pattern.

Slide 60 Group of Seven Moving into the first part of the twentieth century, we have some very well known artists who were powerfully moved by the raw force and impact of the Canadian landscape. The Group of Seven (Group of Seven, c1920) rendered vivid interpretations of bare Laurentian Shield, lonely skies, dark pines, solitary lakes and rivers, and autumn colours (Carmichael, 1917; Jeffreys, 1911; Harris, 1914; Lismer, 1921, Lismer, 1915).

Slide 61 Emily Carr On the west coast, Emily Carr struggled lifelong, wrestling with the spirit of the northland to interpret the forests, fjords and indian culture of B.C.

Slide 62 Carr Quote "I sat before the woods, lost, frustrated. I had let myself be bound. It was not the handling of the print, but the handling of thoughts which overwhelmed me".

Slide 63 Millman Quote Neither the Group of Seven nor Carr were 'painting scenery'. Rather, they were engaged in a wrenching and tumultuous relationship of great vitality and force.

Slide 64 The Lake Poets The artistic evolution of responses to nature occurred first in Europe and was subsequently paralleled in North America. The work of the English Lake Poets is permeated by a sense of the human relationship to nature that is religious in its scope and intensity.

Slide 65 Shelley To the Lake poets, God was everywhere manifest in the harmony of nature; their work reflects the deep kinship between nature and the soul of humankind.

Slide 66 Wilderness Landscape (Hill, View of Yosemite) We eventually see exactly the same response in north America, but without the soft, romantic edges. The difference is obvious: the Brits were responding to tamed, settled, pastoral landscapes, and the north Americans, once they got their heads around it, to wilderness and native tribal cultures.

Slide 67 Nash Quote By the end of the 19th century Americans began to see that the wilderness frontier that had shaped their national character was disappearing—without wild country, the concepts of pioneer and frontier are meaningless.

Moran Wilderness Landscape (Teton Range) (Grand Canyon of Yellowstone) Representational images were used to sell Americans on the value of setting aside parks. In the U.S.A., virtually every national object painted by a nationally recognized artist in the 19th century is now either a national park or a national monument.

Slide 69 Wilderness Advocacy Spectacular images continue to be used effectively to promote the cause of wilderness preservation.

Slide 70 Recap Recapping the main elements of the presentation (Recap). We have looked at humanity's evolution as a tool user and patch disturbance species, contrasted contemporary

economic and ecological worldviews, reviewed the importance of the Enlightenment in forging our humanism and attitudes to nature and looked at the contrasting spiritual messages associated with Christianity. Finally we have explored how our view of landscapes has changed over time and is influenced by our exposure to cultural or wilderness settings and how this has expressed itself in landscape painting and the wilderness ethic.

Slide 71 Hello and Goodbye Our personal passage through this world is relatively brief. We wink into existence and are immediately exposed to its technology. All too soon we succumb to the frailties that flesh is heir to and shuffle off this mortal coil. In the intervening period – regardless of whether we have any personal interest in history, religion or art – the factors that we have just reviewed permeate our societal worldview and powerfully affect how we perceive and relate to the world.

How strongly or weakly any of these factors influence us personally is highly variable, depending on our make-up, background and interests.

Slide 72 Unequal Struggle But for society as a whole it's fair to observe that the competing World Views are unequally matched. While there may be moral, spiritual or intellectual merit to behaving with reverence and humility to the physical world, the dominant drivers in our society clearly support landscape transformation and the acquisition of wealth.

Slide 73, 74 and 75 Key Messages

Evolutionary history has predisposed humanity to using tools and disturbing landscapes.

Modern market economics are poorly reconciled with the natural environment. Economic development has impaired environmental quality.

The economy is a human construct. The natural environment is not. Both are forms of 'reality'.

Human intellectual and societal evolution continues. Currently, people believe the power of our own reason will solve all our problems.

Most people are increasingly engaged with intellectual activity in our minds, rather than physical activity on the land. The apparent importance of our connection to the natural environment is diminishing in human consciousness.

Most Christian theologians involved in biblical scholarship see the earth and all of its physical components and living inhabitants as created by God. Humans have been charged by God with stewardship responsibility for God's Creation. How we treat each other and God's Creation, are litmus tests of our spiritual development toward what God wants us to be.

Artistic aesthetic appreciation of nature is a relatively recent phenomenon. Landscapes that were perceived as terrifying are now seen as inspiring. An affinity for wild landscapes is a North American characteristic.

Our perceptions of the natural world influence how we view and interact with the environment.

World views vary considerably; some world views are sympathetic towards the environment, others are not. World views can collide with each other.

Different perceptions of the natural world have come into existence throughout human history; world views originate from every sphere of human life.

Our perceptions of our world are coloured by our economic, and religious beliefs. As creative development of our civilization continues to evolve we will continue to build on our current understandings and our perceptions will continue to change.

Slide 76 Common Image We look at the same things; once we've accounted for variation in our optical equipment due to short sightedness, astigmatism or cataracts; its fair to assume that a

common image is received as photons pass through the lens of our eyes and are transmitted by the retina to the brain.

What happens there, however, is entirely up to what processing takes place. What we perceive is influenced by our being part of the human race at a particular stage in its development, by our humanism and economic rationalism, by our spiritual beliefs, and by our life's experiences.

Slide 77 Escher We typically do not analyze our perceptions. They seem okay, but when we actually look at them closely we may be surprized by what we find.

Slide 78 The End We can all look at a scenery and variously perceive grandeur or terror, beauty or horror, feel inspiration or complete indifference. Or, even more disturbing, we can all see a pretty image, but discount it as an externality because it gets in the way of our material and economic advancement.