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# The Right and the Good: Communicating environmental issues

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## Abstract

What we see is partially dependent on what we are shown. As communicators, we have a duty to inform and educate and lead. As environmental communicators we have the privilege of explaining how the various parts of our natural world work, individually, in unison, and in relationship to people. By examining two specific areas of growing global concerns, this paper provides an analytic tool and starts a discussion as to what should be guiding decisions concerning major environmental questions. The first growing global concern discussed is tailings ponds in Northern Alberta's oil sands. The second is the large bodies of air pollution in Asia. In both cases, (Good) short term decisions that benefit a few have led to large environmental concerns. Should humanity be worried about our future? Could (Right) long-term, sustainable, and inclusive decisions lead to more manageable environmental challenges? To be a communicator in the real world it is important to know and differentiate between the Good and the Right. Good and Right communications in environmental issues support daily or frequent acts concerning any or all of three critical areas: sustainability, conservation, and climate change. Questions are addressed. Where are people now with respect to environment, how did we get here, and what are the pros and cons of changing from Good to Right solutions? By looking at one individual's choice, readers see that Good and Right decisions do not have to be mutually exclusive.

## Introduction

### ***"Relativity applies to physics, not ethics" - Albert Einstein (1879-1955)***

Why worry? Populations and economies are growing. Food is available. People are healthy, and if people are not, healthcare is available. Society is making Good decisions that satisfy current needs and keep concerns away. Major challenges, such as environmental sustainability, seem far away and do not really affect us. Why worry?

Norton (1982) points out that the world functions as a large integrated system. Technical or Good corrective measures that keep things working in the short term usually cause other problems in connected systems (McEwen, 1984, p. 19). Incidences of regional pollution amplify if ignored. Recent stories of increasing air pollution in Asia and other parts of the world are indications. Some products of industry and mining such as oil sands wastes are being collected until technology can be created to handle the new toxins (if these toxins can be handled). In this way small concerns have become worldwide environmental worries. This paper focuses on two specific areas of these growing global concerns.

The first area of focus is tailings ponds in Northern Alberta's oil sands. Tailings are wastes that will need to be dealt with by future generations, who do not benefit from the oil sands that the world uses now. The second area of focus is the large bodies of air pollution in Asia that are threatening air quality of neighboring states and possibly the world. In this case, some people who suffer the consequences do not receive benefits of the actions that create the pollution. In both cases, Good short term decisions that benefit a few have led to large environmental concerns, environmental concerns which become the responsibility of others. Could (Right) long-term decisions, which are sustainable and inclusive, lead to more manageable environmental challenges? If so, how does society move from making Good to Right decisions?

Dr. Gwynne Dyer (2014) provides some insight into the conditions that have contributed to a paradigm shift in another social concern. Rather than war with pollution, Dyer is concerned with war between people. Dr. Dyer is an officer of the Order of Canada, freelance journalist, columnist, broadcaster and lecturer on international affairs. He spoke in Edmonton as part of Athabasca University's *Focused on the future of Learning series*, titled "What the First World War Taught Us." Dyer said,

“Before that war, doing battle to settle disputes was not really considered a problem. It was just a cost of doing business” (March 19, 2014).

Battles were considered in a similar manner as pollution and environmental concerns are considered today. Armies that were small in number fought conflicts, infantry were men unable to make a living any other way, and weapons had limited killing power. “War was someplace else, it affected other people” (Dyer, 2014); so, why worry? World War One changed attitudes. Armies are now huge. People fighting are our children (specialized and very well trained), and weapons are precise, expensive, and lethal. War now affects everyone (Dyer, 2014). *Looking at the decisions being made about our living environment, can comparisons be drawn?*

Pre-industrialization pollution was natural, dispersed, and tiny in comparison to the life-threatening and toxic wastes humankind creates today. Battles fought for the environment were considered simple skirmishes, a “cost of business.” Incursions happened on small and usually sparsely populated areas. Today, all of humanity is engaged in the war. Environmental issues now affect everyone. This paper provides an analytic tool to start a discussion as to what really should guide answers to major environmental questions.

### **Discussion**

Applying aspects of recent examples to historic decisions indicate trends in environmental stewardship and demonstrate a growth and a connection between the beginning of human conservation efforts and now. Connecting decisions show how the Right and Good of communicating environmental issues support daily or frequent acts concerning sustainability, conservation, and climate change.

### **Right and Good**

Dr. William Meacham (2011) provides an effective definition of terms in “The Good and The Right.” According to Meacham, something is Right if it adheres to laws or rules that have been decided because humans live in groups and require organization and regulations that help us get along. Rules ensure equality (among those involved) and quality (of things involved) are maintained. Society as a whole decides what is Right. Being Right is decided upon by one’s conformance to the social rules, or by doing one’s duty according to personal beliefs. However, Good decisions achieve a goal or target for only one group within society. Being Good means a desire is satisfied for a group and not the whole of society (Meacham, 2011, para. 1-21).

An example of a Good decision is a person walking across an empty street while “don’t walk” flashes on the crosswalk signal. This person reaches the goal of crossing the street faster. The Right thing, conforming to the societal rule of obeying the crosswalk signal, is considered unnecessary at that time. The debate in Canada’s parliament about reducing the penalty for marijuana possession is another example. Josh Wingrove of *The Globe and Mail* quotes Alan Young, an associate professor at York University’s Osgoode Hall Law School: “The police [responsible for enforcing laws] turn a blind eye to marijuana quite often because they really don’t believe it’s a serious crime” (March 5, 2014). In this case, police are doing the Good thing by deciding to ignore a law. At the same time they are doing the Right thing by cooperating with lawmakers so that the law can be changed. Police see the law as ineffective and unnecessarily harmful to those charged. Government, representing all of society, is now reassessing the law.

Good decisions in the environment assume problems as challenges to be met and overcome by an individual, group, or organization. These are competitive in that the first group to solve the challenge can sell the solution. Engineers, for example, may be employed to resolve a problem without addressing the terms that lead to the problem in the first place. This Good solution presumes that humans are in control of systems. The thinking seems to be that if a problem presents itself, society can solve it.

Right decisions are aimed at preventing environmental challenges from becoming problems by setting either rules and regulations or limits (thresholds) for pollutants. Following these dictates is meant to balance all aspects of economy, environment, and ecology. Right decisions include all points-of-view and are re-examined when new evidence is discovered. These are cooperative and assume that human beings are members of the environmental ecology. The idea has history.

In 1967, Lynn White argued, in her article in *Science* titled “The Historical Roots of Our Ecological Crisis,” that western society must step away from our sense of superiority and obtain a partnership with nature. White suggests that the ideals that allow western society to arrogantly use nature are Christian and neo-Christian in origin and so people should be converted to a new belief (pp. 1205-1207).

John Passmore (1974) provides a conclusion similar to White’s 1967 argument in his book, *Man’s Responsibility for Nature*. He writes on the history of moral judgment according to Aldo Leopold who published thirty-five years earlier in 1949. Passmore’s descriptions of the development of human, environmental decision-making can be stated as follows:

1. Ten Commandments (treatment of other individuals)

2. Societal duties (actions within a group apart from the individual)
3. Human to Non-human relationships (ethical interactions with land, animals, and plants).

### **Applying Right and Good Communications**

Dr. Gordon Gow, Associate Professor and Director of Communications and Technology in the University of Alberta, writes: “Communication is at the heart of what we do in our personal and professional lives. To study ...[it]... is to come to better understanding of the social practices, institutions, and policies that shape our world” (Crookes *et al.* (ed), 2014, p.3).

Because communications help us understand the world, the difference between Right and Good messages are especially relevant when practicing environmental communications. According to Meacham (2011), concepts of the Right and the Good “apply to what one should do, and often the debate is really about persuading someone to act in a certain way” (Meacham, 2011, para. 22).

What happens in a situation where harm is clearly done and may continue to happen? Many environmental situations, including those in this article, such as China’s unchecked air pollution or north east Alberta’s growing tailings ponds of highly toxic waste products can be described as such. *Recent degradation in air and water quality suggests that there is something to worry about.* Preventing the ruin of humankind’s ecosystems is something that involves everyone, including our children. Humankind’s environmental decision-making history and advantages and disadvantages of Right and Good decisions are provided in the following quick overview of environmental development.

### **Historical Perspective**

Humans first existed harmoniously with nature. Small, dispersed groups hunted and gathered and caused little damage to the environment. Wastes or pollutants were natural, widely spread, and easily absorbed (McEwen, 1984, pp. 15-23).

As human numbers increased, some became agricultural. Food surpluses were stored or traded for protection or goods. People interacted and societies expanded; cultures organized. Populations grew with prosperity. Eventually numbers of people overcame resources. Paul and Anne Ehrlich, authors of *The Population Explosion*, use the term ‘overpopulation’ to describe this situation (1990, pp. 37-40).

Overpopulation and the illness and suffering it caused in England before the Industrial Revolution spurred Thomas Malthus to write *An Essay on the Principle of Population* (1826). Because of his ideas Malthus is now considered the father of an

environmental movement that is known as *limits to growth*. In his 1826 essay, Malthus stresses that the Right thing to do is to maintain a population equal to its food production. Doing what is Good, such as constantly satisfying sexual urges, will overpopulate. “Population,” Malthus writes, “must always be kept ... to the level of the means of subsistence” (1826, p. 4, Preface).

After Malthus penned his principals and pointed to population problems, the industrial revolution in the mid 1800’s solved stresses by making more and varied resources available. Resources and consumption increased. Society called for and utilised new technologies, the economy improved, people got jobs, and money was made. “In 1846, Abraham Gesner began developing kerosene, a cleaner-burning alternative. By the end of the century, whale oil cost less than it did in 1831” (Lahart, Barta, & Batson, 2008, para. 13). The majority could afford to eat. However, more intense use of the earth’s resources modified earth systems, changed the way people live, and detracted from quality of life because moral and societal rules, as well as environmental conditions suffered (Lahart, Barta, & Batson, 2008).

Deteriorating air and water, as well as improving food production techniques and more use of automated machines led society to renewed thoughts of unlimited natural resources. Those who believed in these limits became known as Malthusians. Wide spread starvation decreased, and visions of a prosperous and powerful future increased. The threat of limits diminished. Malthusians’ theories were ridiculed. Lahart, Barta, and Batson (2008) quote Joseph Stiglitz to show attitudes towards Malthusian theories. “There is not a persuasive case to be made,” they write, “that we face a problem from the exhaustion of our resources in the short or medium run” (2008, para. 15).

Malthusian, or what became Neo-Malthusian, ideas took on renewed interest in the early 1970s after the 1972 book “The Limits to Growth” by Donella Meadows was published. The book’s subject matter was discussed at the 1972 first Club of Rome – according to its web site is an informal association of international, independent leading personalities from politics, business, and science, contributing systemic, interdisciplinary, holistic ways to a better world (Club of Rome).

In 1972 the Club of Rome predicted that if rapid growth continued, there would be a sudden and uncontrollable decline in population and industrial capacity. However, technological advances and reversing trends (society doing the Right thing), which arguably came about because of the Club of Rome predictions, affected outcomes. Despite the five key areas: population, agricultural production, natural resources, industrial production, and pollution not collapsing, one mathematical calculation made remained indisputable (Randers et al., 2013).

“Continued exponential growth is not sustainable indefinitely” (Randers et al., 2013). According to the experts at the 2013 Limits to Growth conference, the world has gone beyond the point where the environment can maintain its present form: the point of Inflection. The mathematical projection introduced at the conference indicates that society’s unchecked growth is breaching thresholds. Today, pollution has reached unprecedented levels; levels that are quickly approaching upper limits in which natural cycles, individual environments, and humans can adjust. Even though changes point to these limits, there are those who see things differently.

### **Gains and Losses**

New energy sources, virtual intelligence, and advances in science, medicine, agriculture, and society hold much promise. Increasing knowledge allows people to live longer and produce more goods in less time. We truly live as “Cornucopians,” a term used by Alex C. Michalos (1981). He suggests that as one resource depletes, civilization move on to another. However, these extended powers, increased knowledge, and other advances seem to disconnect people from values.

Cornucopian interpretation of environmental history is either Good or Not Good depending upon perspective. On one hand, history shows progress. On the other hand, advances are over shadowed by environmental degradation, health concerns, and cultural or financial imbalances. On the Good side, governments are described as dynamic when setting goals, identifying problems, and putting resources towards meeting short-term goals and solutions. However, this ignores the interconnectivity of global systems. The two sides, the Right and the Good, continue to be at odds (Muir, Oct. 4, 2011; Cornucopian versus New Malthusian perspectives).

Cornucopian’ resources are unlimited, deplete one and another is found. However, Garrett Harding, author of *Tragedy of the Commons* (1978), refers to Good decision making as “rushing to ruin” in a limited world. Using this “good” model, according to Harding (1978), humans moved from one self-destructive episode to another.

According to Dragos (2009), in an article titled *Julian Simon and the “Limits to Growth” Neo-Malthusianism*, in the Electronic Journal of Sustainable Resources, Julian Simon joined the debate in the second half of the twentieth century. Malthusian or neo-Malthusians believed in clear-cut, limiting condition on growth. Simon suggested that people are resource creators, not destroyers. Dragos (2009) goes on to write that Simon believed that imagination would find solutions to challenges. *Are we the masters of our destiny?*

Roger Pielke Jr. (2014) professor of environmental studies and Director of the Center for Science and Technology Policy Research, University of Colorado at Boulder, and John de Graaf (2014), co-author of bestseller *Affluenza*, and *What's the Economy For Anyway?* debate whether no economic growth is Right. The article titled, "Can we have prosperity without growth?" in *Chinadialog* (Pielke Jr. & de Graaf, March 27, 2014) presents convincing arguments.

Pielke Jr. (2014) divides anti-growth advocates into three types: "Neo-Malthusian" (want limits on population), "Peak Earther" (preach efficiency gains and substitution, as a solution to resource constraints), or "Luddite" (search for a way to stop the effects of technology on the economy). Sustainable growth, Pielke Jr. writes, is clearly not anti-growth. He provides statistics explaining that most growth occurs today in poor countries. He writes that arguments against growth are statements of anti-growth with respect to poor countries. Few if any people are actually saying that, he adds. Defining the three groups, Pielke Jr. writes, helps focus debates empirically or theoretically (Pielke Jr. & de Graaf, March 27, 2014).

John de Graaf's (2014) discussions echo that of Randers et al., made at the 2013 *Limits to Growth Conference*, "We can't grow on like this," de Graaf (2014) writes. By using geologic and historic events, de Graaf (2014) shows how little time humans have taken to reduce fisheries, fossil fuels, and soils by half while causing the extinction of countless species and bringing us dangerously close to changing the climate. de Graaf (2014) points to "Jevons Paradox," which states more efficient energy use just makes us want to use more; de Graaf (2014) also refers to economist Stefano Bartolini who suggests that rapid economic growth is more a symptom of social decay than dynamism. Increasing growth leads to longer working hours and loss of natural habitat. Humans alleviate loss of nature by taking flights to gorgeous tropical beaches thereby depleting resources and speeding climate change. The argument being made by de Graaf (2014) also states that wealth is in the hands of few. Because of this, de Graaf (2014) writes, continued growth only serves to make the rich and poor more so. Marx, Keynes and other economists are also discussed to make his point. Share jobs, work less, and enjoy life. The piece ends with de Graaf (2014) quoting from a speech by Lyndon Johnson, "A Great Society would judge itself not by the quantity of its goods, but the quality of its goals" (Pielke R. Jr. & de Graaf J., March 27, 2014; Johnson, May22, 1964, para. 7).

Arguments expressed by de Graaf (2014) manifest themselves in such movements as The Degrowth paradigm. Richard Swift, author and essayist, examined this paradigm on an episode of *Ideas* on CBC Radio hosted by P. Kennedy, December 10, 2013.



On the program, advocates of Degrowth argue that a finite planet cannot continue to grow infinitely. Program participants suggest a paradigm shift from one of constant growth to a goal of an equitable and sustainable life. However, according to Swift on the CBC program *Ideas in the Afternoon*, the growing movement preaches and practices a more modest and sane alternative to constant expansion. The difficulty though, Swift explains is that it is difficult to maintain a sharable lifestyle in the real world of specialists, (Kennedy P. – Host, Monday March 24, 2014: 2 PM; The Degrowth Paradigm, *Ideas in the Afternoon*, CBC Radio One).

Sayre (1981) suggests that a society is guided by self-interest. Producers supply consumers with affordable goods, therefore cheap labour and dependable energy supply are necessities. This self-interested relationship is self-destructive in a number of ways. The consumption of goods and the use of energy such as tailing ponds in Oil Sands production or Air pollution from burning fossil fuels create waste or pollutants. The storage of wastes and pollutants and the mining, transportation, and refinement of energy products interfere with or change ecological balances and increase the possibility of human conflicts. Struggles resulting from resource shortages are well documented.

In 2008, Lahart, Barta, and Batson discussed the renewal of the Malthusian limits in an article in *the Wall Street Journal* (March 24). Waning reserves limit growth, while the acquisition of resources to fill the void poses other threats. The article describes major world powers vying for access to energy rich but politically unstable countries to ensure future energy and mineral supplies. Lahart et al. (2008), refer to long standing conflicts internationally and intensified conflicts between southern American states over water.

Albertans don't have to go that far to see evidence of water conflicts. Kerry Brewin, Senior Biologist with Dillon Consulting Limited, writes about the many that have taken place in Alberta. In the CBC Radio Feature, *Blueprint H2O, Alberta, An Expert's Opinion*, Brewin uses the saying, "Whiskey's for drinking, and water's for fighting over," (para. 1, 2014) to show its importance. The many conflicts concerning water usage are discussed in the piece, some of which happened because the existing regulations guiding the use of water were written when we thought the resource was infinite.

When conservation groups were fighting battles with reasoned arguments to do what is Right, and protect Alberta's watersheds with water management plans, their numbers were small and resources (money and volunteers) constrained. Traditional water consumers were well established and able to speak the language of politicians (Berwin, 2014, para. 4). Evidence was apparent that things needed to change, he writes, so in 1999 the new legislation included restraints on use and encouraged recycling efforts (Berwin, 2014, para. 5).

Water is something that affects everyone. Without it, we die. Today, the armies fighting the battles in Alberta for sustainable water are large in numbers, and involve all sectors of government, environmental organizations, and grassroots stakeholders (interested or vested groups, organizations, or individuals). Now land users including First Nations peoples, and agriculture, industry, and recreation workers cooperate to promote Best Management Practices. Working together leads to Right decisions. Bringing everyone to the table involves other factors.

### **Assessing Right and Good**

According to Richard T. Nolan and Frank G. Kirkpatrick, philosophers and authors of *Living Issues in Ethics* (2000), the difference between various countries used to be basic ideas, ideals, and loyalties. Today there is disparity in technology, or in science, or even in general education (Nolan & Kirkpatrick, 2000, p. 5). Society has immense power over nature. Space and time have been reshaped. We have more mobility and experience increased cross-racial encounters. International interconnection seems boundless in our ubiquitous virtual world. To make a Right or Good decision, an individual must have some idea of what he or she values. Ongoing cultural exchanges affect what is considered valuable.

Increased power, cultural interaction, and greater populations affect consequences. Lahart et al., (2008) state that rising populations are more prosperous. Not only do people consume more because the number of people on earth has increased, but also people from previous have-not countries want what the “have” countries enjoy. If resource demand surpasses supply, prices climb and economic growth suffers. Violence could follow (Lahart et al., 2008, para. 4-5).

An aspect of the intermingling of cultures is that finding consensus about what constitutes the rules and regulations to make a Right decision could be more difficult. Values can differ between cultures.

Lahart, Barta, and Batson (2008) quote Bjorn Lomborg, a Danish statistician who argues that the global-warming problem is overblown, to show the flip side of their argument. He suggests that constraints might disappear with greater global cooperation. Lomborg’s argument is similar to more heads equal more possibilities. New seed varieties and better irrigation techniques, could open up arid regions to cultivation; technological breakthroughs, like cheaper desalination or efficient electricity transmission from unpopulated sunlit or windy locals would be solutions (Lahart et al., 2008, para. 11).

Lomborg's argument does not include resources that are not replaceable such as water. He also does not consider the pollution created with either use or misuse of resources. No mention is made of changes to our ecosystems. Increasing desalination, for example, result in less ocean and more salt piles. In our environmental system, altering part modifies the whole. As part of a system, we are also transformed through interaction. We only need look at the effects of disease to see our vulnerability.

In a story discussing diseases and what travellers should be aware of, the CBC article, titled Guinea's Ebola outbreak: There are far worse diseases out there, refers to statistics from the World Health Organization (WHO) to describe a number of very dangerous threats (March 26, 2014; *CBC News*). Tuberculosis is an airborne disease that killed 1.3 million in 2012, even though there is a vaccination available against the bacteria. Food and water borne diseases such as *E. Coli* (traveller's diarrhea) is left for the host to live through. Antibiotics only reduce the effects of diarrhea. Hepatitis, which can be prevented with a vaccination, continues to cause liver damage in extreme cases. Typhoid infection causes severe stomach cramps, internal hemorrhaging, and in some extreme cases fits of delirium. A closer look at Cholera, which continues to kill 100,000 to 120,000 yearly, disavows any sense of either superiority or control to which humans attest (March 26, 2014; *CBC News*).

Cholera bacteria play an integral part in the propagation of crustaceans that feed on Algal blooms (rapid increases in the population of algae, which are photosynthetic organisms in an aquatic system that provide much of Earth's oxygen). Blooms form during the Monsoons in the semi-enclosed bodies of water where fresh water from rivers or streams mingles with the salt water of the ocean (estuaries) (Despommier & Chen, 2004). The bacteria (Cholera) that are beneficial to the health of the estuary can be deadly to people if it gets into a human gut (Despommier & Chen, 2004).

Not only did sailing ships act as carriers to spread the bacteria world-wide, but also investigations, which took hundreds of years, led to new understanding of just how little humans know of interactions with ecosystems. People's lack of knowledge can be dangerous. Recent issues indicate how making Good decisions without fully understanding consequences can cause irreparable damage (Despommier & Chen, 2004, *See Sidebar also – Our Ecological Connections*).

### **Recent Issues**

"Frequently," writes Nolan and Kirkpatrick (2000) in an article titled Living Issues in Ethics, "poor evaluations expressed informally reflect primarily other criteria that are, at best, of secondary significance" (pp. 16-17). Good decisions benefit a few for the

short term. Right decisions reflect a wide range of convictions and benefit all for the long term. People need not look far for evidence of Good decisions allowing excesses when Right decisions are more beneficial.

### **Tailings Ponds in North East Alberta**

Tailings Ponds, according to industry, are “left over material produced during the extraction process that separates bitumen from the oil sand” (“Tailings Management, Suncor”). On Suncor’s web site discussing tailings management, tailings ponds’ contents are described as materials that are a necessary part of mining in the Oil Sands (“Tailings Management, Suncor”).

The Pembina Institute (a Non-Governmental Organization – NGO – that uses research, advocacy and consulting as tools towards leading Canada’s transition to a clean energy future), describe the same tailings ponds contents as toxic chemicals. The Pembina Institute goes on to list the contents: naphthenic acids (a significant contaminant with largely unknown environmental effects), polycyclic aromatic hydrocarbons, phenolic compounds, ammonia, mercury and other trace metals as well as 75 toxic materials with aggregate amounts of Arsenic, Benzene, Lead, Mercury, and Toluene. From 2006 to 2010, the total amount of mercury added to all tailings ponds per year increased by 80%, led by 50%, and arsenic by 21% (Tailings, The Pembina Institute).

Because Tailing Ponds contain such toxic wastes, and because they are a legitimate by-product of mining the oil sands, the government brought together all parties to hammer out rules and regulations by which the ponds shall be managed. These rules make it possible for Right decisions to be made. Once established, the Energy Resources Conservation Board (ERCB) was put in charge to oversee that the rules are followed by industry. This is stated on a page published online by the Canadian Association of Petroleum Producers (CAPP) who are the voice of Canada's upstream oil, oil sands, and natural gas industry (*Tailing Ponds*, CAPP, *Environment and Community*, Sidebar *Government Relations*).

The CAPP page side bar states: “In Alberta, the Energy Resources Conservation Board (ERCB) holds the government’s authority for establishing the criteria for managing oil sands tailings, as well as enforcement actions if tailings performance targets are not met” (*Tailing Ponds*, CAPP, *Environment and Community*, Sidebar *Government Relations*). This means ERCB enforces the regulations and ensures Right decisions are made. Right decisions maintain a balance between economy, environment, and energy supply.

An article published on line in HazMat magazine discusses an application to the ERCB to review and rescind approval of tailings management plans for Syncrude's Mildred Lake and Aurora North oil sands projects. The plans submitted by Syncrude did not comply with the requirements of the ERCB's Directive 074: Tailings Performance Criteria and Requirements for Oil Sands Mining Schemes (Dec 13, 2010; "Alberta not enforcing tailings pond regulations", para. 3). The ERCB, like the Police, enforce laws. But, the ERCB has an added duty of making Right decisions concerning changes to laws. The ERCB explains its reason for exempting oil sands operators from meeting its regulatory standards in the following way, "[I]mposition of the tailings management requirements may have significant impacts to existing and prospective oil sands mining operations" (Dec 13, 2010; "Alberta not enforcing tailings pond regulations," para. 4). The ERCB made a Good decision. Their decision meets the short-term goal of a single stakeholder.

The article goes on to quote Barry Robinson, Ecojustice staff lawyer: "There is little point in having tailings management regulations if they are not going to be acted upon and enforced" ("Alberta not enforcing tailings pond regulations", Dec 13, 2010 1:45 pm, para. 11). Good decisions alienate and frustrate other stakeholders and lead to mistrust. Rules and regulations are developed, because humans live in groups and require organization and regulations that help people get along within society. Original compromises, communications, and care taken to develop rules and regulations are dismissed. Trust is lost. Other environmental concerns are international in scope.

### **Widespread Air Pollution**

China's Capital, Beijing, is home to more than five million cars and the number is growing (October 17, 2013 "Beijing to impose odd-even car ban in heavy pollution, *MalayMailOnline*). "It is also home to some of the worst air pollution," write Armstrong and Ke (October 23, 2013). Reduced visibility, airborne chemicals, and particles small enough to be trapped in lungs have been responsible for traffic accidents, disease, and international attention (Sun, March 30, 2014); "Heavy Smog alert for Beijing as pollution levels goes high," *Wn.com*).

Angel Hsu (2012), a doctoral student at the Yale School of Forestry and Environmental Studies and Project Director for the 2012 Environmental Performance Index, writes that figures she develops from her research reveal telling trends for China. Hsu's (2012) article titled, "Seeing China's pollution from space" in *Chinadialogue* states that all but four provinces (excluding Taiwan) have average annual exposures of particulate matter measuring 2.5 microns or less. These are above levels recommended by the World Health Organization (WHO) (Hsu, February 20, 2012, para. 10).

Hsu (2012) suggests that the start of measuring these tiny dangerous particles indicates that China is opening up about environmental issues. But opening up is a necessity given today's threat from a changing climate (Hsu, February 20, 2012, sidebar).

Joydeep Gupta (2014), South Asia director of The Third Pole, whose writing on climate change, biodiversity, pollution and sustainable development has won him the 2012 Green Globe Award at the Delhi Sustainable Development Summit, quotes the chairman of the world's biggest collective of scientists, the Intergovernmental Panel on Climate Change (IPCC), Rajendra Pachauri, "Nobody on this planet is going to be untouched by the impacts of climate change" (Gupta, 2014, para. 1).

Gupta (2014) reports that the IPCC list incidences around the world that are due to Climate change. He also states that scientists are worried. Species of animals and plants have to migrate to survive. Crop yields are negatively impacted. The world's poorest communities and regions will be seriously challenged. Scientists have found an increase in heat related mortality and vector borne diseases such as malaria. Extreme weather events like floods, droughts, and storms are more severe and frequent.

Gupta (2014) quotes Michel Jarraud, Secretary-General of the World Meteorological Organization: "We have so much evidence [of climate change being caused by human activities] we can no longer plead ignorance" (Gupta, March 31, 2014, para. 10). Risks are listed and Gupta ends with the authors of the report stating the need for global action, data collection, and funding.

Over the last few years, Chinese municipal and federal governments have tried a number of contingency plans to combat heavy air pollution. The most recent Chinese plan to fight air pollution describes specific and dire actions to be taken when each of the four alert levels: blue, yellow, orange and red are reached. For example, Yu Jianhua, Director of Air Department in Beijing Environmental Protection Bureau is quoted in an article on the *Xinhuanet news*:

"[W]hen the second highest orange alert is issued major polluters will have to stop production. Regulations also will restrict cars according to the odd-and-even license plate rule that has been in place for years. When the highest amount of pollution persists for at least three days, red alert level, children are kept home from school and 80% of government vehicles are taken off the street." (Lu Hui (ed), October 22, 2013)

Popular opinion in Beijing, reported by Armstrong and Ke (2013) of CNN, states that if only the capital takes steps to solve the pollution problem, while surrounding areas like Inner Mongolia, and Shandong Province continue to pollute, air quality will deteriorate. Comments Armstrong and Ke have chosen from China's popular micro-blogging service, Weibo, support their findings. These online comments reflect a pessimistic attitude. The government understands the importance of bringing people on side ("Beijing announces emergency measures amid fog of pollution," Oct. 23, 2013).

Peter Shadbolt (2014) of CNN reports that government leaders are concerned about public opinion. Special courses on managing online public opinion are being offered. "[M]anaging online public opinion has already become a central fixture of [Chinese] society" (March 11, 2014, para. 2). Shadbolt continues to explain that the importance of providing the truth and preventing rumours and the influence of popular bloggers is emphasized.

## Our Ecological Connections

Cholera, a bacterium, has an interesting history that shows how people are integral members of the ecological web of events that we call Earth. Despommier and Chen (2004) write about sailing ships acting as hosts inadvertently spreading the Cholera around the world in bilge water collected near the mouth of the Ganges River and dumped in homeports worldwide.

Even though most deaths from Cholera can be avoided if adequate medical care is available, it has claimed many lives. However, we know now that a quick response can save lives. Its deadly reputation has fueled fact-finding frenzies. The organism's ecology has taught important lessons.

Despommier and Chen (2004), state that Cholera is a naturally occurring bacterium that has a symbiotic relationship with water borne animals, Copepods. Copepods are small crustaceans found in the sea and freshwater habitats. Copepods and Cholera exist in semi-enclosed bodies of water where fresh water mingles with salt water, estuaries. During the rainy season, pH and salt content of the estuaries change. Algal blooms form; Zooplankton (crustaceans), such as Copepod increase in number to feed on the blooms and propagate with the help of Cholera bacteria.

Cholera bacteria attach to the Copepods as the crustaceans egg sack develops. When necessary the bacteria dissolve the outer egg sack. Eggs and bacteria are dispersed. These are passed along to humans who eat raw filter feeding organisms (crabs, clams, and oysters).

While discovering why only a few specific bacteria types affect people, Scientists found that the oceans are thick with viruses (1 to 10 million viral particles for every ml of water). Some contact microbes long enough to infect them. In the distant past this is suspected to have happened to develop today's deadly strain. This mechanical process, similar to antibiotic resistance, continues when bacteria and viruses associate inside humans and farm-raised animals.

These genomic exchanges happen often without dire consequences. But, as human populations increase, and new mixes of bacteria, chemicals, and other products induce subtle environmental changes, what epidemics similar to that of Cholera await?

### **An Individual's Choice**

Sean Watt, an Engineering Tech embodies the ideas of Simon, who Dragos (2009) wrote, suggested that people are resource creators, not destroyers. The Watt family had installed solar panels on their home in Edmonton and at their lake lot. Watt states their reasons for doing this are personal and have nothing to do with "being green." He simply likes having fun with new technology and acquiring new skills, and he is accomplishing this while getting one step closer to being energy independent. "I actually prefer not to be grouped with the 'green' crowd," Watt says. "I think they mix their politics up in the process of actually just doing something beneficial" (personal communications, Mar. 14, 2011). Watt is doing both the Good and the Right thing. He is meeting self-made goals, saving money, diminishing his negative affect on our environment, and fulfilling his life while meeting the regulations of society, and minimizing his use of petroleum products that degrade the environment.

### **Conclusions**

***"We can't solve problems by using the same kind of thinking we used when we created them," Albert Einstein (1879-1955).***

If we think of the environment in terms of short term or Good decisions, deteriorating air, water, and health conditions are cause for worry. Our Good decisions are taking us past the Point of Inflection. Increasing levels of dangerous pollutants are every-where and involve everyone.

Limits to growth could be the limits of our imagination. However, the limit of the environment to absorb our growth is very real. Good solutions (exchanging one resource for another or solving problems through chemistry, engineering, or technology) have been successful for the short term. Communicators describe these solutions as imaginative, inspired, and ingenious. However, just-in-time solution seeking seems more like a group weaving its way through decisions while ignoring the real challenge of creating a balance in nature and society.

As Harding pointed out, humans move from one self-destructive episode to another. Any change (short-term Good solution) in a multi-connected web of systems (our home, Earth) causes other changes throughout the system. So far we have been able to wiggle out of tight spots by luck or serendipitous discoveries, but much damage remains. Competition brings us to the brink of disaster before another Good solution becomes profitable enough to try. Cooperation provides solid and long-term rules and regulations that are Right and benefit all.



Water rights legislation in Alberta shows how Right decisions can be made. Land users including First Nations, agriculturalists, industrialists, and recreationists promote best management practices. Cooperation works in a fair system.

The ERCB exempting oil sands operators from meeting regulatory standards is similar to city police not enforcing marijuana laws, except the ERCB then took on the responsibility of changing rules without all stakeholders (vested groups, organizations, or individuals). ERCB Good decisions let industry reach its goal. The Right decision would call on lawmakers to re-examine the rule. It should involve all stakeholders. City Police did that in the marijuana enforcement situation and now that law is being re-examined.

What we see is partially dependent on what we are shown. Communicators have a duty to inform, educate, and lead. Environmental communicators have the privilege of explaining how our natural world works: individually and in unison, and in relationship to us. While accomplishing these important tasks, we are bound by moral and ethical codes to tell the truth. However, how a truth is told has a large effect on its interpretation. A communicator in the real world must know and differentiate between Right and Good truths.

Nolan and Kirkpatrick (2000) point out the difficulty with evaluating truth. Evaluation is a philosophical judgment reflecting a wide range of philosophical convictions. The definitions of Right and Good must be established. They use the example of determining quality of an educational institution. An institution's philosophy may differ from what the evaluator thinks. The evaluation of environmental actions or rules can suffer the same fate. It is only when all affected parties have input and are able to compromise or convince that a Right decision can be derived. As Nolan and Kirkpatrick state, Good decisions consider usually insignificant secondary criteria. To expand pollution because jobs are affected or auto sales decline is to render a Good judgment, not a Right one.

Are we sovereigns over the world or part of the web, Earth? Sound environmental decisions and evaluations derive from thoughtful and philosophical awareness of facts and consequences. Communicators provide them. In a democracy and with Internet's tools, everyone speaks. Communicators provide the perspective. We ferret out facts, verify or disprove data, and ask questions.

Passmore's 1974 three states of moral judgment are enriched here. As stated previously, he lists the following:

1. Ten Commandments (instructions on how to treat other individuals)
2. Societal duties (actions within groups apart from the individual)

3. Human to Non-human relationships (ethical interactions with land, animals, and plants).

Today, a fourth should be added: *Humans as Ecological beings (interactions with ourselves as part of ecology)*. As explanation, humans are not the playwright of life, but actors on stage. Humans can no longer see themselves as composers of our play. They now participate in the action as it occurs. As performers, humans must consider themselves, others, groups, and non-human elements as equals. Actors participate, share, and work in unison to ensure success. The play is written; the message set. Script changes are accepted with the input of all stakeholders, and only if the change improves the play.

The Great Society speech presented by Johnson at Ann Arbor, Michigan in May 1964, states that a Great Society will judge itself by the quality of its goals (para. 7). He also states that values and visions not be buried under unbridled growth (para. 5). Could society be asking the wrong questions? Should we be examining our goals rather than all growth?

When Mr. Watt and his family set their goals of having fun with new technology, acquiring new skills, and being energy independent; the Right and the Good were not at odds. Watt was simply doing things that are good for him, his family, and society. How will he be judged on the quality of his goals? As Michel Jarraud, Secretary-General of the World Meteorological Organization inferred in Gupta's 2014 article, Climate change is now a battle affecting everyone and we should be worried. The solution to environmental degradation rests in making Right decisions that serve all factions of society and provide balance over the long term. We have a choice and a voice. Why worry?

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*\*Author: Goldwin McEwen, BSc, MACT, believes teamwork is the key to success. "No one does anything alone in the economy, technology, or nature. We succeed or fail together," he says. Achievements over the years reinforce his belief. Goldwin is a well-respected writer, editor, and publisher. For more than 30 years, his researching, writing (fiction and non), editing, communicating, and training projects have been proactive and collaborative. Cooperation with MacEwan writing and designing faculties won him an International Association of Business Communicators (IABC) Capital City Award of Excellence in Communication Skills and Tactics. Goldwin is now president and CEO of Gold Mum Publishing (GMP). He works with a consortium of professionals located around the world. Together they develop bilingual (Mandarin and English) illustrated stories for children. GMP books bring families and communities together, introduce cultural similarities and differences, and contribute to children's literacy internationally. This year Goldwin brings his experience to the classroom and looks forward to joining students in their quest for knowledge. While enjoying this article, readers discover Goldwin's passion for this interconnected world.*

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