

Trail Six

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Eva Lillquist

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c/o Department of Geography
University of British Columbia
1984 West Mall
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V6T 1Z2

geog_journal@hotmail.com

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Editor’s Note

Rory Babin and Eva Lillquist

It’s been a long journey, but we’ve finally made it: Volume Two of *Trail Six: an undergraduate journal of geography!*

Volume Two of *Trail Six* is just a sampling of the excellence UBC Geographers have come to be known for. The UBC Department of Geography’s continued commitment to the enhancement of the undergraduate experience has made this journal possible, and the active engagement of our professors have influenced the passion evident in the following pages.

It would be impossible to list all the people who helped bring this volume together, but we’re going to try. Many thanks go out to Dr. Graeme Wynn for his continuous support and for even holding an editing workshop for our editorial board; to Sally Hermansen, the undergraduate chair, for helping rally together support from the faculty; to Karen Young, for providing the vital communication link between students, faculty and staff; to the editorial board, for tirelessly editing papers despite their own workload to contend with; to the Geography Students’ Association, for always supporting us—both financially and emotionally—and last but not least, to all those who submitted to the journal. The support and enthusiasm of the student body has truly made *Trail Six* a leader in blending the fine lines between the social and physical sciences at UBC, an interdisciplinary mélange proud to call Geography home.

This year’s cover photo is the winning entry to the Geography Students’ Association first annual photo contest. Michael More was voted by his peers as submitting a photo that appeals to both the physical and human aspects of geography. Congratulations, Michael, and many thanks to all those who participated in the photo contest. This year also marks *Trail Six*’s leap onto the national scene, with

our friends at the libraries of the University of Alberta and Simon Fraser University picking up subscriptions. An enormous thank-you goes out to them for their support of young geographers.

For those of you looking longingly towards the summer, we invite you to take a stroll down the real Trail Six, those four hundred some-odd stairs that serve as a portal between the ever-changing urban face of UBC's Point Grey Campus and the equally changing natural landscape of the waterfront below. Trail Six serves as this link between the physical and human worlds, the natural and the created; it is a space between places. The trail itself is arduous but rewarding, not unlike the effort put into the following papers.

This journal has been a year in the making, and we're proud to be a part of a strong Geography Students' Association tradition. We hope you enjoy what the UBC Department of Geography has to offer!

Rory Babin and Eva Lillquist

Editors-in-Chief,
Trail Six, March 2008

Foreward

David Ley

You are holding the second edition of *Trail Six*, the journal of the undergraduate Geography Students' Association at UBC. One of the blessings of the department is that, housed in the Geography Building, we have, quite appropriately, our own *place*. A common setting to work, meet, and socialise has undoubtedly contributed to the resilience of the GSA and the labour of love that culminates in *Trail Six*. Against the potential isolation of a large commuter university, the GSA has imprinted over many years a strong bond of camaraderie and opportunities for professional development. Social functions that have included ski weekends, hockey sessions, regular Geopits and the annual GeoGala, and academic events such as field trips, conference attendance, a careers night, and prep sessions for graduate school have consolidated a basis for academic identity and a source of social capital that have benefited each annual class of students. These events have also I think consolidated our appreciation for Geography as a discipline and as a joint student-faculty project.

The range of that joint project is evident in this volume. I was asked by the editorial team to identify a theme running through these papers but in their capacious diversity they reflect the variety and strength of contemporary human geography. To impose a singular definition upon *that* enterprise would ossify a diverse and mobile discipline. In the pages that follow you will encounter the ontology of nature in Japan, housing affordability and the Olympics in Vancouver, the status of the environment from the theory of Giorgio Agamben, modelling uncertainty in managing the anchovy fish resource in Peru, and relations between agriculture and water quality in the Fraser Valley. From there we move to representations of sub-Saharan Africa in media originating in the region compared with media from the global north, the management of the Gibson's aquifer on the Sunshine Coast, immigration and housing for Chinese Canadians in Vancouver from the

exclusion period to the present, and the intersections of independence, memory, space and fear in the geopolitics of Burma. No formal thematic can contain this expansive rainbow coalition of global contributions. Indeed perhaps next year we might look for even more diversity with several contributions from the vigorous physical geography programmes in the department. While physical processes show up in the resource management papers in this volume, hopefully in the next issue we will include examples from the biogeoscience courses represented in the Geography department.

The papers in this volume were selected by and large from first term essays, as the midnight oil is still burning for the even more mature products of second term courses, including most of the fourth-year seminars. So those most recent achievements will have to remain unsung, at least in terms of this publication. In the meanwhile I commend the nine impressive papers that follow, and am grateful to the GSA and the *Trail Six* editorial committee for this valuable scholarly legacy from the Class of 2008. It is my hope and expectation that the papers represent the first, but by no means the last, research publication by their authors. Certainly their quality suggests we will be encountering some of these authors again in other geographical journals in the years to come. Thanks to *Trail Six* for providing their début to the geographic canon.

Dr. David Ley

Environment, Society and the Law

James Gaffney

The dawn of the European Enlightenment, and the scientific and industrial revolutions which followed, have challenged many of our commonly held assumptions about the world and produced a variety of competing interests in, and views of, the "natural environment". Humanity has always had a unique ability to shape its environment. More recently, however, global nature has been remade in ways that many strongly revolt against and, I believe, at speeds with which our traditional institutions have been unable to effectively cope. This is a paradigm which is unfolding at multiple scales and in multiple arenas, as "technoscience" begins to impact simultaneously both the minutia of the genome and the vast expanse of the agricultural landscape. Like many environmentalists, my heart is often chilled by the icy texture of this scientific materialism, and in times of despair I have submitted to the emotional warmth of poets from a bygone era,

And I have felt
A presence that disturbs me with the joy
Of elevated thoughts; a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean and the living air,
And the blue sky, and in the mind of man:
A motion and a spirit, that impels
All thinking things, all objects of thought,
And rolls through all things.

William Wordsworth

A century later, Rachel Carson would reflect Wordsworth's romantic view of nature,

There is a symbolic as well as actual beauty
in the migration of birds, the ebb and flow
of tides, the folded bud ready for spring.
There is something infinitely healing in the
repeated refrains of nature – the assurance
that dawn comes after the night and spring
after the winter.

This language serves to underwrite and fuel much of the environmental movement, tugging at human sentimentality and our common appreciation for, and wonderment

of, creation. It is a holistic way of experiencing the world, and stands in binary opposition to a science that, by definition, focuses on parts of nature (Suzuki 1999, 15). Social constructivists are eager to point out that such binary opposition, which makes nature a "thing" external to human society, is itself a cultural production invested with the language of purity. Although the arguments of social constructivists are important to the ways in which we understand the complexities of knowledge production, they cannot escape the taunts of relativism. For once we acknowledge that nature can never be faithfully reproduced or made transparent, and all claims to its inherent value become subjective.

This paper seeks to examine how and why the environment remains a "thing" outside of the law, devoid of legal rights, yet within the realm of anthropocentric prosecution in relation to socio-economic value. The question becomes much more interesting within the context of social constructivism because of the noticeable absence of legal rights within sites of such apparent environmental and cultural overlap, and so I begin the "meat" of my philosophical enquiry with social constructivism, and attempt to work through its more troublingly relativist implications. Following this, I discuss the notion of value, arguing that nature has intrinsic value which should be legally protected.

Social Constructivism

"Nature is nothing if it is not social" (Smith 1996, 30).

Social constructivists take issue with the notion that nature is external to society. Donna Haraway has asserted that nature "cannot pre-exist its construction" (Haraway 1992, 296), while Bruce Braun has written that the

natures we may seek to save, exploit, witness or experience do not lie external to culture and history, but are themselves 'artifactual': objects made, materially and semiotically, by multiple actors (not all of them human), and through different historical and spatial practices (2002: 3).

These are very important critiques which have shaken the foundation of environmental philosophy. Social constructivism offers many arguments (Demeritt, 202), and for the purposes of this paper, we are concerned with its epistemology, as well as its involvement in debates about nature. According to social constructivism, reality cannot be made wholly transparent; our language, our research, our science is never neutral, but is implicated in the politics of knowledge production (Rorty 1979). Such a concept has tremendous implications for the ways in which society approaches knowledge. Taken to its most nihilistic extreme, all knowledge can be viewed as fallible and incomplete. If all knowledge is relative to the circumstances of its production, how can society make decisions on

issues which require clear and decisive action such as global climate change? However, social constructivism does have many important things to say about the environment, particularly in combating simplistic dualisms of "nature versus culture" in favor of a more intricate ecopolitics which embraces the complex and interwoven flows of power and culture, nature and society, at varying scales. Braun (2002) has been particularly critical of the dualistic rhetoric of environmentalism, a rhetoric invested with what he calls a culturally constructed "language of purity" which is not intellectually neutral.

It is true that within much of the wilderness literature, notions of a pristine natural order existing outside the sphere of societal interaction run rampant. For social constructivists, this language is not transparent or naïve. William Cronon (1995, 80), a fierce critic of nature-culture dualisms, wrote that "wilderness [language] embodies a dualistic vision in which the human is entirely outside the natural. If we allow ourselves to believe nature, to be true, must also be wild, then our very presence in nature represents its fall." For many constructivist scholars (Braun 2002; Harvey 1996; Smith 1996), all discussions of the environment revolve around the concept of "social nature". Social nature seeks to deconstruct the nature-society dualism and replace it with a more coherent and complex geography which reflects the intertwining of socio-cultural processes. To subscribers of this theory, the spaces of nature and society overlap,

and are inseparable from each other. Scholars from varying schools may have no problem agreeing with this. What bothers environmentalists, however, is the notion that since all knowledge is partial, their arguments need not be scientifically disproven, but can be disagreed with merely on the basis of their situated knowledge. Michael Soul and Gary Lease (1995) are two scholars among many who have voiced their concern that social constructivism can be used to justify further tinkering with nature, and that given the dangerous environmental predicament with which we are currently faced, relativist rhetoric needs to be aggressively combated.

Constructivists have fought back against the taunts of relativism (Proctor 1998; Demeritt 2002; Geertz 1989). Proctor (1998) has identified two main branches of constructivist apologetics: critical realism and pragmatism. Briefly stated, critical realism attempts to walk a middle ground, asserting that knowledge is neither wholly objective nor subjective, and that all truth is partial (Keat and Urry 1982, 10). This amounts to a weak form of relativism, and has been criticized by postmodernists such as Barnett (1993) who feel that critical realism still overestimates our ability to know reality. Pragmatism, according to Proctor, takes an agnostic stance towards relativism, and often avoids attempts to define truth (1998, 17). In the end, Proctor submits to the notion that social constructivism is, by its own definition, open to varying degrees of relativism, but that it can still add to

discussions regarding nature.

In trying to map out the intellectual geography of the social constructivist debate, I hope to have made it clear that there remains heated discussion surrounding the subject. I admit to having oversimplified a complex dialogue, with intricacies that far exceed the boundaries of this essay. However, the point is not to provide a complete investigation of social constructivism and its criticisms, but to provide the philosophical framework with which to discuss the environment as a space of exception. Unfortunately, in trying to make environmental discourse more aware of the ways in which its knowledge is produced, social constructivists have paradoxically muddied the waters, and made environmentalists fearful of the slippery slope to subjectivity that it produces. This is something that requires attention before we may proceed with a discussion of environmental legal rights.

Intrinsic Value

Value is never found in the object itself... It consists in a relation to an appreciating mind, which satisfies the desires of its will or reacts to feelings of pleasure upon the stimulation of the environment. Take away will and feeling, and there is no such thing as value (Perry 1926, 125).

The silence of the desert is without value, until some wanderer finds it lonely and terrifying...until some human finds it sublime, or until it is harnessed to satisfy human needs. Natural substances...are without value until a use is found for them,

whereupon their value may increase to any desired degree of preciousness according to the eagerness with which they are coveted (Rolston III 1972, 76).

As we have seen, the position of social constructivism leaves open the perception that nature has subjective value that cannot be wholly understood or regulated by anthropocentric institutions. Social constructivists would align themselves with the words of R.B. Perry, believing that since nature is socially produced, its value is dependant upon an anthropocentric experience of it. Thus, we can never assign an ultimate value to an object because assigned values are subjective, and dependant on the context in which the valuation took place as well as the situated knowledge of the one assigning value. Yet relativism need not be so problematic for radical environmentalists. Indeed, David Suzuki has turned the whole issue on its head, arguing that because knowledge is relative and partial, science can never reveal the entire picture, and we should therefore proceed with great caution in our dealings with the environment.

Over time it has become clear that at every level the effort to know the whole from the parts is doomed. Quantum mechanics has shown us that the position of a particle cannot be defined with absolute certainty. If there is no absolute certainty at the most elementary level, then the notion that the entire universe is understandable and predictable from its components is absurd (Suzuki 1999, 16).

Thus, rather than constructivist

relativism being an excuse for continued tampering with the environment, it could just as readily be argued that because nature is indeed so tightly interwoven with human society and because our knowledge and understanding of nature is unavoidably partial, we must be even more cautious.

However, the assumption that valuation is necessarily subjective could benefit from a (re)reading of Kant, whose approach to ethics was based upon a belief that some values are more reasonable than others. Although values may be subjective in terms of perception, according to Kant they can be objective in terms of cognition; therefore values can be either correct or incorrect. This shifts the focus away from assigning value to something based on individual perceptions, beliefs and preferences, and towards judging that something either has or doesn't have value. The latter would typically imply cognitive considerations of society as a whole, whereas the former is situated strongly within the desires and situated knowledge of the individual.

It is, therefore, entirely possible to remove the argument from the hopeless intricacies of individual utilitarianism and questions of relativism, and fixate it firmly within a discussion of ethical principles. Mark Sagoff (1981) has noted that many of the actions that he engages in are indeed based on subjective wants, and an individual cost-benefit analysis, but that in many instances his individual behavior is in opposition to his "wants" for society at large. Sagoff refers to this

as a "schizophrenic" dialogue between the individual and the citizen:

I speed on the highway; yet I want the police to enforce laws against speeding...I love my car; I hate the bus. Yet I vote for candidates who promise to tax gasoline to pay for public transportation. I send my dues to the Sierra Club to protect areas in Alaska I shall never visit (1981, 468).

According to Sagoff, some values are intrinsic if viewed outside the lens of individual subjective wants, and from the position of society (human and even nonhuman) at large. In other words, if people have no personal benefit in the destruction of the rainforest, they would overwhelmingly support its protection due to a belief in the intrinsic value it holds; a belief in "what ought to be" that doesn't get stuck dealing with the riddles of relativism. Rolston defines this as "presiding over the fading of subjective value into objective value." For Rolston, things are not individual and disconnected, but "co-fit" into broader natures; "value in itself is smeared out to become value in togetherness" (1972, 79).

I hope to have established my support for the concept of "social nature" put forth by social constructivists; a nature in which the environment is not separate from society, but is inherently tied up with it through cross-cutting flows of knowledge, politics, culture and interaction. I also hope to have established that while relativism may prove problematic for environmental theory, this is only so if looked at

from the position of the individual. As Sagoff has convincingly argued, when people remove themselves from utilitarian cost-benefit analysis and subjective desires, and assign value from the position of citizen, we are able to establish objective, intrinsic values. If we accept the vast and convincing arguments that nature does indeed have intrinsic value and that society has moral responsibilities to preserve the environment for future generations (Rolston 1972, 1998; Partridge 1986; Sterba 1998; Golding 1972), then it is possible to postulate a state of exception regarding the environment. If nature is mapped onto society, why is society not mapped onto nature? More specifically, why is it that the natural environment is subject to anthropocentric prosecution in relation to socio-economic value and yet remains at "thing" outside of the law? Agamben's theory, as far as I understand it, relates specifically to humans and how they may be made "bare" through a paradoxical state of exception; left without legal rights, but subject to legal prosecution. Surely it is reasonable to take this argument into the realm of environmental philosophy. Yet the reader may ponder why the environment should have rights in the first place?

Legal Foundations

We should consider that simply because the natural environment does not currently possess legal rights, it will never or should never enjoy them. Stone (1974) has made it clear that many

persons who now hold rights within our society at one time held none. For example, we have long made persons of children even though they were not legally recognized as such until recently. Stone extends this examination towards the non-material, noting that at one time it was inconceivable for a corporation to be legally recognized as a person and yet it is now the case (1974, 240). Stone uses this as a basis to propose that society confer legal rights to "forests, oceans, rivers and other so-called 'natural objects' in the environment – indeed, to the natural environment as a whole" (1974, 241).

Critics might argue that natural objects have no right to seek redress on their own behalf because they cannot speak. Yet, as Stone points out, neither do infants, corporations or incompetents. Rather, lawyers speak for them, and in many instances someone is charged with legal guardianship over that entity. Another objection to bestowing legal rights to natural objects is that they cannot communicate their wants. According to Stone, however, this is not the case. In fact, he asserts, it is far easier for us to know when our lawn needs to be watered than it is for the US Supreme Court to decide whether or not to accept an appeal (1974, 243). Another issue revolves around repayment of damages. If natural objects were given legal rights, how could they be repatriated if those rights were ignored? Currently, if two people own property on a stream, under common law the person downstream enjoys "riparian rights" which legally

protect the individual from water being polluted upstream. If the water becomes polluted, this person would be able to seek financial redress, as well as clean-up of the river. However, as Stone points out, this type of legal protection is entirely anthropocentric, and ignores the overall damage to the ecosystem which he argues should itself have legal rights (1974, 245). If, on the other hand, a forest was entitled to protection under the law and was illegally forested, it would not only have legal redress to being replanted, but could make a legal claim for damages to the entire ecosystem.

Conclusion

This essay has attempted to cover an enormous intellectual geography in the span of a few short pages, and is therefore limited in its ability to fully map out the complexities involved. First, I noted that arguments put forth by constructivist such as Braun and Castree (1998) and Proctor (1998) helpful in sharpening the critique of our relationship with nature as argued by environmentalists, even if constructivism contains problematic forms of relativism. Social constructivists are correct to assert that this relationship with the natural world is a complex web of power, culture and economy, intersecting at different scales, in which nature is continually produced and mapped through an anthropomorphic lens. Second, I delved into a discussion of value, using environmental philosophers such as Rolston III, Kant and Sagoff to put forth the notion that

natural objects have intrinsic value when viewed from a greater scale than that of individual perception, which is doomed to subjective appraisals. This provided me with the basis to question why the environment does not have legal rights, and offer reasons why it should. Therefore, if nature is mapped onto society, why can't society be mapped onto nature? More specifically, why is nature a "thing" outside the law, yet subject to sovereign authority? The answer is not as evident as one would hope, and leaves us with further reservations about the continuing reluctance to accept humanities place within the greater biosphere.

A human being is part of the whole, called by us the universe. A part limited in time and space. He experiences himself, his thoughts and feelings, as something separate from the rest, a kind of optical delusion of his consciousness. This delusion is a kind of prison for us, restricting us to our personal desires... Our task must be to free ourselves from this prison by widening our circle of compassion to embrace all living creatures.

Albert Einstein

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From Chinatown to 'Monster Houses': Chinese Immigrant Housing and Settlement Patterns in Vancouver

Sierra Gemma

In 1909, James S. Woodsworth's book on foreigners in Canada, *Strangers Within Our Gates, or Coming Canadians*, was published for the first time. On the subject of "Orientals" and their Chinatowns, he quoted Reverend J.C. Speer's observations:

...the Chinese came in at a time when the early residents were about to look for new quarters, their first buildings having become either too cramped or too dilapidated for the growing and up-to-date demands of modern times. The average Chinaman comes to this country with no intention of remaining...and therefore, ...the Chinese are in no way particular as to the locality or the character of the dwelling. The result is that while Chinatown is generally in the heart of the city it is the most unattractive, squalid and forlorn of all places one can find. (1972, p. 144)

While Speer did not consider the impact of discrimination on Chinese housing options, his observations imply an early association between immigration and

housing. He concludes that Chinese men chose dilapidated housing because they were sojourners, transitory immigrants who cared little for their temporary housing. However, when Chinese housing and settlement patterns are viewed over the course of the twentieth century and beyond, forces beyond individual choice emerge. Immigration policies and racism have significantly influenced the housing and settlement patterns of Chinese immigrants over the past century. As the immigration policies and forms of discrimination have changed over the years, so too have the housing and settlement patterns of Chinese immigrants. They have taken particular forms during the following three periods: the segregationist trends of the pre-1947 time period, the transitional period from 1947-1970, and the divergent class patterns from the 1970s to the present time. I argue in this paper that, during all three eras, immigration policies and racism had, and continue to have, a profound impact upon the housing and settlement

options of Chinese immigrants.

Pre-1947 Segregationist Trends

Prior to 1947, successive immigration policies attempted to restrict or exclude Chinese immigration to Canada. These policies were rooted in a racist ideology that sought to preserve white hegemony.¹ On the eve of the twentieth century, member Edward Prior addressed the House of Commons in Victoria by stating "...there is a cure for this Chinese cancer, and that is by the Government providing a sufficient poll tax to keep them out..." (Anderson, 1991, 60). The following year, immigration legislation would increase the Chinese head tax by \$50; by 1903, it would be an astonishing \$500 (Li, 2003, 3). Male peasants from southern China who could borrow or save enough for the head tax and passage made their way to Canada despite the prohibitive costs that kept their wives and children in China (Chong, 1995).² This led to a highly imbalanced sex ratio (10:1) among Chinese immigrants in Vancouver (Chong, 1995, 116). When the 1923 Chinese Immigration Act banned Chinese immigration entirely, it restrained the growth of the Chinese population (Ng, 1999) and guaranteed that the unequal sex ratios would remain a feature of the Vancouver Chinese community.

Racism not only informed immigration policies, it impacted the Chinese through employment and housing discrimination practices. As already noted, many early Chinese

immigrants came to Canada to better their original financial standing. However, once in Canada, racism limited their employment options to the most dangerous and demeaning low-paying work (Chong, 1995). This, in turn, affected how much these men could afford to spend on housing. Even if they managed to make financial "headway", "informal practices on the part of white real estate agents and landlords limited the residential choices of Chinese in Vancouver in the first part of [the twentieth] century" (Anderson, 1991, 122).

Due to discrimination in employment and housing, and the demographic consequences of racist immigration policies that discouraged the migration of families, the majority of poor Chinese men were concentrated in the boarding houses of Vancouver's Chinatown. Boarding houses were extremely prevalent in Chinatown by 1930 and functioned both "as lodging facilities and as an important nexus in the lives of single migrants..." (Ng, 1999, 26). Boarding houses have been described by former residents as poorly lit, dirty, crowded, and infested with bugs (Chong, 1995). Crowding was a Vancouver-wide issue. Wade reports that there was a major housing shortage in Vancouver by the 1940s, which left 13.2 percent of homes "overcrowded," 8.5 percent holding "doubled-up households," and 27 percent "substandard" (1986, 290-292). Although the problem extended beyond the borders of Chinatown, the crowded

and "unsanitary" living conditions of boarding houses gave the local white society justification for condemning Chinatown and its inhabitants as hygienically inferior, even as they perpetuated the situation by providing inadequate sanitation services to the area (Anderson, 1987).

Both the location of Chinatown and the concentration of Chinese immigrants settling there relates to the racist sentiments of some of Vancouver's white populace. Anderson reports that the "original Dupont Street settlement...was a swampy district, with an adverse physical quality that paralleled the peripheral legal, political, social, and economic status of the pioneers it housed" (1987, 582-583). This inhospitable area, which would later be named "Chinatown," was a prime location for Chinese to settle not only because it was less desired by the white population and therefore available, but also because it provided them with a safe, segregated community. Chinatown evolved as a result of both internal and external factors: many Chinese chose "to protect themselves from discrimination and racism" by voluntarily retreating to a safe community (Driedger, 2003, 205) while white realtors and landlords attempted to impose an involuntary isolation, as previously mentioned. Census information from 1941 shows that the residential segregation of the Chinese confined over 80 percent of the population to the Chinatown and Strathcona area, in what Hiebert calls a "legacy of the internal dynamics of

the community and the long history of restrictions that made settlement in other parts of the city difficult for those of Chinese ancestry" (1998, 6). Clearly, the typical Chinatown resident, being a poor Chinese man who suffered multiple jeopardies based on his immigrant status, class, and race, had little choice but to accept the segregated housing available to him.

The residential segregation of Chinese immigrants in Vancouver prior to 1947 follows a pattern first modeled by Burgess in his concentric zone model, which "attempted to order and predict growth patterns of a city" (Driedger, 2003, 190). Although later sociologists have pointed out flaws in the model and offered alternatives, the Burgess model does predict some of the characteristics of Chinatown. Geographically located in the "Second Zone of Transition [which] surrounds the business district and is often referred to as the slum. This zone... contains the oldest housing...which has begun to deteriorate, and which is in the immediate path of business and industrial expansion" (Driedger, 2003, 190). This description resonates with the observations of Reverend Speer. Not only was Chinatown considered the slum of early twentieth-century Vancouver, it would become the site of slum clearance projects in the 1960s.

The Transitional Period, 1947-1970

The years between 1947 and 1970 were a transitional period for housing and settlement patterns for Chinese immigrants, as overt discriminatory

immigration policies and racism lessened. In 1947, the Chinese Immigration Act was repealed (Ng, 1999). Although the Chinese were no longer excluded from entering Canada, their arrival was still not entirely welcome, and discriminatory requirements continued to prevent many from immigrating. "Throughout the 1950s, Canada restricted Chinese immigration on the grounds that it could become what J. W. Pickersgill, Minister of Citizenship and Immigration from 1954 to 1957, called 'an avenue for the back door infiltration of communist agents'" (Li, 2003, 3). In spite of this resistance, the Chinese immigrant population in Vancouver experienced a 2-fold increase in numbers both in the 1950s and in the 1960s (Hiebert, 1998).

These new immigration policies affected housing options and settlement patterns of both long-term and recent Chinese immigrants. The reunification of long time Chinatown residents with their recently arrived families increased the numbers of Chinese immigrants looking for housing more suitable for families. These families needed more than single rooms to rent. Ng proposes that "with the increase in family households...the demise of boarding houses seems to have been inevitable" (1999, 26). Ng also notes that those recent Chinese immigrants who moved into boarding houses after 1947 "had a much shorter period of tenancy" (1999, 26), suggesting that these accommodations were considered transitional places to stay. Indeed, not only were Chinese

immigrants looking for other places to live, the city of Vancouver was looking to move long-term residents out of the boarding houses.

The 1950s brought the focus of city officials on the residents of Chinatown and neighbouring Strathcona. Chinatown residents had begun moving into Strathcona "during the inter-war period due to its affordable housing and its proximity to commercial Chinatown. In the late 1940s, ethnic Chinese already made up more than a quarter of its inhabitants...[increasing] to about one-half by the late 1950s" (Ng, 1999, 90). Both Chinatown and Strathcona would become the targets of the slum clearance projects that swept North America during the 1960s. Chinatown, as Burgess' concentric zone model predicted, was in the way of commercial development. Additionally, it was an area heavily populated by a racialized and marginalized people with little political power to resist the decisions of city officials. By the mid-1950s, city health officials were already labeling Chinatown, Strathcona, and boarding houses as threats to public health in need of immediate urban renewal measures (Ng, 1999). The city had long exhibited a pattern of refusing to administer the same level of services to Chinese communities and then condemning the Chinese for the poor conditions of their neighbourhoods.

Were Chinatown and Strathcona targeted because they presented unsafe and unsanitary conditions or because they were Chinese communities? Some

Chinese residents facing displacement at the time questioned whether the "real motive" was to take prime property from the Chinese (Nann, 1975). Slum clearance projects had been known to target healthy, if not poor, immigrant and ethnic communities for "urban renewal", displacing residents from their homes. "From 1958, applications for building and redevelopment permits in Strathcona began to be rejected, and all property values were frozen. Residents, discouraged by city staff from improving their homes, waited for the day when they would be told to leave homes..." (Anderson, 1991, 191). The fact that residents were prevented from renovating their properties, all the while condemned for living in poor conditions, suggests that racism played a role in targeting these neighbourhoods. Vancouver's slum clearance projects would ultimately result in the displacement of over 3,000 residents of Strathcona by the end of the 1960s, many of whom were Chinese (Ng, 1999, 99). The racism underlying the ease with which these residents were evacuated from their community, coupled with the introduction of the points system of immigration in 1967, would vastly change the settlement patterns in the following decades.

Class Divergences in Housing and Settlement From 1970 Onward

In 1967, the 'face' of immigration in Canada changed drastically with the explicit removal of race from the immigration process. The selection of

economic class immigrants was now to be "based on human capital," or the particular abilities and skills (language, education, work experience, etc.) that would theoretically give them the opportunity "to succeed in the labour market" (Hiebert, 2006, 40-42). The results of these changes in immigration policy on Chinese housing and settlement would become clear during the following decades. The 1970s saw the beginnings of an ongoing increase in Chinese immigration (Bauder, Waters, & Teo, 2001). Not only were many more Chinese able to immigrate after the introduction of the points system leveled the playing field for immigrants, the new type of Chinese immigrant was very different from the bachelors of the early twentieth century or the families who came after 1947. Smith reports that the immigrants coming to Canada in "the last quarter of the twentieth century...were increasingly likely to arrive highly skilled, educated and wealthy..." (2004, 3). Indeed, "class rather than race emerged as the pivotal criteria for entry once economic necessity overwhelmed restrictions based on racist ideology and national origins" (Fleras & Elliott, 2007, 244). This is not to suggest that racism would no longer have an impact on Chinese housing and settlement. However, the new immigration policy would encourage two divergent trends in housing and settlement patterns between lower class (e.g. older immigrants or recent family and skilled worker class immigrants) and upper class Chinese immigrants

(e.g. entrepreneurial and investor class immigrants).

These class differences in housing and settlement are even more pronounced in Vancouver, as it is the Canadian destination of choice for the most affluent:

In 1996, British Columbia received 27 percent of economic-class immigrants landing nationwide, or twice its proportional share of the national population. For the wealthiest categories, however, the geographical bias was much stronger. Among the entrepreneur class, 35 percent chose B.C. as their destination; among the investor group, the share was even greater, at 54 percent...With all but a small minority entering the province selecting Greater Vancouver as their destination...(Ley, 1999, p. 5).

These very wealthy immigrants have vastly different housing options from the family class immigrants or even others in the economic class. The family class immigrants do not necessarily have the resources for high quality housing or the option to move wherever they wish within the city. Skilled workers, while immigrating as part of the economic class, may find it difficult to acquire jobs when Canadian employers do not take at face value the foreign education, credentials and experience that enabled them to immigrate (Hiebert, 2006). Smith has suggested that one of the reasons that immigrants who have arrived in the past decade have been less successful than earlier immigrants

is "employer confusion/discrimination about foreign acquired skill sets and post-secondary qualifications" (2004, 6). Thus, both immigration policy and racism have influenced the divergent class patterns in Chinese housing and settlement patterns.

Li argues that the "place of immigrants in territorial and social space indicates not only the nature and quality of immigrants, but also the ideological and discursive grounds...by which those who have successfully secured legitimacy and power racialize others deemed to be fundamentally different" (2003, 1). During the past century, the dominant society of Vancouver has both conceptualized and reproduced "Chineseness" through the social construction of Chinatown (Anderson, 1987). However, with the changes in Chinese immigrant settlement after 1967, the conception of Chinatown has been expanded to include the physical and social boundaries associated with the Chinese community in Richmond. Although "Chinatown" still exists both physically and socially as a Chinese area in the centre of the city, the "idea of Chinatown," as Anderson (1987) calls it, seems to follow wherever the Chinese settle. An example of this is the way that some white students have renamed the University of British Columbia (UBC) as the "University of a Billion Chinese" (UBC). Comments such as these are made lightheartedly but point to more disconcerting, prejudicial factors at work.

Racism continues to impact the

housing and settlement of Chinese immigrants, but in a subtler, class-differentiated way. Termed "new racism" by Henry and Tator, this "rarely demonstrates itself in violence or overt racist behavior, yet its consequence for minorities are just as severe: it limits and constrains their life chances" (2002, 23). Employers' refusal to acknowledge the foreign work experience of a recent skilled Chinese immigrant, may be one such way.

Another manifestation of 'new racism' is suggested by a study performed by the Canada Mortgage and Housing Corporation (CMHC), which reports that focus group "participants noted that landlords prefer not to rent to families with children, especially larger families, or to individuals from different cultural or racial backgrounds" (1996, 7). These landlord 'preferences' affect Chinese immigrants in a number of ways. First, those immigrants who do not have the resources to purchase a home are more likely to be renting in the first place. The very fact of renting locates lower class immigrants in the possible position of experiencing landlord discrimination. Second, CMHC noted that "households headed by Asian immigrants...are largest..." (1996, 19), which disadvantages Chinese immigrants with children or extended families. Third, the landlord 'preference' to rent to tenants from the same culture or race can be an obstacle to Chinese immigrants when prospective landlords are not Chinese themselves. These 'preferences' are part

of the "automatic cognitive processes that distort information processing and decision making by individuals in ways that—unless checked—lead to micro (and sometimes macro) acts of discrimination" (Reskin, 2002, 218-219). Thus, landlords who may not consciously think of themselves as racist may engage in discriminatory practices. Whether the subtle influence of racism affects housing options through an indirect path (such as through work opportunities and income) or a direct path (such as landlord 'preferences'), lower class Chinese immigrants in Vancouver have fewer options in housing and less choice over which neighbourhoods they can settle in.

While the wealthy economic class Chinese immigrants may not face the same forms of racism as the lower class, racism is still a salient factor in housing and settlement. These wealthy Chinese immigrants are not confined to particular neighbourhoods by limited work opportunities or income, but they do experience resistance when moving into traditionally white neighbourhoods. This resistance is expressed through a 'monster house' discourse that identifies 'Chinese homes,' and their owners, as different and in conflict with traditional aesthetics, lifestyles, and values. As Fleras and Elliott report, "instead of being labeled inferior or unassimilable," as Chinese immigrants were in the past, they are now "...chided for creating a host of social problems, [such as]...driving up real estate prices in Vancouver...suggesting that racism

in racialized societies never disappears, but reappears in a variety of different disguises" (2007, 242). By attributing their concerns about the neighbourhood to apparent 'facts' (high real estate prices, 'unattractive' architecture), white residents can claim an objectivity that is distanced from perceptions of race. Residents interviewed by The Vancouver Sun claimed that they were not racist or against immigration, but rather concerned about offshore investing, blocked views, and tree-cutting (Ugly houses, 1989; Bell, 1992; Monster houses, 1990). However, their apparently non-discriminatory assertions appear disingenuous when the newspaper also reports that one Chinese owner found a sign left at the construction site of his new home that said "Export Chinks to Chinkland, not here" (Bell, 1992). Of course, some Chinese immigrants prefer to avoid this kind of overt racism by settling in highly concentrated areas, such as Richmond. Clearly, racism impacts the housing and settlement patterns of lower and upper class Chinese immigrants.

The last few decades have seen divergent patterns in housing and settlement among Chinese immigrants that have emerged along class lines. Older immigrant families that were previously concentrated in Chinatown began to move into other areas. In the early 1970s, "a subsidiary concentration had formed in the Oak Street corridor, where about 20 percent of the population indicated Chinese origins...which reveals a substantial degree of upward

mobility (at least for some)" (Hiebert, 1998, 8-9). Hiebert also argues that other dispersions of Chinese immigrants in the "west side of Vancouver and to the suburbs indicated the continuing trajectory of upward mobility for particular members of the community," even while the continued concentration of Chinese immigrants in Chinatown and Strathcona "illustrates the fact that not all members of the community shared in this prosperity" (1998, 14). Meanwhile, immigration policies such as the 1985 Business Immigration Program, which encouraged the immigration of wealthy business class immigrants from Hong Kong and Taiwan (Guo & DeVoretz, 2005), have helped to introduce a new kind of Chinese immigrant that some white residents find particularly threatening. The wealth of the investor and the entrepreneur enables them to move wherever they wish within Vancouver, even as racist sentiments from white residents may motivate some Chinese immigrants to remain in more segregated areas.

The current patterns in the housing and settlement of Chinese immigrants illustrate how immigration policies have changed the distribution of the Chinese community within Vancouver, as well as how racism still affects both poor and wealthy Chinese immigrants alike. Immigration policies and racism have long influenced the housing options and settlement patterns of the Chinese in Vancouver, although the particular policies and the forms of racism have changed over time. While

Chinese immigrants do not suffer from the kind of overtly racist immigration policies of the pre-1947 period or even the subtly racist immigration requirements of the 1950s, they face other, more insidious, types of racism that impact on their housing options. With the past century having brought so much change to the demography of Vancouver, it will be interesting to see how housing and settlement patterns of Chinese immigrants change in the years to come.

1 While immigration policies were enacted on a nationwide scale, they were of primary concern to white British Columbians since Vancouver was a prime destination for Chinese immigrants (Chong, 1995). Many early twentieth-century B.C. politicians echoed the call for a "White British Columbia" (Anderson, 1991).

2 Other Chinese men chose not to bring their families to Canada because of the "unfriendly reception" Chinese immigrants received from the dominant society (Anderson, 1991, 79). Thus, both immigration policy and racism affected a Chinese man's decision to have his family settle in Vancouver or remain in China.

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Uncertainty in Non Point Source Pollution: Agricultural Impacts on Water Quality in the Lower Fraser Valley

Laura Gosset

I. Introduction

British Columbia's Lower Fraser Valley (LFV) is one of the most productive agricultural regions in Canada (Hall & Schreier 1996). Agricultural intensification is a significant trend in this region, characterized by "high densities of farm animals and excessive use of fertilizers and pesticides on the land" (Hall & Schreier 1996, 135). Water quality has emerged as an important resource management issue in the LFV due to increasing pollution from a variety of diffuse sources (Schreier et al. 1991). These sources include agricultural, urban, and industrial waste (Hall & Schreier 1996). This essay will address the impacts of agriculture on water quality, since "agriculture is rapidly emerging as the greatest contributor of non-point source (NPS) pollution to streamwaters in North America" (qtd. in Berka et al. 2001, 389). Of cause for concern in the LFV are the impacts of nutrients (nitrogen and phosphorus) from inorganic commercial fertilizers and animal manures on surface and

groundwater (Hall & Schreier 1996). The use of agricultural inputs presents a number of uncertainties in determining water quality in the LFV, which leads to imperfect knowledge of the status of surface and ground water quality, and a limited ability to predict non-point agricultural sources and future water quality trends. In the face of such uncertainty, future management practices in the LFV should focus on regular water quality monitoring in areas of high agricultural activity, increased regulation of agricultural inputs, and development of increased accuracy in methodologies for tracing NPS pollution in water resources.

II. Imperfect Knowledge of Water Quality

One major source of uncertainty in relation to the status of water quality is the measurement of nutrient inflow from agricultural sources. The following section will analyze current methods of measurement of nutrient levels in water and identify gaps in information.

Nutrient budget modeling has been used to determine the risks and impacts from agricultural inputs on water quality through the estimation of nutrient levels in streams and groundwater (Berka et al. 2001; Zebarth et al. 1999; Chambers et al. 2001; van Vliet et al. 2002). According to Chambers et al. (2001), a nutrient surplus can be calculated by determining the difference between input and output of a nutrient on an agricultural field. The average nutrient surplus can then be related to the estimated volume of water leaving fields, through runoff or leaching, in areas where soils are estimated to have a water surplus (Chambers et al. 2001). However, this method "only identifies relative risk based on farm practices and soil, topographic, weather and other environmental conditions" (Chambers et al. 2001, 42); it is site specific and subject to much variability.

Nitrogen (N) budget calculations have been used in several studies (Zebarth et al. 1999; Berka et al. 2001). However, the method used cannot be used to calculate actual annual losses of N to water resources "because of the complex nature of soil N processes" (Zebarth et al. 1999, 47). Zebarth et al. (1999) and Schindler et al. (2006) suggest that there is uncertainty in predicting the path of nutrients; for example, how much N from agricultural inputs will be transported into water versus air. Other sources of error in these nutrient model calculations are due to gaps in data, including limited knowledge on fertilizer application rates (Zebarth

et al. 1999). Limited knowledge on nutrient distribution leads to the false assumption that nutrients are "optimally distributed" within the study area (Zebarth et al. 1999, 48).

Other studies have attempted broader watershed or regional nutrient budget assessments by calculating nutrient loss coefficients for different land types and "estimating nutrient losses from agricultural land as a percent of the nutrients applied in fertilizer and manure" (Chambers et al. 2001, 42). Geographic Information System (GIS) techniques have allowed for increased accuracy in linking agricultural pollution to land activities (Schreier et al. 1991). GIS enables "modeling of input and output activities...in relation to different land use activities in a spatially referenced manner" and is easily accessible to multiple users (Schreier et al. 1991, 110). Berka et al. (2001) were able to link streamwater pollution with agricultural intensification in the Sumas River Watershed, a lowland area just south of Chilliwack, BC that extends into Washington State, with the use of a GIS in combination with nutrient budgeting techniques. They developed a GIS database that included information on topography, soil and land use information, and used this database to examine "changes in land use and the intensity of human activity within the [Sumas River] watershed" (Berka et al. 2001, 392). They used this information to find links between surplus nitrogen applications, soil and site conditions, and stream water quality, although

there was significant uncertainty due to scarcity of data (Berka et al. 2001).

While both nutrient modeling and GIS databases are useful tools, there are still gaps in information concerning the quality of water resources. There is a need for information on a larger scale; a report by Chambers et al. (2001) concludes that "although studies have been conducted at the scale of plots, fields, or small watersheds, regional or national estimates of nutrient loading to surface and groundwater could not be calculated" (p.190). Zebarth et al. (1999) argue that our ability to evaluate the impact of agricultural production on water quality at a larger spatial scale "remains problematic" despite the need for such information (Zebarth et al. 1999, 36).

For the LFV, there is insufficient data available on groundwater quality (Chambers et al. 2001) and the effects of nutrient leaching on groundwater. Furthermore, information is lacking on nutrient concentrations other than nitrogen (e.g. phosphorus) in water (Chambers et al. 2001). Information is also lacking on changes in fertilizer application rates (Berka et al. 2001), runoff, and sediment losses into surface water (van Vliet et al. 2002; Schreier et al. 1991).

III. Limited Predictive Capacity

For water quality our predictive capacity is limited due to the complexity of the ecological system. This complexity arises in part from the difficulty of tracing diffuse sources of pollution and

predicting their subsequent impacts on the aquatic ecosystem.

NPS pollution is dispersed over a wide area and can be caused by multiple sources (Ministry of Environment 1999). Much research has been done on the theory behind the regulation of NPS pollution; there are, however, many biophysical and social sources of uncertainty (Tomasi et al. 1994). In particular, NPS agricultural water pollution presents issues related to multiple pollutants, as well as spatial and temporal variability (Tomasi et al. 1994).

Tomasi et al. (1994) argue that multiple pollutants present difficulties in regulation, and a greater possibility for a "free-rider problem" where polluters believe their own impact to be less than that of others (p.3), as in a 'tragedy of the commons' scenario (Hardin 1968). In the case of agricultural NPS water pollution, there are not only multiple pollutants from the agricultural sector, but also from other sectors as well. For example, Hall & Schreier (1996) discuss uncertainty in linking an increasing nitrate concentration in water to agricultural intensification due to the unknown contributions from other sources such as septic tank inputs. The challenge is that "it is very difficult to isolate the contribution from individually dispersed sources in a scientifically and legally defensible manner" (Berka, et al. 2001, 127). Therefore, if not all of the polluting sources are considered, or the quantities of pollutants from each source are unknown, predictions of

pollutant concentrations in water will not be accurate.

Agricultural sources of NPS water pollution present issues related to spatial variability; sources can occur over a large geographic area (Schreier et al. 1991) and vary in terms of site conditions and soil processes and pathways (Hall & Schreier 1996). An example of a site condition variable is the soil absorption capacity of a specific location (Schreier et al. 1991). Because of geographic variability, Hall & Schreier (1996) argue that there is a "significant lag time" between agricultural inputs and the resulting impacts on water resources (p.140).

There are also variations in weather patterns (Tomasi et al. 1994), which seems to be an important factor in determining the amount of runoff in the LFV (van Vliet et al. 2002). A study by van Vliet et al. (2002) concludes that the time of year in which manure treatments are applied has a significant impact on nutrient runoff into water. For example, there is much greater runoff during the fall and winter seasons (van Vliet et al. 2002). Other studies agree that agricultural NPS pollutants "vary temporally depending on the weather conditions and the timing of applications of fertilizers, manure, and pesticides," (Schreier et al. 1991, 81).

Hall & Schreier (1996) attempt to address the future impact of agriculture on water quality by outlining three possible scenarios for nutrient management in the LFV. However, due to limitations in predictive capabilities,

the study concludes vaguely that "if any of these scenarios become reality both groundwater and surface water in the small rivers that drain the agricultural areas of the Lower Fraser will deteriorate further" (Hall & Schreier 1996, 143).

Because of the sources of uncertainty in predicting water quality, predicting the subsequent impacts of changing water quality within an aquatic ecosystem presents many challenges. Amongst the major concerns related to agricultural NPS water pollution are/ is drinking water contamination from nitrates and the eutrophication of surface water due to excessive nutrient addition (Schreier et al. 1998). The addition of nutrients causes algal growth, which can lead to the production of toxins that can have negative impacts on humans and other organisms (Chambers et al. 2001). The long term effects of excess nutrient levels in water resources are largely unknown "because the symptoms... may mimic or be masked by other environmental changes," (Chambers et al. 2001, 133). In general, not enough is known about the impacts of additional nutrients on ecosystems and human health (Chambers et al. 2001).

The effect of agricultural pollutants on aquatic biota is also largely unknown. However, it could be of major concern in the LFV due to the significance of stream and surface water for vulnerable fish species: "up to 40% of all salmonid fish in the basin spawn in the channels and tributaries of the lower Fraser" (Schreier et al. 1999).

IV. Recommendations for Future Management

In the face of such uncertainty in water quality and agricultural NPS pollution, it is worthwhile to take a precautionary approach to management. Recommendations for future sustainable management of the resource include regular water quality monitoring in areas of high agricultural activity, improved guidelines for agricultural inputs, and development of increased accuracy in methodologies for tracing NPS pollution in water resources.

Since 1985, long-term water quality has been monitored at two sites in the LFV, analyzed for nutrients, and evaluated based on provincial and federal guidelines (Shaw & Tuominen 1999). Because of the agricultural significance of this area, increased water quality monitoring should be done in the LFV on a long-term basis. This is particularly important because the long-term impacts of excess nutrients on ecosystem and human health are largely unknown (Chambers et al. 2001). Monitoring should be done, not only of the levels of contaminants, but also the effects on aquatic biota (Shaw & Tuominen 1999).

Current legislation in B.C. includes a Code of Agricultural Practice for Waste Management and Best Agricultural Waste Management Plans (Locken & Derksen 1998). These are followed/implemented on a voluntary basis and self-regulated through an agricultural complaint management system (Locken & Derksen 1998). Critics

argue that regulation is urgently needed to control nitrate input, amount and the timing of application of fertilizers and manures (Schreier et al. 1991, 82). There are many international examples of strict regulation; in some parts of the US nutrient management plans are mandatory and must be reported to local authorities (Chambers et al. 2001). Regulation based on animal stocking densities is common practice in Europe (Schreier et al. 1998). European countries such as Denmark and Sweden have taxes on fertilizers and regulations for certain periods of the year when manure cannot be used, although it should be noted that there have been issues with actual compliance of these regulations (Kumm 1990; Dubgaard 1990).

A final recommendation is the development of increased accuracy in methodologies for tracing NPS pollution in water resources. There are many variables not accounted for, such as the change over time in agricultural activities (Schreier et al. 1991). Taking into account the ecosystem complexities, a 'sustainable carrying capacity' of the LFV should be determined (Hall & Schreier 1996), which can be used to develop better agricultural input guidelines. Without a better understanding of NPS pollution impacts on water resources, mitigation and prevention of these impacts will not be possible.

V. Conclusion

Potential sources of bias in this paper include the references used as many

sources of information were written in the 1990s. This assumes that many of the trends from when these papers were written have continued into the present day. Also, many of references cited were written by the same authors due to the fact that studies done in the LFV seem to involve many of the same researchers. It is important to note that although the focus of this paper is on water quality in relation to agricultural activities, there are many other significant sources of water pollution in the Lower Fraser, such as industrial and urban waste (Hall & Schreier 1996). Sources of uncertainty in water quality derive from changing conditions surrounding the resource such as agricultural intensification, and urban pressures for development, combined with increasing population growth and consumption (Hall & Schreier 1996). Additionally, there may be changes in the societal value placed on water resources in the LFV as increasing economic pressures compete with concern for the status of the largest global salmon source (Cameron et al. 1995).

Over the last twenty years or so, there have been a number of studies concluding that water pollution due to agricultural activities is of serious cause for concern in the Lower Fraser Valley (Hall & Schreier 1996; Schreier et al. 1991) However, NPS agricultural pollution is difficult to address in policy decision making (Tomasi et al. 1994) due to the complexity of the ecosystem and the limited data available. This suggests the need for greater cooperation and

integration of government, individuals, and industry.

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Threatened From Without and Within: Independence, Memory, Space, and Fear in Burma

Nadine R. Harris



Figure 1 – 'The People's desire'

The full text of the sign reads,
"Oppose those relying on external elements,
acting as stooges, holding negative views,
Oppose those trying to jeopardize stability
of the State and progress of the nation,
Oppose foreign nations interfering in
internal affairs of the State,
Crush all internal and external destructive
elements, crush the common enemy."
(Skidmore, 2003, 10)

Burma's¹ turbulent history and complex spatial and demographic realities significantly colour the military regime's perceptions and rhetoric surrounding independence. This government billboard (see figure 1), "warning

of internal and external destructive elements" (Skidmore, 2003, 10), is typical of how historically and geographically rooted fears have been used by the military government to frame Burmese independence as constantly under threat of both internal disintegration and foreign invasion. These fears have been used to justify an ever vigilant protection of Burmese independence, and have contributed to both minority rights and democracy being perceived as threats to the union. While it may be tempting to disregard the seemingly ridiculous and politically loaded propaganda of the military junta, to do so dangerously overlooks the historical memories and spatial realities off which this rhetoric feeds. In no way does this investigation of the historical and spatial roots of the military junta's rhetoric wish to justify the repressive measures of the regime, but it does wish to shed light upon the real fears to which their rhetoric appeals. Overlooking or trivializing these roots risks undermining any effort to affect real change in this troubled country.

Memory: A Historical Background

An understanding of Burma's past is essential to deciphering its rhetorical present. Pre-colonial Burma (1057-1824) was dominated by Buddhist kings, who were eventually crushed by half a century of "violent 'pacification'" (Gravers, 1999, 8). Almost a century and a quarter later, Burma emerged from a period of increasing nationalism in the 1930s and an extremely turbulent period of shifting alliances and Japanese occupation during World War II, to gain its independence on 4 January 1948. Burma's "brief burst of independence and democracy," was shattered in 1962 by a military coup and the establishment of military rule that persists to this day (Skidmore, 2005, 3). Although the military regime was seriously challenged by democratic protests in 1988, in the end, a group of generals, organized as the State Law and Order Restoration Committee (SLORC), seized power, dissolved the constitution and "counter[ed] the demonstrations with a massacre" (Tucker, 2001, 229). Despite losing (and subsequently ignoring) the 1990 elections, the resignation and replacement of the SLORC chairman in 1992, and changing the name of the SLORC to the State Peace and Development Council (SPDC) in 1997, the military regime has remained remarkably stable since its bloody re-entrenchment in 1988.

Space: A Geographic and Demographic Background

The geography and demographics

of Burma are also important to understanding the mentality of its rulers. The central plains region is the homeland of the ethnic Burmans, who constitute the largest ethnic group (approximately 60%). The coastal regions around the fertile river deltas and the Tenasserim and Arkan coasts, are inhabited by a *mélange* of minority groups and majority Burmans.² Finally, the mountainous border region that encompasses Burma is dominated by minorities. For administrative purposes, Burma is divided into seven union republics for each of the largest minorities and seven divisions for the Burman majority (see map 1). While none of the administrative districts have considerable or differentiated political power, since they are all controlled by the highly centralized national government, their effort to delineate internal boundaries based ethnicity is significant and speaks to the ethnic complexity of Burma. However, beyond this administrative map, "the actual ethnic situation is considerably more confused;" (Fredholm, 1993, 10-11) most minorities live beyond their allotted republics, smaller minorities exist who have not been granted administrative republics (see map 2), and religious differences also mark ethnic relations. Although most of the population, including the Burman majority, practices Theravāda Buddhism, several other religions exist, including Christianity. Most of this Christian population, which measures 5% of the total population, is found among the Kachin, Chin and

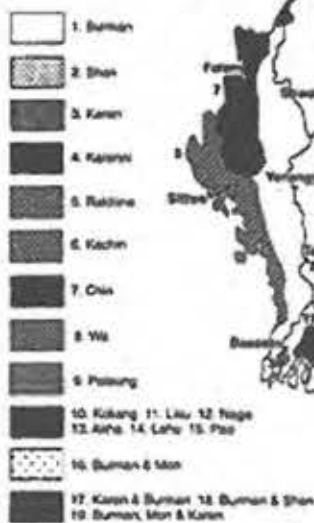
especially the Karen, although none of these groups are exclusively Christian.



Map 1- Administrative map. Tucker, 2001, i

Administratively, there is one republic each for the Rakhine (or Arakanese), Chin, Kachin, Karen, Kayah (or Karenni), Mon, and Shan nations. The seven divisions of Rangoon, Irrawaddy, Tenasserim, Pegu, Magwe, Mandalay, and Sagaing, are for the Burman majority.

Ethnic Groups of Burma



Map 2-Ethnic groups. Tucker, 2001, ii

Note that while the Burmans have been exclusively granted the divisions of Sagaing, Irrawaddy, and Tenasserim, these are areas either largely dominated by other groups (by the Kachin and Naga in the north), or seriously contested (by the Karen and Mon in the South). The Mon have their own republic, but they share this area with a substantial Burman population. In the East the Shan are the largest group, and have been granted a republic roughly aligning with their territory; however, there are other groups in the area such as the Wa, Palaung, Kokang, Akha, Lahu, Pao, who do not have republics of their own. Similarly, the Lisu and Naga inhabit sizable areas in the North, but do not have their own republics, and instead, lie within the Kachin and Burman areas respectively.

Threats from Without

To put the Burmese fear of foreign intervention into perspective, one must

remember that "the muddy brown Ayeyarwadi River, [flows] through centuries of conquest and submission" (Skidmore, 2005, 3). This legacy of colonialism is constantly drawn upon to remind the Burmese, and especially the majority Burmans, of the fragility of their independence and to justify the status quo. The fall of the Burman Buddhist King, and the humiliating removal of the Peacock Throne to a Calcutta museum, are still well remembered (Gravers, 1999, 8-9). Furthermore, the sacrilegious behavior of the colonizers, who ransacked pagodas for their gold and silver Buddha statues, signified a complete undermining of the Burmans' conceptual and religious system (Gravers, 1999, 9). As Gravers summarizes, "this period entered Burman historical representation as the complete humiliation of their society, a literal trampling upon their religion and culture, and the distortion of their universe" (Gravers, 1999, 12).

The initial loss of independence to British colonialism was further exacerbated by the arrival of a growing number of immigrants from India and China following 'pacification' (Gravers, 1999, 25). Indians in particular were given preferential positions in the colonial administration and the Chinese came to dominate trade and business (Fredholm, 1993, 25). The resentment that Burman nationalists felt toward these minorities became violently represented, first in the anti-Indian riots of 1930, the larger riots of 1938, and during World War II when thousands

of Indians were killed.

During the end of the colonial era and the wars of independence, the hesitance of the British to let go off their power proved to the majority Burmans that their fear of foreign interference was well placed (Gravers, 1999, 49). While the Japanese and the Burmese Independent Army (BIA), led by Aung San and dominated by Burman nationals, were fighting to drive the British out during WWII, the British attempted to salvage a foothold in the minority Karen district. They tried to organize a Karen guerilla force, and for Burmans this confirmed fears that foreigners would attempt to undermine Burmese independence (Gravers, 1999, 44). Furthermore, in their effort to maintain dominion status over Burma the British often used divide-and-rule tactics to emphasize opposition within minority groups and thereby claim that they should maintain control over the minority areas (Gravers, 1999, 48). Instigating further outrage was the disclosure that British officers had supplied the weapons for and had been complicit in Aung San's murder (Gravers, 1999, 50). This multitude of enraging events meant that "independence did not lead to any genuine liberation from the past; rather, it heralded the arrival of paranoia, where every occurrence reeked of foreign involvement" (Gravers, 1999, 50). Following independence, the continuing influence of the British, the Chinese, the Indians, and the USA/CIA, continued to nurture fears of external interference.

Finally, historical fears of foreign

intervention have been heightened by Burma's geography. Burma shares its northern borders with the Asian superpowers, China and India. Suspicion of these two countries was fueled both by their involvement during the colonial period, and their regional influence since independence. Although the Burman majority, who also dominate the government, enjoy a buffer of mountain ranges to protect them from their powerful neighbors, these mountainous regions are dominated by ethnic minorities who have, at various times and with various insistence, agitated for independence (see maps 1 and 2). This is just one of the many instances where the fears of internal disintegration of the union and foreign intervention intersect, since the loss of these mountain regions to internal opposition would also mean a loss of a protective barrier against external threats.



Map 3. Burmese capital (BBC News, 2005)

The location of the former capital, Rangoon, was also seen as susceptible

to foreign invasion, and this has been one of the suggestions made for why it was moved 400km north to Pyinmana, central Burma in 2005 (see map 3). Some analysts have speculated that the junta was afraid of a seaborne invasion, particularly by the vocal critics of the regime such as the US, and thought that a location further from the coast would be safer (Aung Zaw, 2005 & BBC, 2007).

Threats from Within

A second fear of internal disintegration and discord, especially along ethnic lines, is likewise entangled in historical memory and spatial realities. While ethnic insurgency feeds directly into fears of disintegration, it also reinforces the fear of foreign interference in interesting ways. It is also important to note that ethnic divisions in Burma were exacerbated by colonialism. The British colonial model "was based on the principle of 'divide and rule,' where racial, ethnic, religious, social and economic differences and contradictions were allowed to develop" (Gravers, 1999, 7). This is in contrast to the pre-colonial model where ethno-national differences existed but no Burmese kingdom had been ethnically homogeneous (Fredholm, 1993, 13). The idea of different and irreconcilable ethnic nations with claims to political independence was born and nurtured during colonial rule and in the years leading up to independence.

The most significant factor that colonialism added to the ethnic scenario was religious difference. Christianization

of several of the minorities, particularly the Karen, began in the 1830s. Gravers points out how Christian missionaries challenged not only the religion but the very basis of Burmese society, because they called for a total break with Buddhist cosmology and ontology: "in such circumstances, Christian Burmans were not simply people who broke with Burman culture and religion – they were disloyal citizens of the Buddhist kingdom of Burma." Christians were therefore "labeled as kala ('foreigners'); the comparatively few Burmans who converted were permanently placed outside of society as aliens" (Gravers, 1999, 21). Christianization therefore simultaneously fed both fears of internal and external threats. Internally, Christianity undermined the basis of both Burman identity and the common foundation which had formerly united the disparate ethnic groups of the kingdom (Gravers, 1999, 22). Externally, it was supposed that "if large sections of these minorities now became like the foreigners, the Europeans could easily assume power" (Gravers, 1999, 22). These exact fears were played out during the wars of conquest and independence.

During the colonial wars and the period of 'pacification' some minority groups, and particularly the Christian minority, fulfilled the Burman majority's worst fears. The British recruited the Christian minority to fight the Burman 'rebels' and rewarded them for capturing the heads of monks (Gravers, 1999, 10). It should be noted

that Christian communities were also brutalized in retaliation, although this is often overlooked in the historical memory of the contemporary Burman majority. With brutality on all sides, colonial conquest "express[ed] itself as a religious war with ethnic connotations" and provided lasting fodder for the fire of ethnic enmity (Gravers, 1999, 24).

Fueling ethnic animosities further, the colonial regime gave minorities, and particularly Christians, preferential positions in the colonial apparatus. This colonial preference given to minority groups heightened the humiliation of the Burman majority who had already seen their political, cultural, and religious supremacy usurped by the British; now their former subjects were being given the power to rule them (Tucker, 2001). However, Burman concerns went beyond this ethno-centric humiliation, and they now saw the minorities as threatening allies of the colonists. This was reinforced first by the Christian participation in the wars of conquest, and then again in the 1930s when the Karen were prominent in suppressing the Burman nationalist rebellion. The wars of liberation, first against the British and later against the Japanese, further alienated the ethnic groups. The British appealed to the fears and nationalism of the Karen to enlist their help in a guerilla struggle against the BIA. In turn, rumors of British soldiers being given refuge in Karen villages led to retaliatory attacks, killings, and burnings against these communities. While the treachery of the Christian Karen is well remembered,

this later issue of retaliatory and often excessive violence, which served to further perpetuate the conflict, is often left out of the current narrative (Gravers, 1999, p. 44-45). The suspicion of the Karen continued during the war against Japanese occupation, and attacks against the Karen proliferated. Sadly, instances of cooperation, such as the important role that the Christian and Buddhist Karen leaders played in driving-out the Japanese are less well-remembered in the current rhetoric, and the Burmese memory more generally (Fredholm, 1993, 37).

The years leading up to independence, and the insurgent groups that proliferated afterwards, continued to entrench an aura of ethnic animosity. In a final effort to use the minorities to salvage the vestiges of their power, the British tried to mobilize minority leaders against Aung San in the Border States. Particularly during the negotiations regarding ethnic self-determination, the British agitated for minority rights in an effort to undermine the Burmese nationalists (Gravers, 1999, 48-49). In this way the demands of many minorities became perceived as instigated and tainted by foreign meddling. Since independence, armed insurgencies from all other major ethnic groups have risen up to challenge the Burman-dominated government. Despite the fact that many of these groups have given up aspirations of formal independence and now seek greater autonomy within Burma, the military junta draws upon potent historical memories and "still

suspects them of scheming to split the country" (ICG, 2003).

Finally, Burma's geography contributes to the fear of internal disintegration. Firstly, the administrative and ethnic boundaries do not neatly align, and they are strongly contested by all ethnic minorities (Fredholm, 1993, 10). Even a quick comparison between the administrative map, and a map marking the location of the main ethnic groups (see maps 1 and 2), reveals areas of discrepancy and imaginable contestation. Secondly, the Burman population is literally surrounded by ethnic minorities. From this perspective, independence, or even greater autonomy for the minorities, raises fears of being isolated and cut off from many of Burma's most strategic regions. For example, the rivers and coastal regions are largely inhabited by minorities, and the protective mountain region is an area where the Burman majority has experienced difficulty enforcing its control. Finally, while Burma is rich in natural resources, particularly in rice, timber, and precious gems, (Perry, 2007, 1) these resources are often found within minority-dominated areas. The coastal region around the fertile river deltas is where the majority of the country's rice is farmed, and the forested Tenasserim and Arkan coasts are rich in timber resources. The mountain region contains some of the country's most valuable gem deposits including the "Valley of Rubies," whose infamous gems have gained a reputation similar to 'blood diamonds' for their important role in

financing the junta.³

'Independence,' Self-determination and Democracy, as framed by Fear

It is, therefore, within the framework of these two, often intertwined, fears that the military junta's definition of 'independence' and its rhetoric must be considered. The population is constantly reminded of the threats from without and within, casting an image of a fragile independence, and justifying an ever vigilant, militarized, and unitary state. This last element of 'unification' is ironically borrowed from the former colonists themselves. Many Burman nationalists were inspired by the colonist's 'union' model, whose 'doomsday prophesy' insisted that if the centrally controlled 'union' disintegrated the whole society would collapse into chaos (Gravers, 1999, 28). With the added clout of Burma's turbulent history and problematic geography, the military junta has embarked on "an ideological program to 'unify' the many peoples of Burma and the 'Union of Myanmar' has occurred" (Skidmore, 2006, 4). Within this framework of fear, both self-determination for minority groups and the pro-democracy movement have been depicted as threats to the union and, in turn, to the integrity and independence of the state.

The many historical and geographic contributors to the fear of internal disintegration overshadow all demands for greater minority rights. The fact that minority groups were repeatedly assisted by or aligned with

the colonial power, only hurts their case further. The Burman-dominated military government's answer to the ethnic minority question has been unification, and an effort to homogenize the nation. For minorities, the agenda of unification, "has involved four decades of civil war where pacification of all those groups who will not submit to unification of the nation occurs through the might of the armed forces" (Skidmore, 2005, 4). Fears of internal disintegration and collaboration with foreign elements frame the denial of independence, or even a degree of autonomy for ethnic minorities, and are seen as a justification for the regime's repressive policies in the minority areas.

The pro-democracy movement has similarly been depicted through this lens of fear. When protestors took to the streets in September and October 2007, the official state newspaper, the *New Light of Myanmar*, reported that "the colonialist bloc and national traitor axe-handles instigated [the] mass protests" and assured the population that "peace and stability has been restored" (Harding, 2007). As for the Buddhist monks who led the protests, and who were much more difficult to dismiss as foreign elements, the same newspaper reported that they were "bogus monks," and implied that they were religiously unsound (Nay Pyi Taw, 2007). While obviously inaccurate, the regime's depiction of political opposition is reinforced by fears of both external and internal threats to Burmese independence and to the cultural

integrity of the majority Burmans in particular. The regime has consistently attempted to depict the democracy movement as foreign interference, and accuses leader Aung San Suu Kyi, "of being in collusion with 'foreigners'" (Gravers, 1999, 3). The junta regularly points out Aung San Suu Kyi's marriage to a British man, and has equated this foreign marriage with a crime (Fredholm, 1993, 4). Similarly, when Aung San Suu Kyi has insisted that human rights should be protected by rule of law, "the regime has answered that human rights are incompatible with Burman culture... like all talk of democracy, human rights are merely an expression of foreign meddling" (Gravers, 1999, 47).

A Final Word about Words

To outside observers the rhetoric of Burma's military can seem so ridiculous it is tempting to overlook it as hysterical propaganda. There is no doubt that the regime politically invokes fear of internal and external threats to legitimize its rule and power, and draws on history selectively to bolster its prescriptions for independence. However, despite these important disclaimers, part of the reason the regime's rhetoric is successful is because it draws on real historical fears and spatial realities. As the International Crisis Group points out, past efforts to effect change in Burma have repeatedly failed, largely because "outside pressure has failed to take into account how this government sees and responds to the world beyond its borders" (ICG, 2007). An understanding of the historical

and geographical roots of the regime's rhetoric is thus essential for a complete and effective understanding of Burma's current challenges. Even Aung San Suu Ky has noted the importance of Burma's history of subjugation and humiliation. She reminds us that, in Burma, "the population's fear and feelings of humiliation must be counteracted if change is to be possible" (Aung San Suu Ky, 1997).

1 The name Burma, rather than Myanmar, is used in this paper. This is partly for consistency, since many of the sources have used Burma. It is also out of political conviction; it serves to voice my opposition to the military regime and deny that it has the legitimacy to officially change the country's name to Myanmar.

2 The modern nation state of Burma and the pre-colonial Buddhist Kingdoms are both composed of various ethnic groups (see Map 2), and their different names and terms can become confusing. 'Burman' ('Burmans' plural) refers to the majority ethnic group which makes up approximately 60% of the population of modern Burma, and have traditionally dominated. This is not to be confused with the name of the nation state itself, 'Burma,' or with the term 'Burmese,' which refers to the nationality of all citizens of the modern state. The minority ethnic groups include at least 18 main ethnicities, and further subgroups, who have been traditionally marginalized, including the Shan, Kachin, Chin, Karen, Karenni, Rankhine, Wa, Palaung, the Mon, heretoforth referred to as 'minorities' or 'minority groups.' One ethnic minority, the Karen, is referred to specifically because of its special relationship with the colonial power and the tension between it and the Burman majority dominated independent state of Burma.

3 The "Valley of Rubies," 200 km north of Mandalay in the mountainous Mogok area, is famed for its rare pigeon's blood rubies and blue sapphires worth tens of thousands of dollars apiece. See Crimmins, 2007.

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The "Nature" of Japan

Kara Huculak

1. Introduction

The terms "nature" and "natural" are complex concepts and it may be easy to forget how often our own assumptions are implicated in their definitions. In the West, it is often assumed that the Japanese have a much greater appreciation, or even love of, "nature" that may be distinguished from a more dominating and exploitative view of nature drawing from the Judeo-Christian tradition. However, just as it has been in the West, distinctive Japanese concepts of "nature" have and continue to form Japan's attitudes and practices toward their environment. The following discussion explores Japanese constructions of nature and the arguably close connections to the natural world, but also illustrates that the apparent value of the "natural" may not necessarily transfer into greater environmental protection.

Using academic sources as well as photos and information from my travels in Japan, I will discuss the Japanese perception of nature. In the second

section, I will address some of the ideas that are associated with our Western understandings of the term "nature." In the section to follow, I will contrast this to some of Japan's historical and religious influences that have distinguished the country's interpretations of the natural world. In the fourth section, I will discuss the Japanese concept of the term "natural" and argue that this is a different interpretation from our general Western understanding of this term. Gardens are important representations of the Japanese attitudes toward nature and landscape; in the fifth section, I will show how gardens symbolize idealized forms of nature for the Japanese by using examples of the Daisen'in Garden in Kyoto and the Hotel New Otani Garden in Tokyo. Finally, I will address whether a Japanese "love of nature" is truly an accurate interpretation, and in particular, how this may be related to Japan's environmental practices.

2. Defining "Nature": Western Perspectives

How does one define the term "nature"? According to the Dictionary of Human Geography (Johnston et al. 2000, 537), "nature" is associated with the three following definitions. First, "the essence of something"; second, "areas unaltered by human action"; third, "the physical world in its entirety, perhaps including humans." From these definitions, however, it can be seen how complex, varied, and also contradictory the term nature has come to be a part of our understanding. The second definition, in particular, represents what I believe to be one of our most familiar understandings of the term "nature" in the West. In this definition, nature is something "out there"; "external and unaltered" as the Dictionary of Human Geography suggests. It is a part of how we have come to culturally define the world representative of "western tendencies to dichotomize the universe and stress the absolute" (Brun and Kalland 1995, 11). This perception continues to shape our predominant understandings of nature in the West, with modern environmentalist critiques placing the blame for environmental degradation either upon this "Cartesian world view" (Kalland and Asquith 1997) or on the dominant legacy of our Judeo-Christian heritage, which continues to permeate our exploitative attitudes and practices toward nature (White 1967).

3. Japanese Definitions of Nature: Historical Perspectives

So how do Japanese perceptions of nature differ from Western conceptions?

As in the West, Japan's religious traditions have also helped to form the Japanese conception and definition of "nature." Specifically, the religious and cultural values associated with the religions of Shinto and Zen Buddhism are fundamental to the Japanese distinctive understanding of the world. According to the indigenous religion of Shinto for example, the divine (*kami*) is believed to be an integral part of all natural phenomena, instilling people with a sense of awe or spirituality. Thus, according to Japanese mythology, the sun and moon, rocks, streams, old trees, caves, flowers, animals and certain people are considered to be the offspring of deities. Therefore, in this ancient tradition, "nature and the spiritual world are inseparable" (Kalland and Asquith 1997, 2) An example of this can be seen in Photo 1, taken at Sumiyoshi Taisha in Osaka. It depicts a very old tree that is honoured by the Japanese as a spiritual being.



Photo 1: "Sacred Tree" at Sumiyoshi Taisha, Osaka. Taken by Kara Sidoni Huculak

The emergence of Buddhism in Japan from the sixth century with its emphasis on the interconnectivity of everything in the universe and underlying concept of reincarnation, has also served to shape the Japanese understanding of nature (Kalland and Asquith 1997). From these ideas of interrelationships between all phenomena and all things, "Not only was the distinction between the animate and the inanimate gradually erased... but natural phenomena became viewed as [having] Buddhahood already possessed intact" (Kalland and Asquith 1997, 3). Furthermore, Taoist and Tantric Buddhist spiritual practises within nature that include making pilgrimages to natural sites, became a part of religious training that would allow one to enter into the process of being nature itself (*ibid.*). Thus, compared with Judeo-Christian beliefs, the distinction of "human" and "nature" has not been as 'sharp'. Or, as Kyburz adds, "the Western, Judeo-Christian idea of man as the ultimate creation, as the privileged object of a unique god's attention, with a linear historical destiny... is contrasted here by a world view in which human existence extends through an indefinitely cyclical continuum" (1997, 258)

A further distinction, related to the influences of Buddhist thought and the Japanese perception of the world, is the 'we-philosophy' as defined by Thomas Kasulis. In contrast to what Kasulis (1992) deems the dominant 'I-philosophy' of the West, which interprets the world as the sum of

its parts, the paradigm of Japan is represented by the 'we-philosophy', wherein everything is a reflection of the other. Therefore, as related to a much more "cause-and-effect" interpretation of processes, the Japanese have continued to hold on to what may be considered a much more superstitious interpretation of nature and natural laws (Kalland and Asquith 1997). Kyburz adds that an element of magical thought has remained an integral part of the ceremonies and ritual arts such as tea ceremonies, landscape gardening, and flower arranging, characteristic of Japan's past and moreover, that this acceptance of the "supernatural" continues to permeate Japanese culture today (Kyburz 1997). He states, "The idea of fusion with the surrounding elements, and by extension, with the cosmic whole, has played hardly more than an episodic role in the history of Western thought... whereas in Japanese culture, it has been pursued as the absolute ideal of existence, as a way of life" (Kyburz, 1997, 261) What is important from this interpretation is that the boundary separating "nature" and "culture" has been much less clear-cut in Japan than in the West (Kalland and Asquith 1997). For that reason, "what is natural" in Japan is also a very distinctive construct.

4. Defining "What is Natural" in Japan

In the West, I believe that we are most familiar with the term "natural" relating to our concept of nature, in the sense

that "that which is 'natural' is that which has not been artificially manipulated" (Ashkenazi 1997, 217). On the other hand, an alternative interpretation of "natural" refers to "something that is in its proper place, something that fits" (Ashkenazi 1997, 217). This second definition of "natural" is fundamental to understanding how the Japanese perceive nature, pertaining to Kalland and Asquith's (1997, 11) point that "nature as a process implies that nature is not regarded as something absolute but as situational or contextual". Ashkenazi's work, *The Canonization of Nature in Japanese Culture: Machinery of the Natural in Food Modernization* (year), provides an interesting example in the form of vending machines on how the concept of "natural" has a very different interpretation in Japan than in the West. He writes that from a Western perspective, the prevalence of vending machines, particularly within more "natural settings" such as parks, gardens, and shrines may seem very out of place or "un-natural." At the core of Ashkenazi's argument, he challenges our views stating that to the Japanese, vending machines or any other types of machines, robots, or even the food within the vending machines, are a part of what is considered natural and are behaving "naturally". This is because nature is not necessarily associated with what has not been artificially manipulated as we see it in the West, but quite the opposite; vending machines are natural because "nature, for the Japanese, implies most strongly 'something that is in its place,

something that acts appropriately'; that is, something that is part of the order of things. This implies that there is no hard-and-fast distinction between the natural and the artificial" (Ashkenazi 1997, 207).

Related to the above discussion is how the concept of "natural" is reflected in Japanese attitudes and behaviours regarding other natural objects and processes. As Kalland and Asquith (1997, 11) argue, "the important thing is not the manifestation of nature itself but the idea about nature". They add that culture and nature remain intertwined; nature is not at the opposite end of culture, but rather is a process that oscillates between two extremes that may relate to the terms "cooked or raw", "tame or wild", "inside or outside", and "pure or impure." This process is inherently context-specific, but also founded upon the ultimate aspiration for nature to merge into its ideal state with perfect culture, considered by the Japanese to be nature's most pure, inside state (Kalland and Asquith, 1997, 13). An interesting example related to this is the term *yama*, which is usually translated as 'mountain', but can also mean 'wild' as opposed to cultivated, and 'temple' in the Buddhist context. As Kalland asks, "What then do mountains, forests, 'the wild', and temples have in common? They can all be said to be bridges between the inside and outside... But *yama* is not only a bridge between human and divine worlds, it also denotes the outside in opposition to human society, which is inside" (Kalland

1995, 248). Therefore, in reference to processes ranging from people's own behaviour to external environmental phenomena, the Japanese believe that something may be "regarded as 'natural' when it is the most 'cultured'" (Kalland and Asquith, 1997, 12).

5. "Cultivating" Nature within the Japanese Landscape: Japanese Gardens

As "cultivating" or transforming nature from the "wild" to the "tame" remains elemental to the Japanese concept of nature, "the nature cherished by most Japanese is not nature in its original state but in its idealized state" (Kalland, 16). Gardens represent one of Japan's most essential examples of 'cultivating' and thereby moving nature toward its ideal state. As stated by Mather, Karan, and Iijima:

The salient aspects of public gardens are that they represent a scaling down of idolized nature, where spacious panoramas are compressed into a controlled scale; they are a subjugation of nature; they present nature trimmed and form is controlled; and they include a meandering path along which are inspiring new perspectives. At their best, they are gardens of meditation (Mather et al. 1998, 59).

In a similar respect home gardens, with their carefully sculpted and trimmed plants, are a fundamental aesthetic component of these private spaces. Even within limited and confined spaces, it is the quality not the quantity of these natural elements that is

important. Home gardens may be very small. In some cases there is no space for a garden itself, and trimmed shrubs or potted plants serve the same function of representing nature in its ideal state. "The home garden expresses the idea of living in harmony with nature, rather than conquering it. All of the elements in a garden, including the house, form an integral part of the unified whole" (Mather et al. 1998, 62).

In the West, the aesthetic appreciation of nature is generally somewhat different and creating larger, but at the same time "managed" or "controlled" natural spaces has become the general practice. "In the West people worry that progress is not leaving enough wilderness, and there is an attempt to sanitize nature and tame it for public parks and gardens" (Mather et al. 1998, 62). For that reason, Japanese gardens have been very distinctive from either their English or French equivalents. "Whereas the English garden is one of studied naturalness and the French garden represents a rational order with a geometric aspect that is imposed on disorderly nature... the idolized Japanese garden emphasizes nature controlled by the human hand... to achieve living perfection on a limited space" (Mather et al. 1998, 62).

Although Japanese gardens may vary slightly in their size, layout, and composition, they all contain three essential elements: rocks, water, and plants. Flowers, on the other hand, are not an essential component. Moreover, while these elements may

appear to be random and uncontrolled, every detail of the garden is carefully planned and continuously tended to, in order to maintain its desired "natural" appearance (ibid., 63). Joy Hendry also points out that home, temple, or shrine gardens are always enclosed and hidden. She argues that these garden spaces mediate between the security of the tame "inside" world and the more threatening world "outside" world of nature in its raw, untamed form (Hendry 1997, 84). Specifically, gardens represent for the Japanese what Hendry refers to as a "wrapping" or "cooking" of space and of nature (ibid., 85). A skilful gardener also uses a framing technique to ensure that the view inside of the garden captures a desired part of nature; "by combining techniques of reductionism, reducing diversity, the visual field, quantity or size, there emerges a simple model of nature... [which] is nature in its ideal form (Kalland and Asquith 1997, 18). Photo 2 reveals the constant maintenance that is required to keep a Japanese garden's "natural" appearance.

Prototype gardens within Japan also emphasized the connection between spirituality and nature, the space being "sacred, cleared and purified for the purpose of summoning deities, a point of contact and communication with the spiritual world" (Hendry 1997, 89). During Japan's Heian period in the eleventh century, Zen Buddhist inspired gardens were also connected to spiritual practices, in that garden spaces were designed to "promote a meditative



Photo 2: Gardeners trimming trees at Ginkaku-ji Temple, Kyoto. Photo taken by Kara Sidoni Huculak

calm" (Mather et al. 1998, 63). As well, the building and maintaining of the garden complex would allow monks to achieve a good level of both physical and mental health. An important example of such a garden is the Daisen'in Garden, one within the 24 temple complex of Daitoku-ji, Kyoto. In a publication from Daisen'in, it is written that "the first need for gardening was felt by men who lived in rather forbidding natural surroundings. They liked to escape from the complexity of life... their idea was of some place or other, safe from attacks of beasts. Thus it appears that they fenced off an area which was developed into a garden" (Daisen-in 2007, 29). The garden also exemplifies idealized nature contains many symbolic elements and its composition is said to give the impression of looking at an ink-printed landscape (Daisen-in 2007, 29). In addition, as common in other gardens, Daisen'in is arranged to represent other elements of larger, "outside" nature.

For example, the rock arrangement in the corner is said to symbolize Mt. Horai and its imaginary waterfalls "plunge" into the rock garden representing the Great Sea below (Daisen-in 2007, 29). A monk's training, which could take up to ten years, included the raking of the small white stones. This was a practice that would also symbolically create waterfalls, rivers, and waves, and used as part of the practice of meditative contemplation (Bequette 1997, 1-2). The whole scene also takes on metaphors from what are considered traditionally important and symbolic animals, these also exemplifying the philosophy of Zen. As it is written, "Incorporated into the design is the crane-turtle pattern... From ancient times the turtle... has symbolized to the Japanese the depths to which the human spirit can sink, while the crane in flight symbolizes the heights to which the human spirit can soar" (Daisen-in 2007, 17).

During the Tokugawa period, gardens became places where warriors could stroll around. The composition of such gardens also contained elements of specific scenic spots and in Edo, for example, "were designed to allow lords from the country to evoke their homeland without leaving the capital" (Hendry 1997, 98). Teahouses also became an essential part of these gardens place where "men ... found refuge from strife in the tea ceremony" (Mather et al. 1998, 63). Entering the tea garden with its three threshold gates was also a spiritual transition from the harsh nature of the outside world to a "wrapped" inner

world where one could let go of his or her concerns (Mather et al. 1998, 64). The 400 year-old Garden that is enclosed by the Hotel New Otani in Tokyo provides an interesting example of how a garden once provided such refuge for Edo's prominent families. But it also continues to be a space representative of a type of idealized, enclosed nature within the very busy city of Tokyo. Figure 1 illustrates that the New Otani Garden contains all the elements of a traditional Japanese garden: cultivated plants, a display of "priceless garden stones," a large and small waterfall, a tea room, and even a traditional pottery-making kiln, all located on the inside space of the hotel grounds.



Figure 1: Map of the Garden at The Hotel New Otani Tokyo

Source: <http://www.newotani.co.jp/en/group/garden/zenkei.html>

A press release covering the story of the New Otani tells of its history and aesthetic qualities. After World War II,

the garden was purchased by Yonetaro Otani from a prominent Tokyo family under the premise that 'Such a historical property is too important to sell off to foreign interests' (A Poetry of Seasons, 2). Today, the hotel and garden are situated on 69,000 square metres of land and over 60% of this is covered by blooming plants and trees (A Poetry of Seasons, 9). Most significantly, the news release focuses on how the garden within the New Otani continues to provide an ideal, secluded experience of nature. For example, it states: "The focus of the garden is a landscape of skilfully arranged stones complemented by lush stands of trees and early- and late-blooming azaleas. These lend a softening effect and overall warmth to the atmosphere. The boundary between buildings and grounds is delineated with stone masonry" (A Poetry of Seasons, 3). The article goes on to state that "the promenade... is surrounded by such lush greenery that some people find it hard to believe that they're in the city" (A Poetry of Seasons, 8). Indeed, a garden such as the New Otani epitomizes the Japanese appreciation for such cultivated "natural" spaces. Photo 2, for example, depicts two Japanese women taking in the view of the New Otani's garden waterfall.

6. A Japanese "Love of Nature?"

From the above discussion it may seem obvious to conclude that the Japanese who hold nature in such high regard must therefore have a deep "love for nature." What's more, since



Photo 3: *The Garden within the Hotel New Otani, Tokyo. Note how the hotel walls form a "wrapping" of the Garden. Photo taken by Kara Sidoni Huculak*

ancient times, the Japanese appreciation of nature has been more than just an aesthetic admiration of beauty: it has acted as an integral part of religious values (Kalland and Asquith 1997). From the traditional arts such as poetry, painting, sculpture, flower arranging, and gardens, to more modern embellishments of nature-inspired imagery on high tech products and also marketing and advertising (Moeran and Skov 1995), allusions to nature appear to be everywhere in Japan. Related to this, therefore is also a widely held belief that "the Japanese live in harmony with nature, which frequently is contrasted with the quest to 'conquer nature' allegedly found among westerners" (Kalland 1995, 244). However, as Kalland has argued on several occasions (1995, 1997, 2002), this is largely a myth, one that he tries to dispel. Japan has experienced some of the worst cases of environmental degradation and

pollution. For example, the pollution of air and water became such a serious problem in many industrial areas that many diseases came to be named after the cities where they frequently occurred (Karan 2005). Furthermore, although a "religious environmentalist" paradigm may praise religious ideals of Japanese Buddhism as an antidote to Western principles as Kalland (2002) argues, this has neither prevented the Japanese from clear-cutting the forests of Southeast Asia, nor stopped the pervasive litter on Mount Fuji or other national parks after the tourist season. So how can a culture with such an allegedly high value of nature allow such practices to take place? Some may argue that it has been through the effects of modern and western modernization that environmental degradation and destruction of nature has taken place. However, as Kalland (2002) points out, in medieval times, and long before contact with Western ideas serious deforestation took place in Japan. Therefore, one must look more closely at what the Japanese appreciation of nature actually means.

At first hand, it must be remembered that the Japanese regard raw nature as "both dangerous and powerful" (Kalland and Asquith 1997, 20). Therefore, as mentioned, nature that is 'cultivated', 'cooked' or 'wrapped' has a much higher value than the preservation of large spaces of 'untouched' wilderness. These more cultured forms of landscape may also serve to symbolize some aspect

of "outside" nature, and are in fact considered more valuable than the real place itself. As Kalland and Asquith point out (1997, 25) "Representations of nature may become more important than real nature. They become parts of an ideology". The Japanese are very selective about what aspects of "outside" nature are most cherished. For example, the preservation of certain animals that hold high symbolic value such as cranes and tortoises may allow for these to be singled out but will not necessarily lead to protection of the greater environment. Moreover, there is an inherent destructive quality concerning the Japanese very selective enjoyment of nature, which risks encouraging ecological devastation due to the belief that "the true and ideal nature thus only becomes apparent when all offensive elements are removed" (Kalland 2002, 149). Kalland also argues that when considering which landscapes are of most value, "the single most important factor for how many Japanese experience landscapes is whether they have beforehand been told that the landscape is of particular beauty... Moreover, experiencing nature in specific ways has been institutionalized... told how to appreciate these beautiful spots in the best way" (Kalland 1995, 252). A religious appreciation in the divinity of nature has also not fostered what may be considered a holistic approach to the environment. On the contrary, ritual purification of certain spaces may allow the Japanese to feel free from any obligation to the spirit world and allow

spaces to be used even environmentally degraded (Kalland and Asquith 1997, 30). Kalland (2002) also argues that the cyclical Buddhist understanding of the world where everything gives rise to everything else may also contribute to placing little value on specific natural objects. Most significantly, with the metaphor of nature thereby becoming more important than nature itself, "a preoccupation with ideas about things rather than the things themselves" (Kalland and Asquith 1997, 30) can also diminish attitudes that may favour any real environmental protection.

7. Conclusion

This essay has explored different cultural constructions of "nature" and "natural", ultimately drawing out significant distinctions between the West and Japan. It is most important to remember in both the context of Japan and the West that nature is not something "out there", but embedded in our own cultural conceptions of the world. Moreover, while it may be common among environmentalist critiques to place the blame for degradation solely upon a dominant Western perspective of nature, the contrasting example of Japan reveals the error in idealizing the Japanese attitudes toward nature compared with our own. A deep connection to their concept of nature, however, continues to be a part of the Japanese psyche and despite long-term environmental degradation in Japan, some real progress has been made. While Japanese environmental groups

have not been strong advocates of international environmental concerns, some strong locally-based grassroots movements have placed enough political pressure on the government for some of the most destructive industrial practices to be cleaned-up and the local citizens to be heard (Karan 2005). As Kalland points out, after much deforestation Japan is now an industrial country with one of the largest forest covers relative to land area and Tokyo, at one time one of the most polluted cities, is now one of the cleanest (2002). At the same time, however, many local environmental groups insist that much more must be done to prevent the destruction of their natural spaces (Karan 2005). So what does this ultimately mean? Do the Japanese see themselves essentially and spiritually connected to nature, or do they view themselves as superior to nature, where changing, cultivating, and perhaps eventually exploiting nature is the inevitable outcome? Once again the answer comes back to context, as Kalland argues, "the Japanese are either, or both, depending on the situation" (2002, 153).

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An Olympic Problem

Shawn Kay

Host cities of the Olympic Games are the recipients of global recognition, often benefiting from their position in the international spotlight. However, the games do not always bring favourable changes; if mismanaged, an Olympics program can present large-scale negative impacts. Vancouver's existing population pressures make it an inappropriate location for the games to take place. In the lead up to the 2010 Winter Games, the city's program has caused and influenced gentrification, which increases housing costs and can unfairly displace many people. Despite the potential of this issue to bring harm to the city and increase strain on residents, the topic has not been adequately addressed. Vancouver's Olympic plans constitute an inappropriate distribution of resources, and will largely serve to further the city's existing problems.

Vancouver will be hosting the 2010 Winter Games between February 5th and 27th, with 70% of the events and venues taking place in the city itself. The overall venue construction

budget forecasted at this point totals \$580 million dollars (Pacific Liaison and Associates, 2006, 2). In order to fulfill requirements and help satisfy the notion that the city should "look its best" during the Olympics, new developments must take place. Various sporting venues and athletes' villages are to be built, and several transportation upgrades will be made. Additionally, with real estate costs rising towards 2010 and future international attention in mind, developers have put money towards rebuilding much of the city's more dilapidated areas. Foster and Partners' Jameson House high-rise and the Woodward's condominium project are two recent examples of this.

Areas targeted for gentrification in Vancouver tend to be the older, more neglected parts of the city (primarily the Downtown Eastside and Gastown areas). Buildings here are some of the longest-standing in the region, built hurriedly during the early frontier years of the city to satisfy the immediate need for cheap housing. Most are relatively

near to the ocean, as determined by demand at the time of construction. As time has progressed, these buildings have been surrounded by high-value properties; this older area of the city is now chiefly regarded as a homely high-crime district.

Due to the influence of the Olympics, Vancouver residents will eventually have the benefit of modern ameliorations such as the RAV line and Gastown Conference Centre. Modernisation of the Downtown Eastside ultimately results in a prettier city, evoking a greater sense of pride for many. However, it is radically untoward to people living in the affected area. For many Vancouverites, this is one of very few places where affordable housing can be found. Upscale developments increase property values and neighbourhood rent costs, imposing financial strain on residents who remain in the area. Not everybody can always afford to stay, and unfortunately some lack the means to simply relocate.

In Canada, the principle that a person should be entitled to appropriate housing is not just a personally expressed notion; it has been officially acknowledged. The Government of Canada remains part of a long-standing treaty, a portion of which expresses the rights of an individual to commensurate accommodation. Article 11 of the International Covenant on Economic, Social, and Cultural Rights states the following: "The States Parties to the present Covenant recognize the right of everyone to an adequate standard

of living for himself and his family, including adequate food, clothing, and housing, and to the continuous improvement of living conditions." Canada ratified this covenant in May of 1976.

A significant amount of housing space is already being lost to gentrification. A developer has recently purchased the Empress Hotel in Gastown and evicted its low-income residents; assessments have stated that hotel closures alone account for the loss of around 200 housing units so far this year (Stueck, 2006). Unfortunately, the Olympics committee has yet to sufficiently address the concern, and funding is not designated to provide a significant amount of affordable housing. Maureen Enser, executive director of the Urban Development Institute, has estimated that 10,000 more low-income housing units are needed in Vancouver (Cernetig, 2006). While there are additional units planned by the city, they are not even predicted to outnumber the number of losses; subsidised "non-market" affordable housing is predicted to remain at between 11,600 and 11,800 units until beyond the consummation of the Olympic Games (FERENCE Weicker and Company, 2002, 24).

From an economic standpoint, there are some perspectives which claim the possibility of a panoptic benefit to the city from upmarket redevelopment. In the eyes of local developers; there is a large amount of money to be made in this process. In the Gastown area we have already recently seen the start of several

massive high-end projects such as the Ritz, Palladio, and Jameson House. On a local scale, residential buildings like these surround local businesses with a more opulent clientele. They provide the city government with a larger tax base than what would be gained from cheap older hotels.

The fundamental flaw with the arguments in favour of these supposed economic advantages is that they are unsustainable and highly biased toward Vancouver's more affluent residents. While gentrification does benefit this very specific group, damages felt elsewhere are likely to outweigh any advantages it may offer. A city is reliant on many different classes of people to perform various functions; not only is it unfair to have a city devoid of a low-income population, but it also just doesn't make sense. Urban remodelling and lessening the amount of affordable housing can result in displacing people who make up an essential part of society. The isolation of these residents could prove to be a significant disadvantage to the hundreds of downtown businesses that depend on a low-income workforce.

Gentrification additionally has the potential to have a negative impact on the many post-secondary schools in the region. University students tend to live on shoestring budgets, and often live in low-income areas. As property values rise and cheap housing units are redeveloped, affordability becomes more of an issue for students. While this will certainly not apply to the populations who live at home, it must

be noted that local schools often rely heavily on the presence of international students. Contrary to what many believe, these students are rarely wealthy; they are, in fact, more seriously affected by affordability issues than others, and tend to get by on extremely tight budgets (Johnson, 2006).

One seemingly positive aspect of the 2010 games is that many of the related developments (including new buildings in areas slated to be gentrified) involve environmental building practices. The Convention and Exhibition Centre in Gastown—a key Olympic structure—is an example; it incorporates an earth-friendly "living roof" as part of its design (Vancouver Convention and Exhibition Centre, 2006). Jameson House on Hastings Street additionally promises to incorporate numerous sustainable design features (Babineau, 2006).

Unfortunately, the advantages of ecologically sound building methods are unlikely to redress the indirect damage potential of gentrification. As already-high housing prices continue to be driven upwards, many residents have moved out of the city to find a more affordable place to live. In doing so, commute times have been lengthened. The result is more pollution from automobile emissions, in addition to the channelling of taxpayer dollars towards projects such as the twinning of the Port Mann Bridge ("Hon. Kevin Falcon," 2006). In the past ten years, the number of vehicles registered in the Vancouver area has increased by 12% (Total Number of Registered Vehicles, 1996-

2006). Over the same period, the average amount of time spent commuting in has increased by 30% (Gateway Program: Fast Facts, 2006). It is well-known that vehicle exhaust massively contributes to the contamination of air in the region; it accounts for approximately 75% of greater Vancouver's total air pollution (Mitchell). When observing all the inclusive factors, it can be seen that even when "green" design is involved, new gentrified developments are unlikely even to environmentally balance the negative side-effects which they influence.

It can help to observe a case-study when trying to determine the potential success of an Olympics program. The most recent games (which took place earlier this year in the Italian city of Turin) are a good model of successful result and timing. One of the principle goals in hosting the games was to attract attention and bring an image of change to the city. It was hoped that global recognition garnered during the Olympics would catalyse the changes they desired; residents are now hoping to have "sparked a new beginning" for the city (Carlile, 2006).

Turin has a long-standing reputation as an industrial town, but is now gaining repute and economic momentum. The city has been recently referred to as "a place where economic growth is matched by urban redevelopment and revitalised image" (Torino Turistica, 2006). According to the Torino Turistica, Europe's first "environmental technological park"

is taking the place of a site formerly containing steel and iron factories. Unlike Vancouver, the majority of Turin's recent developments involve the rebuilding of industrial (rather than residential) land.

Vancouver's position in the lead up to the 2010 Olympics is highly dissimilar to that of Turin. With the city's contemporary stance in mind, the games are highly unnecessary and are unlikely to be able to aid any city problems. Vancouver is very modern, and the local economy is respectably productive; here, the boost that Turin was seeking through its strategy is not needed. In fact, there is a huge potential to intensify issues of population pressure that the city has already been facing. This is especially problematic in regards to housing issues. Short or long-term regional population increases influenced by Olympic attention would heighten stress levels of the many residents who already struggle with accommodation difficulties. With this considered in addition to gentrification in the city, complications could be widespread.

As it is, finding residence in the area can be very difficult for many people; demand for living space is high, and the availability of low-income housing is scant. In 2005 the city of Vancouver showed a staggeringly low overall vacancy rate of 0.7% (Penner, 2006). Olympic gentrifications will serve to increase property values and thus concurrently increase living costs. The Royal Bank of Canada's national

"Housing Affordability Index" provides statistical categories which compare how manageable it is for residents of various major Canadian cities to be able to pay for housing. In the most recent iteration of the index, Vancouver ranked far and away the highest on each of the four categories observed (Housing Affordability Index, 2006). The statistics clearly show that at this time, housing cost issues in the Greater Vancouver area are the worst of any city in the entire country. There are over 14,000 local families on British Columbia's waiting list for affordable housing (Pasacreta, 2006). In a city where we are heretofore struggling to find appropriate solutions to these issues, the Olympics will serve to place significant additional pressure on an already arduous problem.

Vancouver's role as the host of the 2010 Olympic Winter Games will make it the recipient of international recognition. Many cities vie for the privilege of this position, hoping to benefit from the widespread attention they will gain. If mismanaged, however, the games have the potential to engender many negative impacts. Existing population pressures in Vancouver make it an unsuitable location for such an event to take place. The Olympics program has influenced gentrification, a process which inevitably increases housing costs and displaces many people. In spite of the overwhelming possibility of this to hugely increase pressure on residents, the city has failed to sufficiently address the issue. Vancouver's plans for the 2010 Olympic Games constitute

an incongruous management of city resources, and they will present an added strain on problems that the city is already facing.

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Casting for Lessons from the Past: Sustainable management for the future of Peruvian anchoveta

Kate Liss

The Peruvian Anchoveta (*Engraulis ringens*) stands at the centre of a resource system which is the confluence of extremes. Found off of the Peruvian and Chilean coastlines, the small pelagic fish thrive in the rich upwelling waters of the Humboldt Current, and at maximum productivity sustain the world's largest fishery (Krautz et al., 2007). Despite extraordinary productivity, anchoveta stocks have demonstrated variability exceeding levels in most fisheries—variability so extreme that anchoveta landings are often discounted when analyzing trends in global fisheries production (Watson and Pauly, 2001). A negligible industry until the mid 20th century, anchoveta harvest was industrialized after World War II (Bertrand, A. et al., 2004). The Peruvian economy came to be dependent on fishmeal exports and thus stumbled in the face of repeated stock crashes, instigated by variable recruitment levels, overharvesting, and the impacts of climatic conditions. While most debates surrounding

resource management are hampered by a lack of precedence surrounding consequences of mismanagement, the history of the anchoveta industry provides ample evidence of scenarios where several uncertain elements inflict unfavourable conditions on resource production. This paper will address sources of uncertainty associated with the Peruvian anchoveta fishery, and will demonstrate that a failure to reflect adequately on historical evidence has obstructed sustainable management decisions. With special consideration of stock crashes such as those in 1971-72, 1982-83, and 1997-98, the paper will explore lessons managers have yet to learn from this vulnerable resource system.

Sources of Uncertainty (I): Biophysical Conditions, System Interactions, and Gaps in Scientific Understanding

The anchoveta fishery's exceptional productivity is dependent on oceanographic conditions, where high primary productivity in cold

upwelling zones provides rich food sources for the population (Krautz et al., 2007). Dependence on these unique environmental conditions, however, causes vulnerability and inconsistency in productivity, and consequently creates challenges for management. Changes in basin scale temperature and nutrient levels impact anchovy populations, and strong covariation of anchoveta catch with changes in upwelling has been demonstrated (Sandweiss et al., 2004). This climatic effect occurs on a variety of scales, one of which is clearly associated with the El Niño Southern Oscillation (ENSO). During ENSO events upwelling zones are reduced, leading to both a contraction of areas with favourable abiotic conditions for anchovy health and a change in spatial distribution of required resources (Bertrand, S. et al., 2004; Ñiquen and Bouchon, 2004). Consequently, the diminished fish stock—concentrated in the small number of coastal upwelling zones—tends to be stressed with compromised health (Krautz et al., 2004). While seasonal variations can be incorporated into management plans, uncertainty in predicting future ENSO events has been indicated as a major problem in understanding anchovy stock size trends and defining sustainable harvest levels (Ñiquen and Bouchon, 2004). Anchoveta catch has also shown fluctuation with a period similar to the Pacific Decadal Oscillation (PDO), where cool equatorial anchovy regimes alternate with warm equatorial sardine regimes, reversing over the course of

multiple decades (Sandweiss et al., 2004). When unfavourable conditions for anchovy in both ENSO and PDO cycles combine in phase, stress on the anchovy population can be exacerbated; such a combined explanation has been offered by Sandweiss et al. (2004) for the crashes in 1971 and 1997. When these multi-scale climatic variations are combined—each having a definite impact on productivity and presenting independent challenges for predicting future conditions—it becomes nearly impossible to predict future trends in the ocean environment and, consequently, reliability of anchovy stocks. This raises another important issue in uncertainty. The anchoveta thrives in cooler conditions and current estimates of future mean temperatures suggest warming is inevitable (IPCC, 2007); with climate change and increased sea surface temperature it is likely that the anchoveta population will become increasingly stressed, and stock size will be diminished. However, with a range of possible climate change scenarios and no certainty about regional effects, it is impossible to pinpoint impacts on the anchoveta.

Imperfect understanding of population response to ocean changes is a further complication in attempts to define sustainable management practices. Though anchoveta abundance decreases do coincide with warm conditions, population density is adjusted according to available habitat and Bertrand et al. (2004) suggest that a small fraction of the population may

be able to survive extreme stress by contraction to cool upwelling zones. Response to ENSO events has been variable, and is often linked to relative biomass of anchoveta in the system before the onset of temperature changes. Prior to the 1971 event, anchovy dominance was almost complete and a drastic decline in abundance occurred over the course of the warm period. In 1982, however, other pelagic resources such as sardines dominated prior to El Niño conditions, resulting in less impact on the fishery and a more rapid recovery (Ñiquen and Bouchon, 2004). Lett et al. (2007) have also demonstrated challenges in understanding the effects of ENSO conditions on anchovy recruitment; though an association between decreased upwelling and reduced larval survival is clear, recovery is often facilitated by recruitment delay until after the event. Even as sophisticated climate models emerge, the complexity of system interactions reduces certainty in stock predictions and complicates attempts to make management sensitive to future changes. It is also important to be careful not to allow the effects of environmental variables to mask the impacts of overfishing; in each stock crash, industrial overcapacity has had an important role, and human harvesting is a large part of the complexity of this system.

Aware of problems with uncertainty, regulators and researchers such as at IMARPE (Instituto del Mar del Peru) have implemented a range of data collection and modeling strategies,

attempting to quantify stock levels and to properly model projected supply. Though more work is continually being done on multispecies modeling, Krautz et al. (2007) suggest that not enough effort is devoted to "understanding and quantifying interactions between key species, especially during early phases of development" (p. 184). Spatial boundaries for this system are also contested; in modeling, estimates of the productive upwelling area can vary ten-fold, complicating projections of impacts of upwelling changes on abundance (Taylor and Wolff, 2007). Many measures used to assess current stock size also do not adequately reflect the variables they are meant to represent. IMARPE conducts acoustic surveys to assess biomass and spatial distribution. Bertrand A. et al. (2004) argue, however, that the coastal concentration during ENSO events leads to underestimation of acoustic biomass. As in many fisheries, catch rates are used as an indication of abundance; this assumed correlation disregards issues such as technological improvements, and can lead to gross overestimations of stock size. Perhaps most importantly, the spatial concentration of anchovy near the coast during ENSO events facilitates the most efficient search and capture of fish, resulting in an inverse relationship between fishing performance and stock abundance at times of greatest vulnerability (Bertrand, S. et al., 2004). Given the inability to fully understand distribution and abundance of the anchoveta or to effectively model

future trends, agency efforts to adapt management to the resource state have been challenged.

Sources of Uncertainty (II): Human Values, Social Pressures, and Decision Making

Managers cannot control climatic changes, nor manipulate the biological responses of the anchoveta population. Optimally, management systems would adapt to these variables, taking into account the various aspects of uncertainty. In resource management the role of humans is often disregarded, and here uncertainty of future human action is also an issue. Management has not always followed the logical course, even when there has been evidence indicating the most sustainable route for responding to changes in the fishery. Hepburn (2004) attributes this to the role of hyperbolic discounting; both costs and benefits in the future tend to be discounted rapidly, something that he suggests can "lead otherwise rational planners to manage resources to the brink of collapse" (p. 2). For example, even when warned of the imminent collapse of the industry during the ENSO event of 1971-72, the salience of immediate pressures led officials to open the fishery in the 1972 season (Clark, 1977). This resulted in sustained stress on the resource and economic hardship in Peru. The historical development of the anchoveta industry has been characterized by such dominance of political concerns at the expense of future sustainability;

throughout the 20th century decisions to limit fishmeal plants or to provide incentives for amplification of activities were made to appease groups and thus sustain political power (Molinari, 1977). This pressure continues to date. With much of the labour force employed in the fishery, and with anchoveta fishmeal a significant export, the Peruvian government has been reluctant to limit the industry (Geographic.org, 2007).

The impacts of this dominant perspective, where immediate productivity is given precedence over future output, can be exacerbated by the ratchet effect. Once a level of productivity has been achieved, there is a tendency to assume it is normal. Years with lower productivity are considered anomalies, where solutions must be found to recreate past peak levels of output (Ludwig et al., 1993). In 1966, the catch per unit effort was higher than expected and assumptions were made that the Maximum Sustained Yield had increased, although this was a temporary variation (Schaeffer, 1970). As a result quota estimates were continually increased, adjusted to 8 and then 10 million tonnes (Clark, 1997). By 1971, officially reported harvests reached 12 million tonnes. When the convergence of this over harvesting, repeated low recruitment rates, El Niño, and warm PDO conditions caused a stock crash the subsequent year, production plummeted with only 4 million tonnes available for harvest. When stocks began to recover, quotas followed the upward trend rather than being

readjusted based on the new knowledge of the industry's capacity (Bertrand, S. et. al, 2004). Today, a similar strategy is being employed. Rather than adjusting quotas to be sustainable in the context of historical impacts of uncertainty on supply, the 'veda' has been imposed, where the industry is merely shut down temporarily when the system is stressed (Pontecorvo, 2001). This stands as evidence that managers have constructed a reality in which failures are no more than temporary anomalies and harvest is justified to continue at elevated levels. Much of the uncertainty regarding the future of this resource hinges on whether humans will be able to construct a new paradigm in anchoveta management and acknowledge values other than economic output.

Recommendations: A New Paradigm for Future Sustainable Management

It is tempting, in light of the anchoveta stock's extraordinary possibilities for productivity, to attempt to maximize the economic yield of the industry. To ensure continued viability of the resource, however, it is necessary for managers to disengage from political pressure to maintain current exploitation levels. Hanneson (2002) suggests that sustainability in fish stocks requires avoiding irreversible change in stock abundance. The fact that the resource has recovered from repeated crashes throughout history causes assumptions to be made that it will continue to do so, but we cannot know in advance the tipping point beyond which recovery

is impossible; it is irresponsible to wait for scientific consensus here until it is too late. Overharvesting has made the anchovy more sensitive to environmental variation, and actions taken today could prevent recovery in the future.

Detachment from elevated production levels may cause short-term exacerbation of social and economic struggles in Peru, given the importance of fishmeal exports in the Peruvian economy. Economic sustainability is an important component of sustainable resource management, and any management strategy should not seriously compromise economic conditions. In assessing the potential risks and benefits of such a change in the structure of the industry, however, it is necessary to consider how current GDP fluctuations, associated primarily with crashes in anchovy exports, are equally taxing to the Peruvian economy. It is not economically viable to maintain dependence on a resource so subject to variability. In this section, two phases in restructuring the anchoveta fishery are proposed. The first, a short-term solution, would relieve the immediate effects of excessive harvesting from the system. The second phase involves more comprehensive efforts to restructure the aims and operation of the industry and would likely face major opposition, but would be necessary to the establishment of a sustainable management strategy.

Phase I

In the short term annual quotas should

be reduced incrementally to reach four million tonnes, the level of harvest sustained during the crash year of 1971. Fisheries performance during the 1971 crisis provides evidence that at this level, even when various unfavourable conditions compound one another, the resource can be maintained. In addition, the industry should be diversified, as multispecific fisheries can be more sensitive to supply changes than monospecific fisheries. Reductions in anchovy catch would be supplemented by this shift in production, as they were during crisis years (Figure 2). Continued monitoring and projection refinement should be implemented to be able to better predict challenges to the industry and adjust fishery practices before crises occur. Ludwig et. al. (2003) suggest that at the fishery time scale, monitoring and management systems provide greater benefits than simple improvement of scientific understanding. Pontecorvo (2001) stresses the importance of incorporating environmental change into existing models, but it seems even more important to find indicators directly related to changes in the fish stock; Bertrand, S. et. al. (2004; 2007) have proposed a promising model. In Satellite Vessel Monitoring, information on trajectories of fishing vessels and trips is gathered via transmitters on vessels, which send data directly to IMARPE. This bypasses issues of dishonest reporting from fisheries and fishmeal factories and provides a good fishery stress indicator as fishermen's spatial behaviour has been shown to be a good

indicator of fish spatial distribution; when vessel trips concentrate near the coast, this indicates that upwelling zones are decreasing and stressful conditions are likely to occur.

Phase II

Long-term management could involve industrial restructuring and implementing a new paradigm to conceptualize the purpose of the fishery. Reestablishing an intergenerational memory could be helpful; just 60 years ago, there was no noteworthy anchoveta fishery, yet today some consider it unthinkable to even reduce quotas (Molinari, 1997). Reverting to artisanal, small-scale operations in place of industrial fishmeal processing would be an important measure in restoring sustainability. This might be seen as a drastic step, and one that would be challenged by industry, but would be beneficial in the long term. Small-scale units are able to maintain a more sustainable diversity of catch through the use of more sensitive harvesting techniques. Furthermore, the high level of production in this fishery is mainly due to industrial overcapacity. As a result, reduction of catch per unit effort—given the labour-intensiveness of smaller-scale production—could establish more appropriate production levels while retaining high employment, and redirecting money into areas of direct benefit to local citizens (Mathew, 2001). Additionally, institutionalized management is difficult at this scale, so an alternative regulatory approach could

be implemented. Shifted down to the local level, regulations and restrictions could be carried out through community based fisheries management. Local fishing groups, with a greater stake in maintaining future capacity, would be more likely to adapt to environmental changes.

Despite possible economic impacts of this paradigm shift, it could be economically beneficial if the production system is reconstructed to provide more incentive for producers. The majority of anchovy production is now directed to fishmeal for animal feed, not human consumption. While 8-10 million tonnes of fishmeal are exported each year, 15 million Peruvians still live in poverty (Jacquet, 2007). If, in the course of shifting to artisanal production, supplies were diverted to fresh consumption, the same level of economic output could potentially be maintained despite cutting maximum harvest in half; Pauly suggests that one tonne of fillets has up to five times the cost recovery of fishmeal, and requires half the amount of fish (in Jacquet, 2007).

Conclusions

In assessing whether the above strategy is a viable and sustainable alternative to current production systems, the first step is considering the costs of acting prematurely compared to the potential costs of inaction. It has become abundantly clear that current harvest levels cannot be sustained in the long term; it is not reasonable to wait for

incontrovertible proof that a future crash will be irreversible before acting. The cost of implementing these measures, on the other hand, could potentially include decreased output in the Peruvian economy, but could also create more productive conditions for individual Peruvian fishermen. Furthermore, any economic challenges will be, in the most conservative scenario, comparable to productivity decreases associated with a resource-stock crash, but with planning and alternative options in place to counteract production changes. Thus, in light of the potential to avoid ecological degradation and increased likelihood of future generations having access to the resource, implementing these strategies would be the most viable and sustainable option.

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The Gibsons Aquifer: A Finite Resource?

Chase Reid

Introduction

With large water resources at our fingertips, there has been little incentive for proper understanding and efficient use of groundwater. This is most evident in regions where residential, agricultural, and industrial water demands have historically been easily met. The Gibsons Aquifer on the Sunshine Coast, British Columbia, receives 1345 millimetres of precipitation annually (Piteau Associates, 2005, 4), and meets the needs of 3200 residents of the Town of Gibsons (Town of Gibsons, 2005, 11). The remaining 30% of the town is supplied by Chapman Creek, making it a prime example of a region that has experienced little water stress. Though seemingly a reliable freshwater source, uncertainties in social, industrial, and climatic trends, coupled with a poor understanding of the local subsurface, have resulted in the "Gibsons Water Supply Strategic Plan," an inadequate strategy to protect the town's groundwater. This paper will examine how these uncertainties influence Gibsons' aquifer quantity

and quality, as well as how changing social views can be incorporated into an effective aquifer management plan.

Background

Covering an estimated 7.3 km² beneath Gibsons (Town of Gibsons, 2005, 7) in proglacial deltaic sediment, the Gibsons Aquifer is confined by Vashon glacial-marine till of dense clayey-sand (Piteau Associates, 2005, 5). The town operates four wells that supply water to 70% of the population, pumping 5010 m³/day (Piteau Associates, 2005, 7). Recharge occurs on the slopes of nearby Mt. Elphinstone and between its base and the shoreline, where the town is located. Despite high rainfall, the low permeability of the Vashon sediments limits aquifer recharge to an estimated 10% of the average annual precipitation.

Aquifer Water Quantity Issues

Groundwater resources will be subject to increasing demand for at least the next 25 years (Danielopol, et al. 2003, 109), and while the well-replenished

aquifers of the Pacific Northwest are unlikely to become depleted beyond use, a decrease in the water table has implications for water availability, pricing, and contamination.

Agriculture is expected to have the most drastic effects on global groundwater availability, despite the development of efficient irrigation techniques (Danielopol, et al., 2003, 110). However, this will have a negligible affect on the Sunshine Coast, as there is little agriculture compared to farming regions that rely heavily on groundwater, such as the Okanagan valley.

In fact, 75% of Gibsons' extracted groundwater is used residentially (Town of Gibsons, 2005, 10), exerting very different demands than agriculture and industry (i.e. mining and thermoelectric power production) would (Danielopol et al, 2003, 112). However, public usage is highly variable, fluctuating in response to the demands of the well-developed tourist industry. During the busy summer months, the pressures on groundwater are most intense, as aquifer recharge is minimal.

Despite the rather small level of water extraction from the Gibsons Aquifer, exploitation must be monitored carefully, as population has been increasing at a rate as high as 3.5% in the past two decades (Town of Gibsons, 2005, 8). This is similar to London, which also relies upon a 'small' (relative to population) coastal aquifer, where there has been a 72 metre drop in the water table due to anthropogenic factors

(Danielopol et al., 2003, 111-112).

The local government estimates that the town's current well capacity could be exceeded by as early as 2015, hence future plans for additional wells to continue supplying the town until at least 2030 [Figure 1]. This tactic of "more wells to meet demand" rests upon a flawed assumption prevalent in quantity groundwater management: that groundwater is an infinite resource. *Figure 1* fails to accurately quantify the size of the Gibsons Aquifer, yet the town is proposing to draw additional water from it. Moreover, research undertaken by Dayton and Knight Ltd. (1996, Figure 2) suggests that many of the wells in the area have interfering capture zones, such that combined pumping may already be overdrawing parts of the aquifer. This has not yet limited availability as groundwater flow is gradual and there is a large initial quantity available regardless of recharge, creating a lag effect, which could be masking the true consequences of groundwater extraction.

Short of restricting population growth, there is little that can completely stem the increasing water demand. However, the local government has implemented water efficiency programs, and plans to begin metering residential water usage and repairing leaks in the distribution system (Town of Gibsons 2005, 3). These improvements have been included in Gibsons' long term water consumption estimates and are an effective way to alleviate population pressures on groundwater.

Under increasing water demand, uncertainties and inaccurate measurements in aquifer recharge rates must be reduced to avoid overexploiting groundwater and driving down the water table. Recharge varies with land usage, in particular urban development, which increases runoff and evaporation (Danielopol et al., 2003). However, most of the Gibsons Aquifer's estimated recharge area falls outside of the town, and experiences few urban impacts.

An issue that few studies have examined in British Columbia is the role of logging in groundwater recharge, the effects of which have traditionally been analysed solely in the surface hydrology context. Studies in Brazil and the American Midwest have shown that deforestation may increase runoff and cut groundwater recharge rates by up to 60% (Danielopol et al., 2003, 111). Conversely, studies conducted in Australia reveal that vegetation removal can lead to a significant rise in the water table, as runoff is more likely to concentrate in depressions and percolate into the soil (Jacobus and Simmers, 2002). Topography is undoubtedly behind these differing results, hence the need for additional research to understand the impacts of logging on groundwater resources in the Pacific Northwest climate. The lack of a relevant study on the hydro-geological implications of logging, combined with vague aquifer and recharge area maps, is a large source of uncertainty in the future of the Gibsons Aquifer. Though unacknowledged by the town,

the effects on the water table could be drastic if harvesting is continued on the slopes of Mt. Elphinstone.

Global warming is predicted to have major physical and social impacts on the state of groundwater resources in Gibsons. Generally, British Columbia is expected to experience an intensification of precipitation events as temperatures continue to shift (Danielopol et al., 2003). Heavy rains and less snow will also result in higher surface runoff over shorter periods of time, restricting optimal infiltration into the soil (Danielopol et al., 2003). However, the uncertainty surrounding climate change means that it is currently difficult to predict its exact effects on groundwater levels in Gibsons.

Another important implication of climate change is the increase in per capita demand on ground water with temperature. Improved efficiency aside, agricultural and residential demand will accelerate even faster than population growth as evaporation increases the water wasted by irrigation (Danielopol et al., 2003). This possibility is not addressed in the "Gibsons Water Supply Strategic Plan," but could result in heavy economic and social tensions, particularly in water-stressed regions. The amount of groundwater available in the future will become increasingly critical as population, economic, and climatic trends in British Columbia are all likely to increase aquifer exploitation or decrease recharge. A successful management plan will incorporate the uncertainties in these trends and how

they will affect the Gibsons Aquifer.

Aquifer Water Quality Issues

Groundwater quality issues are mostly anthropogenic in origin, a consequence of the accumulation of chemical and biological substances that pose threats to human health. Though it is possible to provide an exhaustive list of groundwater pollutants, many are unlikely to be found in Gibsons, where potential contaminant sources have been documented (Piteau Associates, 2005, Table II, III, IV). The highest threat to groundwater quality is posed by contaminants from the town's numerous gas stations. Indeed, spills and soil contamination from these sources are not unheard of (Piteau Associates, 2005, Table II). These locations have been closely monitored recently as the implications of soil corrosion for underground, steel gasoline tanks are being realized (Reichard et al., 1990). Though leaks are often small, the frequency of gas stations and difficulty of detection amplifies the risk to drinking water. There are few other companies in the area that present a major hazard to drinking water as determined by Piteau Associates (2005, Table II, III, IV), which also documented non-point source contaminants such as road salt, sewage, and pesticides.

A list of potential contaminant sources is essential to any aquifer management plan as it provides an area that must be strictly monitored and regulated. However, importance must also be placed on the mapping of recharge

area boundaries and exploration of local geology. Whether contaminants can travel by groundwater to a point of human exposure is a prominent source of uncertainty in any aquifer. The low permeability of the Vashon sediments overlying the Gibsons Aquifer restrict contaminant infiltration, but not well enough that flow direction and rate can be ignored, because the town's wells may be at risk in the event of a chemical spill. Currently, these data are insufficient in Gibsons as there have been few wells drilled for mapping purposes, such that water table elevation and groundwater flow are based on estimates.

Gibsons' well contaminant monitoring system is sufficient, with tests performed every three months (Town of Gibsons, 2005, 7), but it resigns the town to dealing with a contamination issue after it reaches drinking water. This tactic is inadequate for managing "irreversible" events than can render a well unusable for decades. For example, saltwater intrusion is a common problem in coastal aquifers. Most of Gibsons' wells are within a kilometre of the shoreline and the fresh-salt water interface is very much estimated (Piteau Associates, 2005, Figure 2). If water is extracted in excess of recharge, the likelihood of the interface moving inland is greatly increased, yet this would go unidentified by analysis of well Chlorine concentrations.

Public Perceptions of Groundwater

Another social aspect that must be incorporated into management

plans is public views of groundwater and the trends associated with them. Mahler et al. (2005, 469) note a growing awareness of groundwater issues and willingness to become active in reducing water consumption in the northwest USA. Over 50% of rural and urban populations have used newspapers, television, or environmental agencies to receive water quality information, and most would like an increase in water quality educational opportunities. 77% had an opinion on the quality of groundwater in the Pacific Northwest and yet only 12% felt it was improving (Mahler et al., 2005, 469-470). As well, over 60% of people made an effort to reduce outdoor and indoor water usage, and 78% have purchased a water saving appliance (Mahler et al., 2005, 469-470). This underscores the growing public concern towards contamination in the subsurface.

Encouraging trends of concern cannot be relied upon in groundwater management as public values are subject to change, but they may alleviate some of the stress associated with population growth. The willingness of the public to engage in education and employ water conservation techniques will be a major factor in the future as aquifers become unable to meet demand.

Conclusion and Recommendations

In 2005, Gibsons' water was voted the best in the world by Berkeley Springs International Water Tasting. However, trends in population growth, urbanization, increased logging,

global warming, and anthropogenic pollutants cast a negative outlook on the future state of the Gibsons Aquifer. The uncertainties associated with these trends must be considered along with those in the groundwater system. Thus, there is a high level of doubt for any long-term aquifer projections. As a result, a dynamic management plan must continually adjust as knowledge becomes available.

The many uncertainties in the Gibsons aquifer include a lack of definite boundaries for recharge areas, the water table, and aquifer extent, along with variability in social and economic values of groundwater. Despite the risk of acting under uncertainty, an aquifer management plan must exist and effectively maintain the aquifer if not sustainably, at least for longer than the benefit of one generation.

There are several improvements that must be made on the Gibsons water supply strategic plan. First, accurate mapping of the aquifer, recharge areas, and fresh-salt water interface must be done through additional drilling and computer simulations. With more precise data, the town can better manage groundwater by regulating where structures can be built based on the likelihood of pollutants reaching drinking water through the subsurface. As well, quantifications can be made concerning the amount of water available for use based on well drawdown extent and recharge rate estimations. By extracting less than is recharged, the likelihood of aquifer salination of can

be greatly reduced and a pristine water supply can be maintained.

There is an opportunity for Gibsons to move to the forefront in groundwater research in the Pacific Northwest. By taking a proactive approach and financing research opportunities in the unique topography and climate of the Coast Mountains, Gibsons could become a role model of merging sustainable logging with groundwater management for hundreds of other communities.

Whether considering academic research or public consultation, it is important to engage in groundwater education. In order to promote water efficiency, the town must increase the level of public awareness through groundwater stakeholder groups and learning opportunities made available through various media.

The Sunshine Coast Regional District has already implemented a subsidized, low-flush toilet replacement system. Metering and accurate pricing will provide incentive to reduce wasteful practises and encourage the purchase of additional water-saving devices.

Minimizing uncertainty and promoting water ethics will compliment the long-term initiatives of the "Gibsons Water Supply Strategic Plan," maintaining subsurface drinking water despite uncertain future trends.

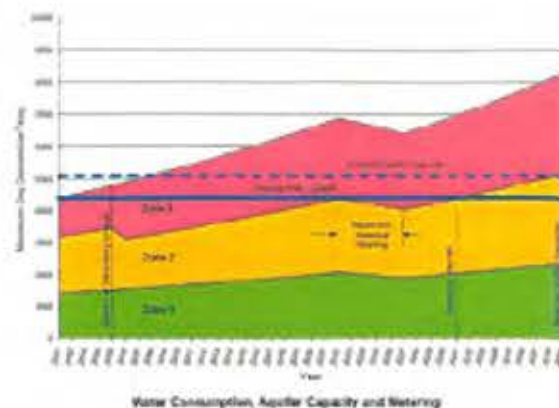


Figure 1 [Gibsons Water Supply Strategic Plan 2005, 2]



Figure 2 [Dayton & Knight Ltd. 1996, Figure 2]

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Digging Below the Headlines: An analysis of 'Sub-Saharan Africa' and the media.

Ryan Thrussell



Kampala Skyline. Photo by Ryan Thrussell.

Introduction

The above picture is one I took of the Kampala skyline in the summer of 2007. The roof rack on the SUV in the forefront of the picture, the newly-faced Shell fueling station in the middle and the Bank Towers in the background; the landmarks emphasized in this photo may not at first come to mind when one thinks of the Ugandan capital.

The goal of this essay is to begin a discussion about neo-Orientalist attitudes towards the Southern two thirds of the African continent and

possibly dispel some of the stereotypes associated with the region. Prior to my research and spending six-weeks in Uganda this past summer I had little knowledge beyond what I had learned through the media outlets of the Western world. What I attempt to prove in this essay is that the lens through which the region is covered by 'our' media is not without conditioning; Edward Said has termed this conditioning "Orientalism." Throughout this essay I provide examples of how Western media often dehumanizes the region by the subjects they choose and the tone in which they cover 'Sub-Saharan Africa.' Throughout the essay I have placed the term 'Sub-Saharan Africa' in quotation marks due to the negative connotations associated with the term created by the media and the regions colonial past. This essay will explore the relationship between 'Sub-Saharan Africa' and the media, in Western as well as local 'Sub-Saharan African' media outlets. I will examine both positive and negative portrayals of the region and provide reasons for why negativity prevails.

This essay is divided into three sections. After a brief introduction to the 'Sub-Saharan' region in the first section, I will examine how 'Sub-Saharan Africa' is portrayed in a sample of Western media outlets.¹ I will also explain and provide evidence as to why most of these outlets share many similarities in their coverage of the study region. The second section of the essay focuses on African media outlets² and deconstructs some of the misconceptions that are created by the region's portrayal in Western media. The third, and final, section of the essay offers reasons why 'Sub-Saharan Africa' is portrayed the way it is in Western media. The second part of the section explores the result of the region's negative portrayal and asks if the negative coverage is a benefit or a hindrance to the development of the region. The third section uses the ideas within Edward Said's Orientalism and what links this conditioning may have with the portrayal of 'Sub-Saharan Africa' in Western media publications.

'Sub-Saharan Africa' is the region on the south side of the Saharan desert.

consisting of 55 nations. It is often viewed as a region ridden by poverty, political instability, and paralyzed by the rapid spread of AIDS. This paper will not overlook those serious issues, but will look beyond them to find a region that shares several similarities to the West and has an extensive population of people whose lives differ greatly from those portrayed in Western media.

1. The Portrayal of Africa in Western Media

The research of Western media outlets used in this paper comes from a six-week study period between January 27th and March 9th, 2007. During this period a wide range of articles from a selection of Western media outlets were examined for their content and coverage of news stories that provided coverage of 'Sub-Saharan Africa.'³ There are two main points in this section: the first is the monotony of the articles about this region in Western media outlets, and the second is the negative image of the region as portrayed by these outlets.

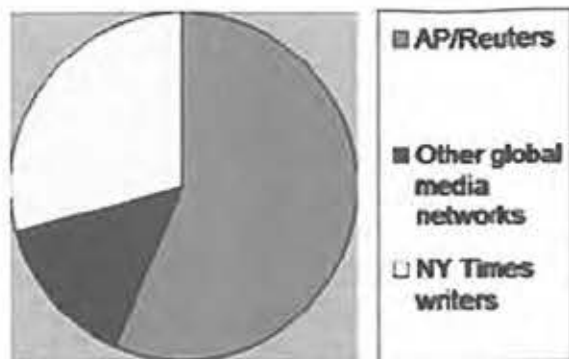
Prior to beginning research for

Case	Country/City	Data
Largest Country (population)	Nigeria	131859731
Largest Country (area)	Republic of Sudan	2,505,810 sq. km
Wealthiest Country (GDP per capita)	Equatorial Guinea*	\$50,200 (2005)
Poorest Country (GDP per capita)	Malawi/Somalia	\$600 (2006)
Largest City (population)	Lagos, Nigeria	10,900,000 (2005)

Table 1. Source: CIA Fact Book and www.un.org.

this essay it was assumed that each source would provide a different/independent view or opinion on the study region. However, this was not the case. While there were exceptions, notably in *The Economist*, certain special inserts on the region which appeared in some of the North American outlets *CNN.com* (a network member of Turner Broadcasting based in Atlanta, GA), the *Washington Post*, and the *New York Times*, most had a distinctly Western view that will be discussed in section 3. Given the exceptions mentioned above, and a few others, a large percent (see Graph 1) of the other articles were taken from global news services like *Reuters* (based out of London, UK), the *Associated Press* (based out of New York, NY) or *Agence France-Presse* (based out of Paris, France). Graph 1 shows the results of a survey taken of the articles relating to 'Sub-Saharan Africa' from the *New York Times* during the six-week study period. It shows graphically that global news providers like the ones mentioned above covered approximately 71% of all the stories about 'Sub-Saharan Africa'.

The *New York Times* was the only newspaper that was observed in the survey. However, in reading the other media outlets it was by far the most diverse. The result of these sources providing a majority of the coverage is that they are generally relied on for brief coverage news stories that often focus on tragic or negative incidents. This brief coverage removes the "human" from the article and creates an "other" out of the story's subjects, which dismisses the



Graph 1. Source of Articles in New York Times During Study Period⁴

inhumanity of the stories as something foreign.

Due to the abundance of *Associated Press* and *Reuters* articles in the Western media that tend to be brief and lacking in human interest, the importance of the exceptions and special issues, or pullout sections, becomes far greater. I will now dissect two articles, one from a special report in *The Economist* and the other a short story from the *Washington Post*. These two articles were the most humanizing and interesting that were observed in the six-week study; however, both contained undertones of Western opinions.

"The long journey of a young democracy" (*The Economist*, 2007, 32-34) was a special report in *The Economist* that focused on the economic growth of South Africa, and the Township of Soweto in particular. The first third of the article is focused on breaking stereotypes and describing the turnaround experienced in Soweto, the home of Nelson Mandela and previously one of the world's largest shantytowns. They describe the Diepkloof neighborhood of the township

as one where "shiny new cars are parked next to elegant houses protected by security systems" (*The Economist*, 33). The article continued to explain how development in the township was rapid. It came across as very similar to the gentrification and redevelopment of Harlem in New York City. A third of the way through the article, the focus began to shift: the subheading was "Power tends to corrupt" and the article began to discuss all of the issues typically associated with economic success in 'Sub-Saharan Africa.' These issues are neither untrue nor unworthy of media coverage, however when a township such as Soweto receives positive press coverage in the Western media more often than not it will be accompanied with negative coverage. A comparison can be drawn with media coverage in the West—there are many articles written about Vancouver and how it consistently rates as one of the most beautiful cities in the world, but rarely do those same articles reference the extreme poverty and social issues which surround the city's Downtown Eastside.

The second article was taken from the *Washington Post*. "In Heat of War, a Literary Refuge" (McCrummen, 2007) is unique in the way that it portrays a life that is recognizable to people in the West. The article explains how refuge is found in a library during the recent siege in Mogadishu. The article is very short and quite obscure, but unlike many of the other articles it shows a nation of people who are struggling to improve their quality of life. The location of

the article, a library, is a place that is imaginable and easy for a Westerner to relate to. The article, while brief, is able to inhabit the city of Mogadishu, a place often portrayed as uninhabited or uninhabitable. Despite this, the reason for the article was that Mogadishu was at the centre of what could have become a major war.

2. The African Media

In this section of the essay I will examine the media of 'Sub-Saharan Africa.' Much like the media in the Western world, large media networks like *Reuters* and the *Associated Press* often cover the major news stories. However, in this section I will not be focusing on the same stories that are found in the Western media; I will be examining articles written by African writers for major African-owned newspapers.

This section is divided into three parts. The first two parts are article examinations: the first from the *Ugandan Daily Monitor* (A Ugandan-owned daily newspaper in Kampala) that discusses the spread of HIV/AIDS in the country, and the second, taken from *Mmegi*, a daily newspaper from Gaborone that is owned by a publishing company based in Botswana, addresses the issue of inequality and poverty within Botswana. The third part of this section is a look into the structure of the major African daily newspapers and some similarities that they share with major Western media outlets, beyond the news stories.

I chose "HIV stalking wealthy

Ugandans" (Mugerwa, 2007) because it is contrary to much of the coverage of HIV/AIDS in the Western media.⁵ The article discusses a study that found that the HIV infection rate in Uganda was growing at a rate more than twice as fast among wealthy Ugandans. The rate amongst the wealthiest section of the population was 9%, with wealthy women averaging the highest at 11%. This is in comparison with a rate of only 4% for those who earn the lowest incomes within Uganda. The article provides a response to the findings and brings the survey's credibility into question due to the lack of a clear definition of wealth. With the lack of a definition of wealth the credibility of the article may be slightly skewed, however, the findings do provide a fairly long list of twenty-five sites around the country where the results were extracted from. Given Uganda's small size this number is fairly significant. Section three further examines why this study, and/or, article were not published in any of the examined Western media outlets.

I chose "The Hopelessness of Poverty" (Mosekaphofu, 2007), an article from Botswana, because it provides evidence that poverty is not just an accepted part of life in 'Sub-Saharan Africa' as it is often portrayed in the Western media.⁶ This feature article tells the story of a single mother of four children that is living in dire poverty and not receiving the proper aid from the government—aid which should be able to provide proper shelter for all of the residents of the country.

This government aid is a right that Westerners do not always associate with 'Sub-Saharan Africa' and not once, in any Western media outlets in this study, was this right assumed.

The final portion of this section is an examination of the structure of this study's 'Sub-Saharan' regional newspapers, and the similarities that they share with Western media. After reading a majority of the news stories about 'Sub-Saharan Africa' in the Western media, I was surprised that all of the media outlets examined from the 'Sub-Saharan' region had an Entertainment section dedicated to local events, restaurants, and arts in the area. This represents a similarity to newspapers in North America. My surprise is evidence of the 'Orientalist' lens through which I viewed the region prior to my research, a lens influenced by my upbringing in the West, and one which I discuss further in section three.

As proof of this I will outline three examples specifically: two from Ethiopia and one from Kenya. Furthermore, all of the media outlets in the bibliography have an entertainment section that support this statement. *TheDailyNation* newspaper from Nairobi, Kenya is the largest Kenyan newspaper locally owned and operated in the capital. The paper has a weekly pullout section called the Weekend Magazine (Daily Nation, 2007) that covers a wide range of topics from television listings to restaurant reviews.

Another, more detailed example, is from *The Reporter*, a daily newspaper

from Addis Ababa, Ethiopia. The article "Japanese Film Festival Closes" (Soloemon, 2007) is a brief overview of a Japanese film festival that took place in the city. The article is taken from the *Life & Art* section of the newspaper. This is of note because it was something that as a Westerner I would have never expected and truly gave the impression that there are cosmopolitan centers in 'Sub-Saharan Africa,' especially outside of South Africa.

The final example also comes from Ethiopia, and is a quarterly magazine that highlights fashion and entertainment in the nation. *Helm* (2007) is an Ethiopian owned and operated magazine that is distributed all over the world. The magazine is quite similar to *GQ* or *Cosmopolitan* in the West and is a contrast to how the region is portrayed by the media outlets of the West.

3. The Result and Reasons for the Media Coverage

The third and final section of this essay observes the reasons and consequences of the coverage of 'Sub-Saharan Africa' in the Western media. I will begin by providing historic reasons why the media coverage of the studied region portrays a backward region that is in constant need of Western intervention in order to maintain stability. In the second part of this section I will outline the consequences of this type of coverage and how it may affect the type of aid that is provided to the region.

Orientalism, (Said, 1979) to very briefly summarize one of its concepts,

is the act of creating a history for a society/culture that is unable to write its own. Despite the fact that Said's "Orientalism" was not directed at the region of 'Sub-Saharan Africa,' the mental conditioning that is a hallmark of "Orientalism" can easily be put into context in this region, which was almost completely colonized by Europeans throughout history. That history has, as this essay has shown, remained a very strong pillar in the way that the Western media presents the region; a region that is so often depicted as "in-need" due to its inability to develop at the same pace that Europe did during the Industrial Revolution, or the speed of development in North America during the post-war boom. Even though there are serious social, political and economic issues in the region, the idea that the region is inhabited by many civilized cultures is often left out by the press. Furthermore, when it is included it is usually accompanied by a contrast that reemphasizes the region's dependence on the Western World and need for large amounts of aid.

The result of this Orientalist view is that the region becomes impossible for Westerners to relate to, or understand, even though there are several similarities that could be drawn between the cultures. This lack of understanding and inability to feel a commonness with the residents of 'Sub-Saharan African' nations results in aid in the form of cash donations as tax write-offs or no aid at all because donors in the West may feel that the people of this region are

hopeless and not human like "us" in the West. The type of aid that is often provided can lead to little concern as to the outcome of their donation. In some cases lost cash trails can lead to further corruption thus having a net negative effect on the region. To suggest that all financial aid should be removed from the area would be very naïve. However, if more often aid came in the form of direct initiatives that provide better infrastructure and rely on governmental checks and balances over dollar figures, this would provide an outline for the opportunity of economic growth that the region so desperately seeks.

The examples provided in the previous section of this essay are in no way meant to belittle the serious social issues that reside in present day 'Sub-Saharan Africa.' However, if the only images of 'Sub-Saharan Africa' presented are hyper-negative ones, such as those often publicized in the Western media, we consumers of Western media lose touch with the fact that these people are not charity cases or hapless uncivilized barbarians that need "us" in the West to save "them" from their inability to help themselves.

I close this essay with the following thought and example: even if media coverage in the West is done with good intentions, trying to stir up emotion in the reader/viewer to get them to take action, the style in which this need is expressed by many media and ad campaigns by Non-Governmental Organizations like World Vision, creates what Edward Said calls a divide

between "us" and "them" — "civilized" and "uncivilized," "developed" and "undeveloped." Imagine the way in which you may react to a homeless person on the street, curled up and looking miserable—you may give him or her some change but not expect anything to come of it. However, if that same person were to come up to you, shake your hand, and look you in the eye and address you as an equal, you might be more inclined to do everything you could to help that person because you may feel it might actually make a difference.

1 The Economist, the New York Times, Washington Post, Chicago Tribune, London Times, Los Angeles Times and the Globe and Mail (Canada).

2 The Daily Monitor (Uganda), Daily Nation (Kenya), Mail & Guardian (South Africa), Ethiopian News Agency (Ethiopia) and The Guardian (Nigeria).

3 Not all articles studied in the six-week period have been referenced. For a complete list, see bibliography.

4 The survey examined 48 articles from the New York Times that covered stories about Sub-Saharan Africa between January 27th and March 9th, 2007. 27 of the articles came from either AP/Reuters, 7 of the articles came from other global media networks and 14 from the New York Times. This info can be traced through the following link: http://query.nytimes.com/search/query?date_select=full&srchst=nyt

5 Not once in any article from a Western media outlet during the study-period was it mentioned that this could be the case. A lack of education and poverty are almost always the given causes of the spread of the disease through 'Sub-Saharan Africa.' (Carr & BBC, 2007)

6 As discussed in section one, a large portion of the Western media I examined in the study had similar undertones within their text.

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About the Authors

James Gaffney

James Gaffney is a Geography student whose interests include travel, politics, philosophy and Islamic mysticism (Sufism). His favorite non-fiction authors include Henry Corbin, Martin Lings, Ibn Arabi, Edward Said and Derek Gregory. In finishing his BA, James would like to offer a special "thank you" to Professor Derek Gregory for inspiring him intellectually and as a writer. James would also like to thank Prof. Gregory and Prof. Elvin Wyly for making classes enjoyable. Finally, he would like to thank Tyler Pearce for her support and guidance through his final years. After graduation in May 2008, James and his wife will be travelling to South Africa. His future remains unsure, but he is interested in pursuing graduate studies relating to Islam.

Sierra Gemma

Sierra Gemma is a third year student at UBC. She is majoring in History and Sociology, with a particular interest in immigration and gender issues. After graduation, she plans on continuing her studies at the graduate level, in History, Sociology, or Library, Archival, and Information Studies.

Laura Gosset

Laura is delighted to be in the Global Resource Systems (GRS) Program of the Faculty of Land and Food Systems. She is pursuing an interdisciplinary education that incorporates environmental and social issues relating to rural development, natural resource management, and agriculture. Her passion for environmental issues is continuously strengthened through each new research and learning experience in which she engages. Laura is a strong supporter of the UBC Farm; this stems from her fundamental belief that universities should act as models for sustainable living.

Nadine R. Harris

I am in my final year of my BA, with a double major in International Relations and History. I am especially interested in human security, human rights, and social and environmental justice issues. I have been fortunate enough to hold several research assistantships during my time at UBC, through which I have also gained work with the Justice and Reconciliation Project, based out of Northern Uganda. I am hoping to run away on an internship or volunteer in the coming year, after which I will likely return to further studies. I am proud to call a dairy farm in a small town my home. Time with family and friends, rock-climbing, and other outdoor activities are my fuel.

Kara Huculak

This essay was inspired and researched from my experiences during my 'Field Course in Human Geography' trip to Japan and extended personal stay from May-June 2007. I am a 4th year(+) honours student in human geography and I value the interdisciplinary studies and the great sense of "outer awareness of the world" that my geography degree has given me. As a human geographer I have learned to appreciate that knowledge is always partial, situated, contingent upon context, and yes, even imagined. My academic ambitions will hopefully allow me at some point to combine many of these geographical insights with my personal interests in Eastern philosophy, yoga, and Buddhism to pursue a graduate degree in the Buddhism and Contemporary Society Program at UBC. But for now, I am grateful first of all, to Professor Edgington for offering the field trip to Japan which has been such an invaluable academic and personal experience. My thanks also to Professors Derek Gregory and John Robinson whose lectures have inspired me on the topic of this essay.

Shawn Kay

Throughout my life, I've strived to familiarise myself with the earth and the rich diversity of life that it sustains. A passion for the outdoors and the "road less travelled" has taken me outside of Canada for much of my life, but my home will always be Vancouver. When I'm not travelling, building houses, rock climbing, or playing guitar, you can typically find me trying to work out what life is all about and how best to coexist with the rest of the planet. In the future, I'm hoping to complete a degree in Environmental Design or Human Geography en route to the UBC School of Architecture.

Kate Liss

Kate Liss is a fourth year physical geography student who maintains a fascination with issues in urban and historical geography. She enjoys working out how the human and physical aspects of geographical thought interact, especially when it comes to resource management. Her passion for sustaining healthy fisheries and happy fish populations was spawned by a childhood filled with loyal goldfish.

Chase Reid

I am a second year geological engineering student at U.B.C. I first became interested in geology on a family trip to Drumheller, AB and have taken as many geology courses as I could ever since. After graduation I hope to work full time in groundwater analysis, monitoring, and remediation. I grew up in Halfmoon Bay, BC where I still enjoy sea kayaking, rustic carpentry, photography, and mushroom picking.

Ryan Thrussell

I am a fourth year geography student with a focus on economic geography. Prior to and throughout my time at UBC I was fortunate enough to play professional hockey, an opportunity that allowed me to experience life in many different cities throughout North America and Europe. I spent much of last summer in rural Uganda building houses for Habitat for Humanity, this experience has made a very significant impact on the lens through which I view life and given me greater appreciation for all that we have here in the Western world. As for the future I am planning on getting an MBA and hope to get in to sustainable real estate development as a career.